CRITERION: 3.3- Research Publication and Awards

METRIC : 3.3.2.Number of Books, Chapters& Papers published

YEAR : 2022-2023

S. No	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1.	Dr.K.Ramasamy	Contemporary Problems and Prospects of Libraries and Information Centres	Web 2.0 services application – A library perspective	–	–	–	2022-2023	ISBN : 978-93-91286-74-3	M V Muthiah Govt Arts College for Women, Dindigul	Mayas Publication, Tamilnadu
2.	Dr.K.Ramasamy	Contemporary Problems and Prospects of Libraries and Information Centres	Virtual reading guidelines and initiatives of who to mitigate the infodemic :A pandemic parallel	–	–	–	2022-2023	ISBN : 978-93-91286-74-3	M V Muthiah Govt Arts College for Women, Dindigul	Mayas Publication, Tamilnadu
3.	Dr.K.Ramasamy	Contemporary Problems and Prospects of Libraries	Information literacy skills of undergraduate students of Sri	–	–	–	2022-2023	ISBN : 978-93-91286-74-3	M V Muthiah Govt Arts College for	Mayas Publication, Tamilnadu

		and Information Centres	G V G Visalakshi College for Women, Autonomous, Udumalpet : An assessment						Women, Dindigul	
4.	Dr.K.Ramasamy	Innovative Librarianship : Accelerating Open Access	Felicitous Filters / Luminous Limiters to Refine Search Results in Open Access Online Resources: An Exploration of the Leaders	–	–	–	2022-2023	ISBN: 9789391734046	M V Muthiah Govt Arts College for Women, Dindigul	Today & Tomorrow's Printers and Publishers, New Delhi
5.	Dr.K.Ramasamy	Innovative Librarianship : Accelerating Open Access	The Landmarks of the Open Access Movement of Scholarly Publications and its Impact on the Online Intensive Readings	–	–	–	2022-2023	ISBN: 9789391734046	M V Muthiah Govt Arts College for Women, Dindigul	Today & Tomorrow's Printers and Publishers, New Delhi
6.	Dr. R. Nandhini	Feminism	Feminism	–	–	–	2022-2023	ISBN:978-1-387-96421-5	M V Muthiah Govt Arts College for Women, Dindigul	Lulu Publication

7.	Dr. R. Nandhini	Historical Monuments in India	Historical Monuments in India	–	–	–	2022-2023	ISBN:978-1-4357-7937-2	M V Muthiah Govt Arts College for Women, Dindigul	Lulu Publication
8.	Dr. R. Nandhini	Museology	Museology	–	–	–	2022-2023	ISBN: 978-1-6781-8728-6	M V Muthiah Govt Arts College for Women, Dindigul	Lulu Publication
9.	Dr. R. Nandhini	Women's Role in Politics	Women's Role in Politics	–	–	–	2022-2023	ISBN:978-1-6671-7959-9	M V Muthiah Govt Arts College for Women, Dindigul	Lulu Publication
10.	Dr. M. Mariammal,& Dr GoriJhon	Valar Tamil Aivu	–	–	–	–	2022-2023	ISSN:2456-5571	M V Muthiah Govt Arts College for Women, Dindigul	Bodhi International Publications
11.	G.Megala	–	Topological Symmetric Difference – Valued Graphs	International Seminar on Emergimg Trends in Graph Theory	ISETGT-22	International	2022-2023	ISBN :978-93-83191-67-3	M.V.Muthiah Government Arts College for Women	Ayya Nadar Janaki Ammal College ,Sivakasi
12.	Dr. R. Rajammal	–	Preparation and Characterizatio n of	Proceedings of International Virtual	Internatio nal Virtual Conferen	International	2022-2023	ISBN: 978-81-89 843-18-2	M.V. Muthiah Governm ent Arts	Eswari Engineering College, Chennai

			Nanostructured Indium Doped Cadmium Oxide (CdO:In)	Conference on Materials Research (VCMR – 22)	ce on Materials Research (IVCMR-22)			(2022) 66.	College for Women	
13.	Dr. R. Rajammal	–	A study on the preparation and characterization of organic eutectics PCM for thermal energy storage	–	Conference on Advanced Materials and their Applications 2022 (ICAMS' 22)	International	2022-2023	ISBN No 978-93-5701-686-5	M.V. Muthiah Government Arts College for Women	V.O.Chidambaram College, Thoothukudi
14.	Dr. R. Rajammal	–	Influence of In doping on the ethanol sensing characteristics of sol-gel spin coated CdO thin films	–	Conference on Advanced Materials and their Applications 2022 (ICAMS' 22)	International	2022-2023	ISBN No 978-93-5701-686-5	M.V. Muthiah Government Arts College for Women	V.O.Chidambaram College, Thoothukudi
15.	Dr. R. Rajammal	–	A Comparison Studies on the Simulation and Experimental Results of Temperature Distribution, Due to Solar Thermal Charging of Pure Paraffin as PCM	Conference on Quantum Materials, Nanoscience & Nanotechnology (CONQUEST – 2022)	International Conference on Quantum Materials' Nanoscience & Nanotechnology (Virtual)	International	2022-2023	ISBN : 978-93-5737-587-0, 2022, 45.	M.V. Muthiah Government Arts College for Women	Bannari Amman Institute of Technology, Erode
16.	Dr. R. Rajammal	–	Performance study of a Domestic modek Solar	–	International Conference on	International	2022-2023	ISBN :978-93-5737-	M.V. Muthiah Government Arts	Bannari Amman Institute of Technology,

			water heater system supported by heat exchangers charged with and without PCM materials		Quantum Materials' Nanoscience & Nanotechnology (Virtual)			587-0, 2022, 50.	College for Women	Erode
17.	Dr. R. Rajammal	–	Influence of precursor solution concentration on the properties of sel-gel spin coated thin films	–	International Conference on Quantum Materials' Nanoscience & Nanotechnology (Virtual)	International	2022-2023	ISBN : 978-93-5737-587-0, 2022, 66.	M.V. Muthiah Government Arts College for Women	Conference on Quantum Materials, Nanoscience & Nanotechnology (CONQUEST – 2022)
18.	Dr. K. Kavitha	–	Preparation and Characterization of Nanostructured Indium Doped Cadmium Oxide (CdO :In)	–	International Virtual Conference on Materials Research (IVCMR-22)	International	2022-2023	ISBN: 978-81-89 843-18-2 (2022) 66.	M.V. Muthiah Government Arts College for Women	Proceedings of International Virtual Conference on Materials Research (VCMR – 22)
19.	Dr. K. Kavitha	–	A study on the preparation and characterization of organic ectectics PCM for thermal energy storage		Conference on Advanced Materials and their Applications 2022 (ICAMA' 22)	International	2022-2023	ISBN No 978-93-5701-686-5	M.V. Muthiah Government Arts College for Women	

20.	Dr. K. Kavitha	–	Influence if In doping on the ethanol sensing characteristics of sol-gel spin coated CdO thin films		Conference on Advanced Materials and their Applications 2022 (ICAMA' 22)	International	2022-2023	ISBN No 978-93-5701-686-5	M.V. Muthiah Government Arts College for Women	M.V. Muthiah Government Arts College for Women
21.	Dr. K. Kavitha	–	A Comparison Studies on the Simulation and Experimental Results of Temperature Distribution, Due to Solar Thermal Charging of Pure Paraffin as PCM	–	International Conference on Quantum Materials' Nanoscience & Nanotechnology (Virtual)	International	2022-2023	ISBN : 978-93-5737-587-0, 2022, 45.	M.V. Muthiah Government Arts College for Women	Conference on Quantum Materials, Nanoscience & Nanotechnology (CONQUEST – 2022)
22.	Dr. K. Kavitha	–	Performance study of a Domestic modek Solar water heater system supported by heat exchangers charged with and without PCM materials	–	International Conference on Quantum Materials' Nanoscience & Nanotechnology (Virtual)	International	2022-2023	ISBN :978-93-5737-587-0, 2022, 50.	M.V. Muthiah Government Arts College for Women	
23.	Dr. K. Kavitha	–	Influence of precursor solution concentration on the properties of	-	International Conference on Quantum Materials'	International	2022-2023	ISBN : 978-93-5737-587-0, 2022, 66.	M.V. Muthiah Government Arts College for	Conference on Quantum Materials, Nanoscience & Nanotechnol

			sel-gel spin coated thin films		Nanoscience & Nanotechnology (Virtual)				Women	ogy (CONQUEST – 2022)
24.	Dr.K.Ramasamy	–	Use of open source content management tool in the Central Library of M V Muthiah Government Arts College for Women, Dindigul, Tamilnadu: A study of Wordpress Blog	International Virtual Conference on Intelligent Computing in Humanity, Agriculture, Science and Technology	International Virtual Conference on Intelligent Computing in Humanity, Agriculture, Science and Technology	International	2022-2023	ISBN: 789356 368101	M V Muthiah Govt Arts College for Women, Dindigul	PG Department of Computer Science, M V Muthiah Govt Arts College for women, Dindigul
25.	Dr.K.Ramasamy	–	Information Literacy skills of post graduate students of Sri GVG Visalakshi College for Women (Autonomous), Udumalpet, Tamilnadu : A discipline based comparative Study	International Conference on Open Access sources and information services during post-covid times: Challenges and opportunities	67th ILA Conference Proceedings	International	2022-2023	ISBN : 978-81-85216-54-6	M V Muthiah Govt Arts College for Women, Dindigul	Indian Library Association, New Delhi

26.	Dr.K.Ramasamy	–	The profound role of reading attitudes of the students in Accomplishing the UN's SDG 2030 : Assertions by PIRLS	International Conference on Open Access sources and information services during post-covid times: Challenges and opportunities	67th ILA Conference Proceedings	International	2022-2023	ISBN : 978-81-85216-54-6	M V Muthiah Govt Arts College for Women, Dindigul	Indian Library Association, New Delhi
27.	Dr. R. Nandhini	Tourism	Tourism	–	–	–	2022-2023	ISBN: 978-1-6780-3223-4	M V Muthiah Govt Arts College for Women, Dindigul	Lulu Publication
28.	Dr. A. Subramani	–	Comparative Study on Extent on Research Particle Swarm Optimization Based on Data Clustering	Proceedings of International Conference on Intelligent Computing in Humanity Agriculture, Science and Technology	International Conference on Intelligent Computing in Humanity Agriculture, Science and Technology	International	2022-2023	ISBN: 978-93-9356-36810-1	M V Muthiah Govt Arts College for Women, Dindigul	M.V. Muthiah Government Arts College for Women
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32.	Dr. A. Shanthasheela	–	Towards Automation: The Multifaceted Manipulation of Intelligent Part	Proceedings of Virtual Conference on Innovation and Intelligence in Computing Systems	International Virtual Conference on Innovation and Intelligence in Computing Systems	International	2022-2023	ISBN: 978-93-92264-01-6	M V Muthiah Govt Arts College for Women, Dindigul	Mayan Publication
33.	Dr. A. Shanthasheela	–	A Comprehence Review on Food Recognition and Calories Estimation	Proceedings of International Conference on Intelligent Computing in Humanity Agriculture, Science and Technology	International Conference on Intelligent Computing in Humanity Agriculture, Science and Technology	International	2022-2023	ISBN: 978-93-9356-36810-1	M V Muthiah Govt Arts College for Women, Dindigul	M.V. Muthiah Government Arts College for Women
34.	Dr. K. Naganandhini	–	Pulam Peyarthor Illaikalil Valkai Pathivugal	Valar Tamil Aaivu	International Conference	International	2022-2023	E_ISSN :2456-5571	M V Muthiah Govt Arts College for Women, Dindigul	

35.	Dr. V.S. Eswari	–	Valluvar Vaai Mozhintha Natpiyal Valkai	Valar Tamil AaivuAaivu	Internatio nal Conferen ce	International	2022-2023	978-81-920884-8-9	M.V.Mut hiah Governm ent Arts College for Women	Valar Tamil Aaivu mandram
36.	B.Rathi Devi	–	Sanga Ilakkiyangalil Kairunilai	Valar Tamil AaivuAaivu	Internatio nal Conferen ce	International	2022-2023	2456-5571	M.V.Mut hiah Governm ent Arts College for Women	Valar Tamil Aaivu mandram
37.	Dr. S. Priya	–	Aasarak Kovai Unarthum Tamil aram	Valar Tamil Aaivu Aaivu	Internatio nal Conferen ce	International	2022-2023	978-81-920884-8-11	M.V.Mut hiah Governm ent Arts College for Women	Valar Tamil Aaivu mandram
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40.	Dr. R. Nandhini	Education Policy	Education Policy	–	–	–	2022-2023	ISBN: 978-1-6780-3223-4	M V Muthiah Govt Arts College	Lulu Publication

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41.	Dr. C. Rajalakshmi	–	Pethalakam Kuravaji Serapugala	Valar Tamil Aaivu	International Conference	International	2022-2023	E_ISSN :2456-5571	M V Muthiah Govt Arts College for Women, Dindigul	Valar Tamil Aaivu Mandram
42.	Dr. R. Abbas	–	Agrarian Economy of South East India 1700-1900 A.D	Economic History	South Indian History Congress	National	2022-2023	222936 71	GTN College, Dindigul	South Indian History Congress
43.	Dr. B. Murugeswari	–	Women Education Under Telugu Monarchs in Medieval Tamil Nadu	Cultural History	South Indian History Congress	National	2022-2023	222936 71	GTN College, Dindigul	South Indian History Congress
44.	Dr.K.Ramasamy	Changing information landscape and its transformation in LIS Education	QR Code and its applications in Library and Information Centres : With a slant to free softwares to generate QR codes	–	–	–	2022-2023	ISBN : 978-93-92990-12-0	M V Muthiah Govt Arts College for Women, Dindigul	DOLIS, Alagappa University
45.	Dr K Ramasamy	Changing information landscape and its transformation in LIS Education	Open Access research output on 'Neutrino' : An author metric analysis of web of science database	–	–	–	2022-2023	ISBN : 978-93-92990-12-0	M V Muthiah Govt Arts College for Women, Dindigul	DOLIS, Alagappa University

			(2012-2021)							
46.	Dr K Ramasamy	Changing information landscape and its transformation in LIS Education	Ethical Restraints in Research and Publications	–	–	–	2022-2023	ISBN : 978-93-92990-12-0	M V Muthiah Govt Arts College for Women, Dindigul	DOLIS, Alagappa University
47.	Dr K Ramasamy	Open Education Resources	Research Data repositories as registered in RE3DATA : An panoramic presentation of South African Repositories	–	–	–	2022-2023	ISBN 978-81-949166-0-4	M V Muthiah Govt Arts College for Women, Dindigul	Tamilsuvadi, Tirunelveli
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49.	Dr K Ramasamy	-	Boosting information access in the library and information centres : an endeavor with the lustrous Libguides	Proceedings of Current Trends and Challenges in 21st Century librarinship	Current Trends and Challenges in 21st Century librarinship	National	2022-2023	ISBN : 978-93-5680-115-8	M V Muthiah Govt Arts College for Women, Dindigul	Tamilnadu Physical Education and Sporrts University, Chennai

50.	Dr K Ramasamy	-	Scientometric mapping of research productivity of Madurai Kamaraj University (2006-2020) : An exploration of Geo-merics of most productive countries	Proceedings of Current Trends and Challenges in 21st Century librarinship	Current Trends and Challenges in 21st Century librarinship	National	2022-2023	ISBN : 978-93-5680-115-8	M V Muthiah Govt Arts College for Women, Dindigul	Tamilnadu Physical Education and Sporrts University, Chennai
51.	Dr K Ramasamy	-	Crowd Sourcing and crowd funding : the acclaimed measures to combat the challenges of libraries in the digital era	Proceedings of Current Trends and Challenges in 21st Century librarinship	Current Trends and Challenges in 21st Century librarinship	National	2022-2023	ISBN : 978-93-5680-115-8	M V Muthiah Govt Arts College for Women, Dindigul	Tamilnadu Physical Education and Sporrts University, Chennai
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58.	Dr.K.Ramasamy	Recent Perspectives on Technology	Scientometric Evaluation of Highly Cited Papers in the	–	–	–	2022-2023	ISBN 978-81-956952-6-3	M V Muthiah Govt Arts College	M/s. Vivekanandha International

		Transfer in Library Science Education	field of Biotechnology (2001-2020) : A safari with source Metirces						for Women, Dindigul	Book Publishers, Polur, Tamil Nadu.
59.	Dr.K.Ramasamy	Free and Open Source Software for Libraries and Information Centres: A Software Toolkit ISBN : 978-93-94725-10-2	A Glimpse of Story software applications with special emphasis on 'Let's Read' App	–	–	–	2022-2023	ISBN : 978939472510 2	M V Muthiah Govt Arts College for Women, Dindigul	Muthra Publishers, Tirunelveli
60.	Dr.K.Ramasamy	Free and Open Source Software for Libraries and Information Centres	–	–	–	–	2022-2023	ISBN : 978-93-94725-10-2	M V Muthiah Govt Arts College for Women, Dindigul	Muthra Publishers, Tirunelveli
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65.	Dr.K.Ramasamy	Ingenious Librarianship:Enriching Self–Reliance	Contents of the Library Website of the NAAC A++ Re-accredited University of Kerala	–	–	–	2022-2023	ISBN: 9789391734121	M V Muthiah Govt Arts College for Women, Dindigul	Today & Tomorrow's Printers and Publishers, New Delhi
66.	Dr.K.Ramasamy	Ingenious Librarianship:Enriching Self–Reliance	Shodh-Chakra — Researcher Perspective	–	–	–	2022-2023	ISBN: 9789391734121	M V Muthiah Govt Arts College for Women, Dindigul	Today & Tomorrow's Printers and Publishers, New Delhi

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68.	Dr.K.Ramasamy	Profile Management systems : For researchers and academicians ISBN: 978-93-92594-22-9	Blogs for Profile Management	–	–	–	2022-2023	ISBN: 978-93-92594-22-9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi
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70.	Dr K Ramasamy	Profile Management systems : For researchers and academicians ISBN: 978-93-	Mark a distinction with ORCID	–	–	–	2022-2023	ISBN: 978-93-92594-22-9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi

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76.	Dr K Ramasamy	Profile Management systems : For researchers and academicians ISBN: 978-93-92594-22-9	Unveiling chakravuyuka of Shodh-Chakra with a pictorial expedition	–	–	–	2022-2023	ISBN: 978-93-92594-22-9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi
77.	Dr.K.Ramasamy	Profile Management System (Edited Book)	–	–	–	–	2022-2023	ISBN : 9789392594422 9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi

		and academicians ISBN: 978-93-92594-22-9	portal						Women, Dindigul	
75.	Dr K Ramasamy	Profile Management systems : For researchers and academicians ISBN: 978-93-92594-22-9	Profile @ Google scholar : A must to create academic account for the beginners	–	–	–	2022-2023	ISBN: 978-93-92594-22-9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi
76.	Dr K Ramasamy	Profile Management systems : For researchers and academicians ISBN: 978-93-92594-22-9	Unveiling chakravuyuka of Shodh-Chakra with a pictorial expedition	–	–	–	2022-2023	ISBN: 978-93-92594-22-9	M V Muthiah Govt Arts College for Women, Dindigul	Ess Ess Publications, New Delhi
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CONTEMPORARY PROBLEMS AND PROSPECTS OF LIBRARIES AND INFORMATION CENTRES

Dr. S.Aravind
Dr. K Ramasamy
Dr. J.Arumugam

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CPPLICEB02

Web 2.0 Services Application – A Library Perspective

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I. INTRODUCTION

Web 2.0 is collection technologies developed in the late 1990s - The second generation of the WorldWideWeb. The web, which was in the beginning a set of static pages of information with minimum font selection, design capabilities and graphics, now offers a wide area of customisation providing two way interaction. This two way interaction and information sharing capability is made possible and enhanced by the innovations in the sphere of Web 2.0. It promoted a sudden shift from static "read only" web pages to dynamic and interactive web pages. This shift has changed the ways libraries function. Librarians now can interact with users and vice versa anywhere anytime breaking the barriers of time and distance. The internet which once was a place where users could only just retrieve information provided through HTML codes or FTP, now facilitates bidirectional interaction to users who can add their inputs as well in form of text, image, sounds, videos, etc. The term Web 2.0 has been defined in many ways by many. To some it refers to certain web application technologies and services such as Blogs, Wikis, RSS, SNS, etc.

1. Web 2.0 defined

Web 2.0 is a new version of the World Wide Web that emphasize usergeneratedcontent, usability, and interoperability(Singh&Naidu, 2015). 'Web 2.0 represents an emerging suite of applications that hold immense potential in enriching communication, enabling collaboration and fostering

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About The Editors

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CPPLICEB04

Virtual Reading Guidelines and Initiatives of Who to Mitigate the Infodemic: A Pandemic Parallel

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I. INTRODUCTION

The UN general Secretary Antony Guterreson May21, 2020 has tweeted "As COVID 19 spreads, a tsunami of Mis- Information, hate, scapegoating, and ScareMongering has been Unleashed." "Infodemic" is a condition, which is always said to be followed by a pandemic period yet, the term isn't familiar as much as the word "Pandemic". The common public is facing the "Infodemic" condition least recognizing the condition and the concept.The COVID 19 pandemic,unlike the previous pandemics, is privileged with the abundant advanced technology with umpteen number of medias to spread information about the disease and its characteristics.As common laymen keeps sharing information they come across through media, without a second thought about its validity or the Authenticity leading to thePsychological and socio- Economic consequences among the global public.WHO declared at the early course of COVID 19i.e April 2020, the existence of "Infodemic", a huge wave of Information including both accurate data,fabrications and falsifications about the pandemic.

WHO spreads awareness on "Infodemic" along with the Initiatives to combat the Pandemic. US has initiated a mission to United Nations,ACross-Regional statement on COVID 19 Infodemic which is endorsed by 132 countries which are member states,Non –Member Observer states and Observer Nations.It emphasizes the need for access to free,reliable,factual, trustworthy, multilingual, accurately targeted,clear and science based information.Ensuring participation of all the stakeholders like Independent and pluralistic media, Social Media Platforms,

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About The Editors

Dr.S.Aravind, B.A(RIM), B.L.I.Sc., M.L.I.Sc, M.Phil., M.B.A., M.Sc.,(IT), PhD is the Librarian and Head, Central Library & Department of Library and Information Science, G.T.N. Arts College (Autonomous), Dindigul, Tamilnadu, India; presented 48 articles in various National and International Conferences, and 41 Research articles in reputed National and International Journals; published Ten Books with ISBN; Editorial Board Member of Nineteen International Journals; organized more Conferences, Workshops, Seminars and FDPs; guiding 4 Ph.D and M.Phil Scholars at present; received National Best Librarian Award from Madras Library Association in 2019 and Mayas Research (P) Ltd in 2019 and received "Noolagar Chemmal" award in 2020; a translatorof IGNOU- Swayam courses in 2020; an IGNOU Academic Counselor; visited Malaysia, Thailand, Sri Lanka, France, Greece, Dubai, Bahrain and Lebanon for research paper presentation.

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CPPLICEB06

Information Literacy Skills of Undergraduate Students of Sri GVG Visalakshi College for Women Autonomous, Udumalpet : An Assessment

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I. INTRODUCTION

Information skills and literacy have been defined as, "the process of acquiring knowledge of attitudes towards and skills in information, as a major determinant of the way in which people exploit reality, develop, live, work and communicate in an information society" (Marais, 1992, p75)

IL Skills is a cognitive strategy which includes recognizing the correct and complete information, determining exactly the aspect of the problem , defining & determining needed information, formulating questions, identifying sources of information, developing search strategies, gathering information , organizing & storing information , evaluating , verifying & validating ,extrapolating & applying, publishing information in different situations in different context there is no rule of thumb to handle data needs above skill to handle them as needed.

The Knowledge workers are in high esteem if they are proficient in the six major dimensions of IL skills including Locating, Evaluating, Managing, analyzing, interpreting, and applying information effectively & efficiently is a greatest challenge. To be an IL Skilled person one should be through and practice the skills to cope with the growth of information sources and formats.

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About The Editors

Dr.S.Aravind, B.A(RIM), B.L.I.Sc., M.L.I.Sc, M.Phil., M.B.A., M.Sc.,(IT), PhD is the Librarian and Head, Central Library & Department of Library and Information Science, G.T.N. Arts College (Autonomous), Dindigul, Tamilnadu, India; presented 48 articles in various National and International Conferences, and 41 Research articles in reputed National and International Journals; published Ten Books with ISBN; Editorial Board Member of Nineteen International Journals; organized more Conferences, Workshops, Seminars and FDPs; guiding 4 Ph.D and M.Phil Scholars at present; received National Best Librarian Award from Madras Library Association in 2019 and Mayas Research (P) Ltd in 2019 and received "Noolagar Chemmal" award in 2020; a translatorof IGNOU- Swayam courses in 2020; an IGNOU Academic Counselor; visited Malaysia, Thailand, Sri Lanka, France, Greece, Dubai, Bahrain and Lebanon for research paper presentation.

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This edited volume provides various diverse and vital perspectives on open access (OA) issues. This volume focuses on the viewpoints of researchers, librarians, information professionals, publishers, and library users in India. This volume provides an excellent overview of open access publishing and its benefits. Open access (OA) helps readers find, retrieve, read and use the research they need. At the same time, it allows authors to enlarge their audience and amplify their impact. Those are the main benefits. But these benefits lead to others. If OA helps readers and authors of research, it helps advance research itself and all the benefits that depend on research. In the case of the sciences, that can mean new medicines and valuable technologies. In these circumstances the editors were collected 58 papers from Library and Information Science Professionals from the National level and titled on Innovative Librarianship: Accelerating Open Access. Contents are edited suitably in order to appreciate the professionals. This edited volume consists of 59 papers from Library and Information Science Professionals under five themes such as, i) Open Access Landscape, ii) Implications for Scholarly Communication, iii) Open Access Tools and Technologies, iv) Open Educational Resources and v) User Studies and User Education.

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Felicitous Filters / Luminous Limiters to Refine Search Results in Open Access Online Resources: An Exploration of the Leaders

Dr.K.Ramasamy

College Librarian, M V Muthiah Govt. Arts College for Women, Dindigul-1, Tamil Nadu, Email: ramasamymay1975@gmail.com

1. Introduction: Open Access Online Resources

The present day information seekers face not the problem of availability of information but the availability of overloaded information. Thanks to the ever evolving internet and communication technologies and the widespread acceleration of open access movement, we are flooded with a wide variety of open access resources available online now.

"Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions. What makes it possible is the internet and the consent of the author or copyright-holder." (Richter, n.d.)

Though Google, Google Scholar, BASE and such other search engines are good enough to bring forth a large volume of resources for any terms we key in, there is a need to refine the search results.

2. Search Results and Filters

When we land at an open access resource provider, we use keywords (either as a free search or as a phrase search or truncated search) to search for required information. Once we get the results – normally huge in counts - we need to refine/limit the search results so as to narrow down the result counts and get exactly what we need.

Many databases will have filters allowing you to limit your results to desired information. Often you will be able to **restrict** or **filter** your search results to the content most relevant to you.

i.e. Limiting by date range, Limiting to Full Text

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Open Access refers to the Free and Open Access to any kind of resources either Print or Online but the cost factor has limited the Open Access to Online version alone. The concept of Open Access is of recent origin. The Open Access Movement has offered access to Peer Reviewed Research and Scholarly content, but Publications in open access journals has burdened the authors with Article Processing Charges and other kind of charges for publishing in the Journals.

Some Publications of Project -funding, professional Societies are exempted from payment by the authors. Professional Open Access Publications are benefitted by getting indexed in popular open access indexing services like Google Scholar, Research Gate and semantic scholar which add to the profiles of the authors of OA Publications. The open access movement has both pros and cons but the benefits are for a wide array of deserving researchers, academicians, scholars and professionals.

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The Open Access refers to the free access to scholarly publications over the internet removes the price and permission barriers and ensures widest possible dissemination of research. The series of Open Access Initiatives in the scholarly literature laid the foundation for a massive movement in the field of Research. It can be classified into the following aspects

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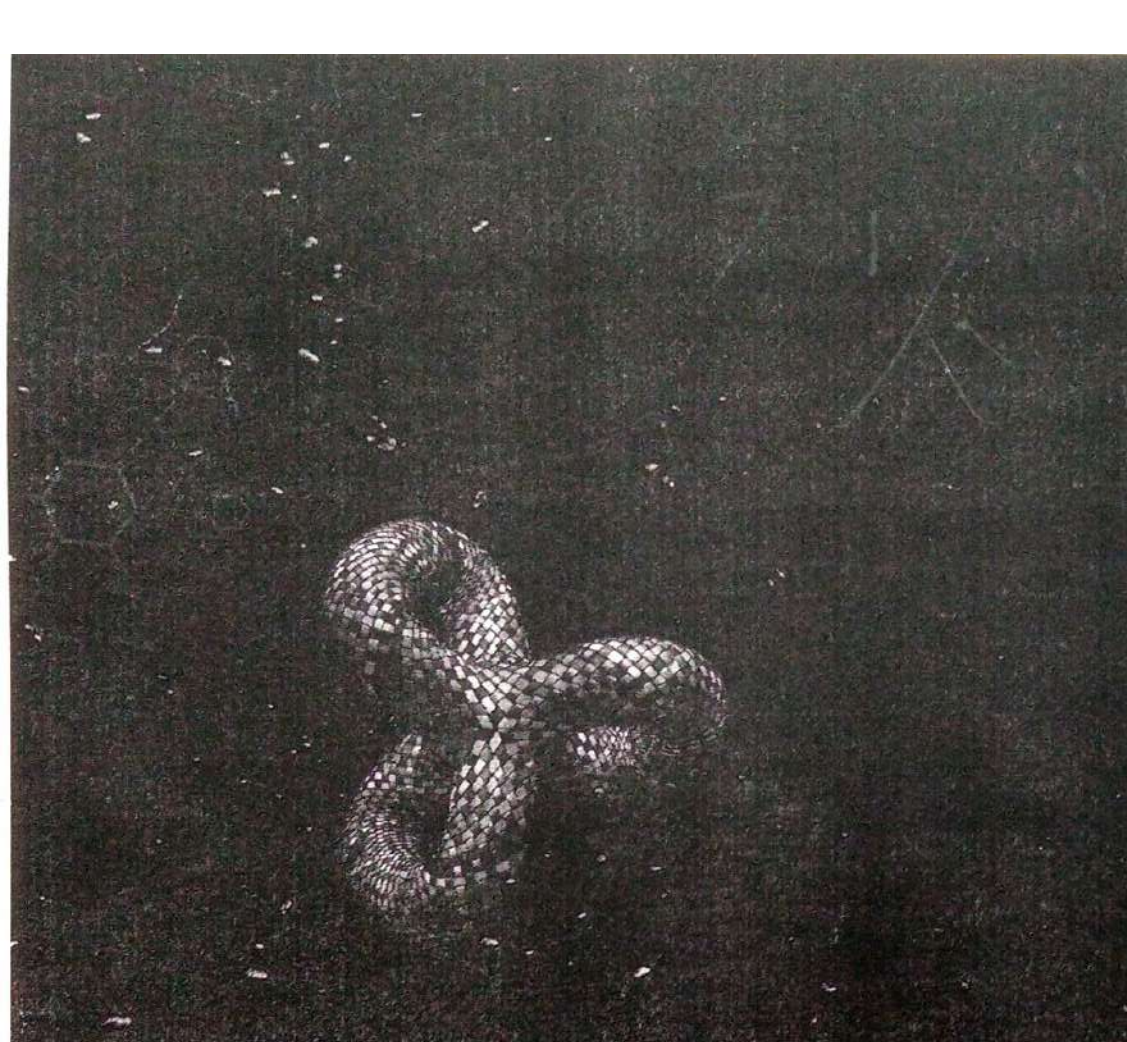

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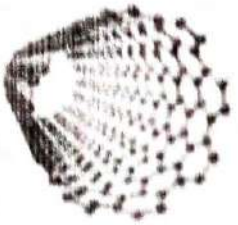

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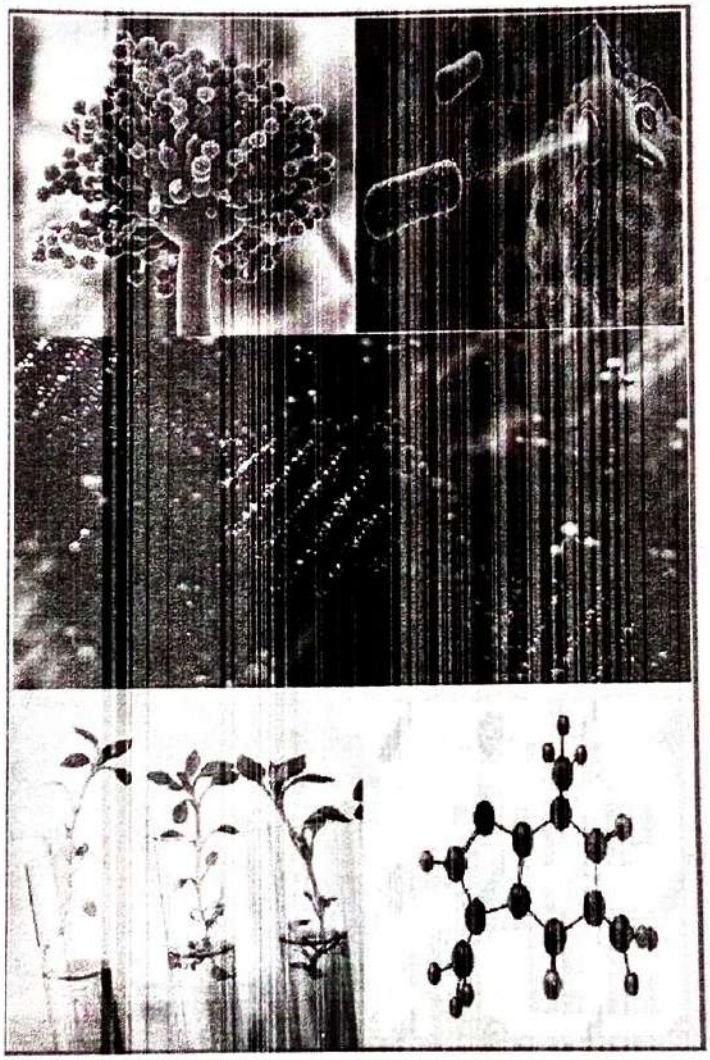

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A study on the preparation and characterization of organic eutectics PCM for thermal energy storage

K. Kavitha[a], R. Rajammal[a] and S. Arumugam[b]

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[b]Gandhigram Rural Institute, Department of Physics, Former Associate Professor, Dindigul, Tamil Nadu, India

Abstract

Latent heat thermal energy storage (LHTES) was studied for the organic- organic eutectic PCM. A composite was prepared by taking paraffin and fatty acids SA (Stearic Acid), PA (Palmitic Acid), LA(Lauric Acid) in different ratios as sample A, B and C. From the study of heat charging and discharging of the eutectic PCM, it was found that (sample B) the ratio of 3g:9g:9g:9g as the total mass of 30 g has good thermal capability. From the DSC it was noted that the eutectic (B) got melted at the temperature of 41°C which gets heat charged 20°C earlier than the paraffin or any other fatty acids.

Keywords: PCM, DSC, latent heat, eutectic, LHTES

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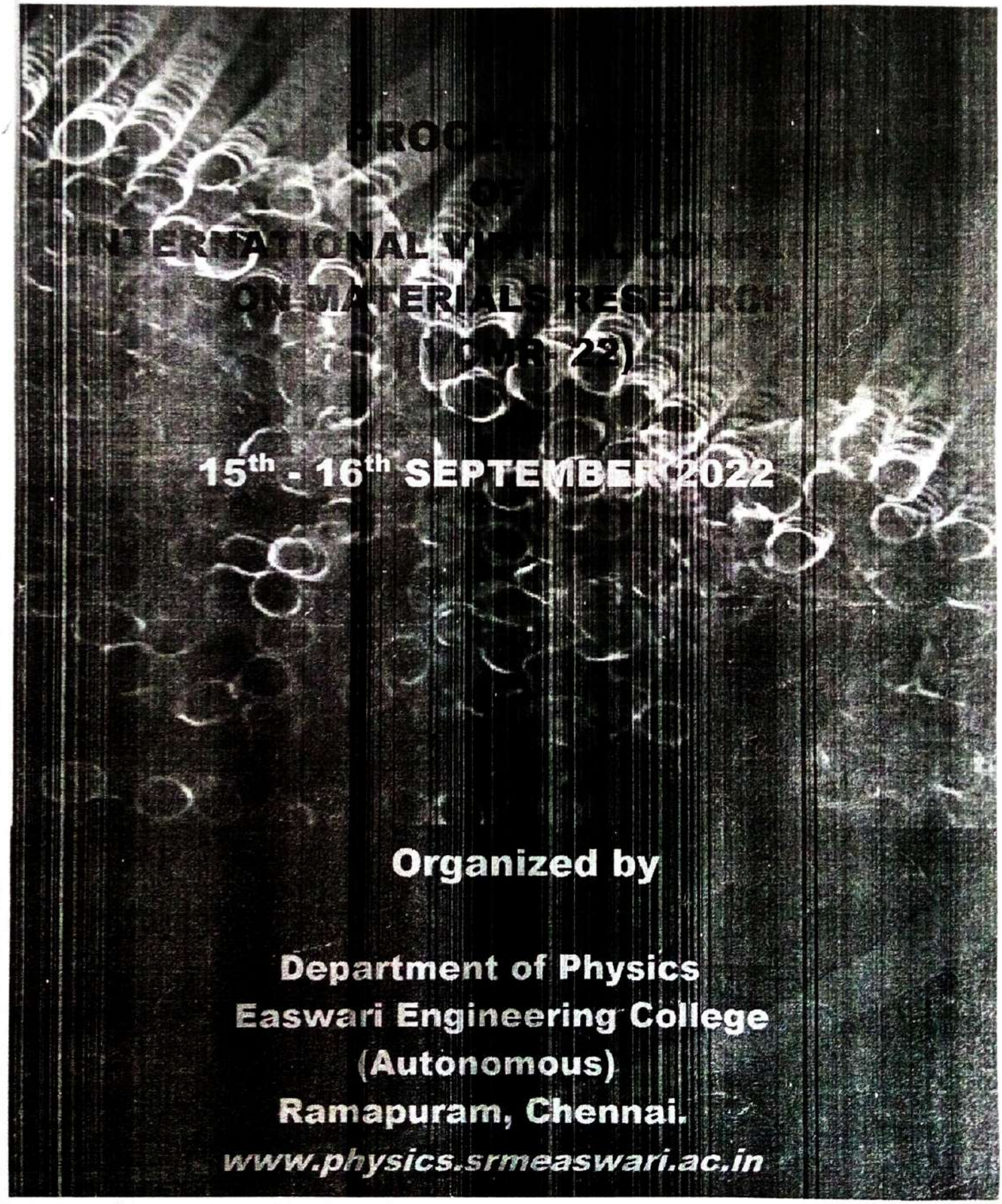

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MR 74 Structural and luminescence properties of Sm^{3+} doped NBT-BT ceramic system for multifunctional device applications

G. Sudha[a], N. Karunagaran[a*]

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ABSTRACT

In this investigation, we have synthesized NBBT:xSm by conventional solid-state reaction technique. The structural parameters were revealed by the X-ray diffraction technique in relationto Rietveld refinement. The proposed ceramic system retains the phase structure in which rhombohedral (R) and tetragonal (T) phases coexist. The luminescence characteristics of the resulting system showed the dominant absorption peak at 407 nm. This is in good agreement with the near UV emission of commercially available LEDs. In addition, the introduction of Sm^{3+} ion in the NBBT lattice increases the grain size, as a result, the ceramic system will make the antiferroelectric zone larger and more stable.These findings show that the addition of Sm3+ to NBBT improved its electrical and luminescence characteristics in comparison to NBBT, making it an attractive choice for multifunctional applications.

Keywords: Perovskite,$Na_{0.5}Bi_{0.5}TiO_3$, Rare Earths, Luminescence, Dielectric

MR 75 Preparation and Characterization of Nanostructured Indium doped Cadmium Oxide (CdO:In) thin films

R. Rajammal [a] , K. Kavitha [b]

[a,b] M.V *Muthiah Gov.Arts College for Women, Department of Physics, Mother Teresa University, Dindigul ,Tamil Nadu, India*

ABSTRACT

Undoped and Nanostructured In doped CdO thin films have been successfully prepared by sol- gel spin coating technique using a simple ethanol based precursor solution. The influence of the In dopant level on the properties of CdO thin films has been investigated and the dopant level has been optimized. The CdO:In films prepared with the optimized In dopant level of 6wt% shows the lowest resistivity [5.92x10 -4 Ωcm] and highest carrier concentration [1.20x10 20 cm -3] and reasonable transmittance [70%] at 600nm. The SEM studies indicate that there is a reduction in surface uniformity and smoothness and presence of pores in the films due to In doping.

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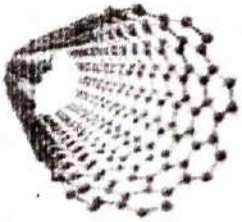

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OP - 37

Influence of In doping on the ethanol sensing characteristics of sol-gel spin coated CdO thin films

R. Rajammal[a],K. Kavitha[a] and S. Arumugam[b]

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[b]Gandhigram Rural Institute, Department of Physics, Former Associate Professor, Dindigul, Tamil Nadu, India

Abstract

The simple and inexpensive sol-gel spin coating route has been used to prepare undoped and Indium doped cadmium oxide thin films for ethanol sensing applications. To study the effect of Indium concentration on the gas sensing properties, thin films were synthesized using different concentration of indium in the precursor. The structural analysis indicates that the films contain cubic CdO phase only. The scanning electron microscope (SEM) images reveal uniform deposition on the entire surface with varying grain size. The ethanol sensing characteristics of the developed films have been investigated at different operating temperatures ranging from 50° to 250°C and for various ethanol concentrations in the range of 10ppm to 300ppm. The study has shown that In doping in CdO thin films considerably enhances the sensor sensitivity for ethanol and the highest sensitivity 76.7% for 100ppm ethanol at a fairly low optimum operating temperature of 100°C has been realized at 6wt% In doping level in the film. It has been found that, in every case, sensor sensitivity varies linearly with ethanol gas concentration in the range of 10ppm to 100ppm.This study has further indicated that the In doped CdO films exhibit fast response and recovery when compared to the undoped CdO film. These results indicate the potential of sol-gel spin coated In doped CdO thin films for ethanol sensing applications.

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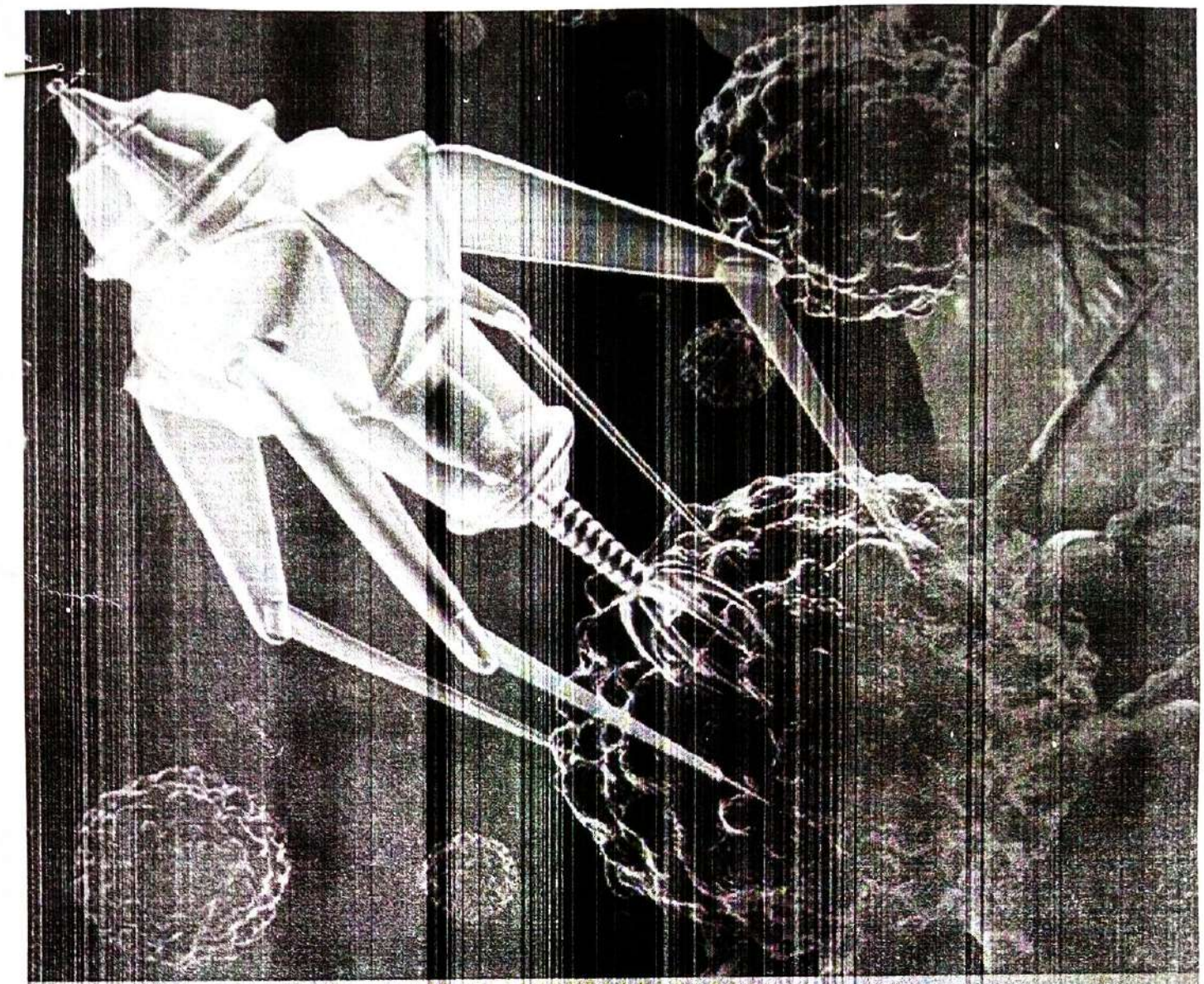

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AM-14

A COMPARISON STUDIES ON THE SIMULATION AND EXPERIMENTAL RESULTS OF TEMPERATURE DISTRIBUTION, DUE TO SOLAR THERMAL CHARGING OF PURE PARAFFIN AS PCM

K.Kavitha[a] , R. Rajammal[a],

[a]Department of Physics, M.V.Muthaiah Govt. Arts College for Women, Dindigul, Tamilnadu, India – 624001

Abstract

In this study we have presented a two dimensional simulation model to find the temperatures of the paraffin wax corresponding to the various plate temperatures. With this model it was able to find out the paraffin temperature for various plate temperatures. In addition, a two dimensional numerical results found from the matrix inversion and the predicted results agree reasonably well with the experimental data. The discrepancies between the experimental and observed temperatures are 4% only. The dimensionless numbers Ra, Nu numbers are also calculated and it was observed that the heat transfer took place in the paraffin was through laminar flow of heat. The rate of total heat transfer of the PCM due to convective heat transfer and RHT (radiative heat transfer) are also determined which are useful to know the heat transfer characteristics of the PCM. It can be concluded that presented work could provide guidelines for thermal performance and design optimization of the latent thermal energy storage unit.

Key words: PCM, Nu, Ra, RHT

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MC-14

INFLUENCE OF PRECURSOR SOLUTION CONCENTRATION ON THE PROPERTIES OF SOL-GEL SPIN COATED CDO THIN FILMS

R. Rajammal[a], K.Kavitha[a]

[a]Department of Physics, M.V.Muthaiah Govt. Arts College for Women, Dindigul, Tamilnadu, India – 624001

Abstract

The Cadmium Oxide (CdO) thin films have been prepared using the sol-gel spin coating route and the effect of the precursor solution concentration on the properties of these films has been investigated. The precursor solution concentration has been varied from 0.20M to 0.35 M in steps of 0.05 M. The X-ray diffraction (XRD) studies indicate that the films grown with lower solution concentrations of 0.20 M and 0.25 M give rise to face centered cubic (fcc) CdO phase only; however the films grown with higher solution concentrations of 0.30M and 0.35 M contain mixed phases of cubic CdO_2 and CdO. The mean crystallite size has been found to decrease for higher solution concentrations which may be due to the presence of CdO_2 phase mixed with the CdO phase in the films. The solution concentration has been found to have a strong bearing on the properties of CdO thin films and highly conducting and transparent CdO thin films with smooth and uniform surface have been realized by controlling the precursor solution concentration and the results obtained have been presented.

Keywords: CdO thin films, solution concentration, structural properties, optical properties, electrical properties.

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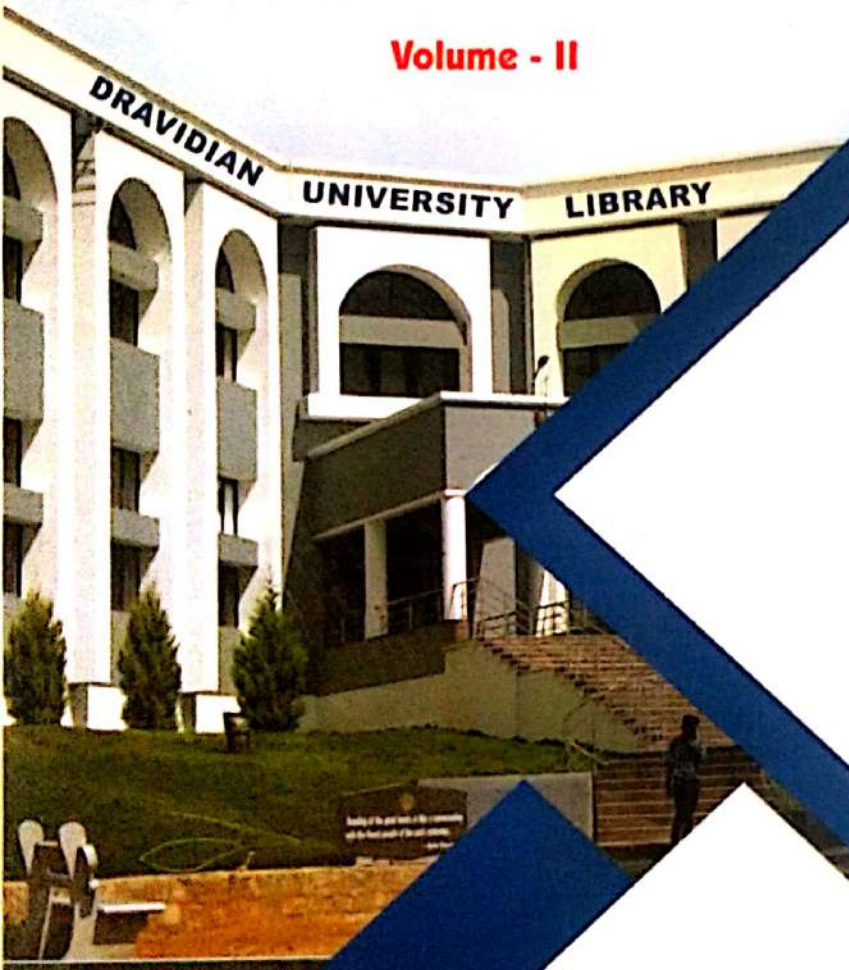

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Information Literacy Skills of Post Graduate Students of Sri G.V.G Visalakshi College For Women, (Autonomous), Udumalpet, Tamilnadu: A Discipline Based Comparative Study

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ABSTRACT

A Higher Education Institution necessitates its students to be information literate which is a primary and substantial character. Aiming to answer this, this comparative study was conducted at Sri G.V.G Visalakshi College for Women, Udumalpet, Tamil Nadu to investigate the information literacy skills of the postgraduate students of.arts and science streams. Census method and evaluative research design were employed. Data was collected through closed ended questionnaire via Google forms from all Post graduate students. 163 students responded. Analysis of collected data was done using SPSS V.23. The findings revealed that the more arts stream Post Graduate students strongly agree and more science stream postgraduate students agree that they possess almost all the seven Information Literacy skills ; There is wide variation in the skill level of arts and science students in the case of one particular skill namely organizing information professionally and ethically. More than four fifth of both arts and science stream students need training in different aspect of IL skills, to become knowledgeable.

Keywords: *Information literacy, Postgraduate students, Information Literacy Skills, Arts Vs Science Streams*

PREAMBLE

In this age of current information view point, students are regularly confounded on where to get required data for a specific task or examination. IL Skills has significantly reformed information management and organization of information positively. It is expected that PG women students would be familiar and comfortable with IL skills. For a Post graduate student, information literacy

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The Profound Role of Reading Attitudes of the Students in Accomplishing the UN's SDG 2030: Assertions by PIRLS

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Abstract

The United Nations prime motto is to serve the humanity in every possible way, by eradicating the miseries of each and every Individual. As a huge and substantial step towards achieving the motto, UN has framed the Sustainable Development Goal or the SDG in 2015 as the target to be achieved by 2030.There are 17 goals which ensure basic life necessities for all. The prime goal is ensuring equitable, quality education for all. The Quality Education is a mirage, without the Library and Reading services. A well built Reading attitude in child will render all the qualities and tendencies to progress academically and thereafter in socio-Cultural Economic spheres of life. This is ascertained by PIRLS, Progress in International Reading Literacy studies. PIRLS is an Assessment, conducted by IEA(International Association for Evaluation of Educational Achievement).The Assessments are for the fourth grade students among all the seventy participating countries, conducted once in every four years .The results of the PIRLS Assessment helps to enhance the reading literacy and weeding out the obstacles in the way of achieving the SD Goals 2030.

Keywords:- *SDG 2030, Reading Literacy, Reading attitudes, PIRLS, Equitable Quality Education.*

Introduction

The UNO or the United Nations Organization strives for the up gradation of the standards of the life by their policies and goals. UN has framed 17 SDG goals to be achieved by 2030.They guarantee, basic necessities of Life to every global citizen, ensures the best Socio-Economic life standards and protection of the planet from pollution.

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USE OF OPEN SOURCE CONTENT MANAGEMENT TOOL IN THE CENTRAL LIBRARY OF M V MUTHIAH GOVERNMENT ARTS COLLEGE FOR WOMEN, DINDIGUL, TAMILNADU: A STUDY OF WORDPRESS BLOG

Dr. K. Ramasamy

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Abstract **-** Blogs are used by the libraries to store, organize and disseminate required information to the users and to update library patrons about library, its rules, resources and services with links to useful online resources. The present study aims at giving a brief account of blogs and their use in libraries in general and providing a depth analysis of how the blog is used as an effective content management tool by the Central Library of M V Muthiah Government Arts College for Women, Dindigul-1, Tamil Nadu using the very popular open source CMS platform 'WordPress' in particular, with required screenshots.

Keywords **-** *Blogs, WordPress blogs, Central Library, Library activities, Library Services*

1. INTRODUCTION

The libraries have started transforming themselves into new forms and avatars so as to be able to reach the digital natives of present Google era. Thanks to internet and prolific research on WWW, the libraries are blessed today to have unlimited tools and apps to reach and serve their patrons. Various Web 2.0 tools are used by the library and information centres now-a-days to render far reaching library services both during the pandemic period and new normal period. Blogs, Wikis, Social bookmarking Tools, Mashups, online chats, bulletin boards, RSS Feeds, Atom Feeds, social networking sites etc ., are few web 2.0 tools being adopted by the libraries of modern IT society.

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COMPARATIVES STUDY ON EXTENT OF RESEARCH ON PARTICLE SWARM OPTIMIZATION BASED DATA CLUSTERING

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Abstract: Smoothing out is just a mathematical system which finds maxima or minima of any limit of stress in some sensible region. Different upgrade methodologies are proposed which are seeing for the best plan. Molecule Swarm Optimization (PSO) is a new, advanced, and most surprising progression framework that performs precisely well on a couple of improvement issues. Molecule swarm streamlining (PSO) is a populace based stochastic advancement calculation motivated by keen aggregate way of behaving of certain creatures like rushes of birds or schools of fish.. Data gathering is one of the troublesome genuine applications that invite the noticeable assessment works in grouping of fields. Every molecule in the multitude searches for its positional directions in the arrangement space, which are related with the best arrangement that has been accomplished such a long ways by that molecule. It is known as pbest or individual best.Another best worth known as gbest or worldwide best is followed by the PSO. . The progressions to a molecule inside the multitude are accordingly affected by the experience, or information, of its neighbors. The pursuit conduct of a molecule is accordingly impacted by that of different particles inside the multitude (PSO is consequently a sort of advantageous agreeable calculation) .This paper portrays the different challenges related with diverse data gathering and degree of assessment on smoothing out the batching issues using PSO. We furthermore propose a system to include cross variety PSO variety for bundling complex numerical, text and picture data.

Keywords: PSO, Grouping (Clustering), Multilayer, Swarm Intelligence.

A REVIEW ON KAWASAKI DISEASE IN PRIMARY LEVEL

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Abstract - Kawasaki Disease (KD) often influences babies and little youngsters younger than 5 years. The infection is viewed as a sort of fundamental vasculitis disorder, and basically attacks the medium-sized strong veins and furthermore including coronary conduits [1].Patients who don't satisfy total demonstrative measures for KD are frequently alluded to as abnormal (or fragmented) KD. The most dreaded inconvenience of KD is coronary supply route anomaly advancement, and patients with abnormal KD are additionally in danger. Organization of intravenous immunoglobulin (IVIG) and anti-inflamatory medicine has enormously decreased the rate of coronary sores in impacted youngsters. A few other resistant balancing treatments have as of late been used in mind boggling or hard-headed cases[2]. This article proposes a clinical rule for the analysis and treatment of Kawasaki illness in view of the best accessible proof to date, and features areas of training where proof is recounted or in light of review information. Future examination as proposed by the London Kawasaki Disease Research Group is illustrated, and clinicians are welcome to tentatively select their thought cases into this cooperative exploration project.

Keywords - Kawasaki Disease, Kawasaki Condition, Mucocutaneous Lymph Hub Disorder, IVIG, Aspirin, Coronary Artery Abnormalities (CAAs), Coronary Artery Lesions(CAL).

1. INTRODUCTION

Kawasaki infection (KD), otherwise called Kawasaki condition, is an intense febrile sickness of obscure reason that principally influences kids more youthful than 5 years old. The sickness was first depicted in Japan by Tomisaku Kawasaki in 1967, and the primary cases beyond Japan were accounted for in Hawaii in 1976[3]. Clinical signs incorporate fever, rash, expanding of the hands and feet, aggravation and redness of the whites of the eyes, enlarged lymph organs in the neck, and disturbance and irritation of the mouth, lips, and throat. Kawasaki sickness is an intense, self-restricted vasculitis that fundamentally includes the coronary supply routes (Newburger et al., 2004). Despite the fact that it is more predominant in Japan and in offspring of Japanese heritage than among others, the illness happens in local area wide scourges in offspring of all races[4].

ICHASH – 2022 Best Paper

DATASET IMPACT ANALYSIS IN STROKE DISEASE CLASSIFICATION USING MACHINE LEARNING ALGORITHMS

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Abstract - Data is a decisive component in machine learning applications that should be balanced in order to extract features from it. So making the perfect training data is the key challenge in machine learning. This paper experiments with the different stroke data samples to analyze the performance of machine learning algorithms such as K-Nearest Neighbor classifier, XG Boost Classifier, CatBoost classifier, DecisionTree classifier and GradientBoost classifier. With different sampled datasets XG Boost performed better than other algorithms got above 91% accuracy.

Keywords - Machine Learning, K-Nearest Neighbor classifier, XG Boost Classifier, CatBoost classifier, DecisionTree classifier and GradientBoost classifier.

1. INTRODUCTION

A stroke is an emergency medical condition that is caused by blockage or leakage in the blood vessel which leads to malfunctioning of the brain. A stroke caused by a blockage in the blood artery is called an ischemic stroke and caused by a rupture in the artery is called a hemorrhagic stroke. As stroke is the second leading mortality and long-term disability disease, it is very crucial to prevent it before. In India, every 40 seconds a person is affected by a stroke. [1]An average of 194 to 215 new cases has filed against 1,00,000 populations. The on-time prediction will help correct treatment and saves human life. Machine learning plays a vital role medical field that can predict the disease before it occurs, detect the exact affected area of disease and also involved in the treatment. This paper compares the leading machine learning algorithms with different sampled dataset and analyze the performance of each with evaluation metrics.

2. LITERATURE REVIEW

There are several studies that have analyzed the performance of machine learning(ML) in stroke disease prediction. Text data and image data are generally used to predict stroke.

[2](Sailasya & Aruna Kumari, n.d.) evaluated the performance of six machine learning algorithms such as, Logistic Regression(LR), Decision Tree Classification DTC, Random Forest Classification(RFC), K-Nearest Neighbor Classification(KNN), Support Vector Machine(SVM), Naïve Bayes Classification(NBC) and got the best accuracy with Naïve Bayes Classifier(82%). The web application was developed to get inputs. Because of the unbalanced nature of the dataset, the authors under-sampled it into 249 rows from 5110 rows which is the minimum data when the machine learning algorithms have been applied.

[3](Emon et al., 2020) proposed a weighted voting classifier to predict stroke disease and that was compared with different machine learning classifiers. Among 12 attributes in the given dataset, the major 7 attributes such as hypertension, Heart disease, BMI level, glucose level, age, previous stroke status, and smoking status were taken to define the Weighted voting classifier(WVC). The paper concluded that WVC is the best among all other classifiers.

[4](Gazi Üniversitesi et al., n.d.) classified the type of stroke by using 8 different machine learning algorithms. The image data(CT scan) have been used for this diagnosis. The image features are extracted using Grey Level Co-occurrence Matrix(GLCM). Random Forest classification gave the highest accuracy(95.97%) against KNN, SVM, NBC, DT, SGD, LR, and Deep Learning(DL). The performances were as analyzed using 10-Fold cross-validation.

[5](Teoh, 2018) Followed regularization terms in standard cross entropy loss-function to avoid false prediction in Recurrent Neural Network model due to imbalanced data. For this purpose they have used 8000 electronic health records of stroke patients. The performance of the model was evaluated through Receiver Operating Characteristic.

3. METHODOLOGY

This paper aims to compare[11] machine learning algorithms K-Nearest Neighbor, XG Boost Classifier, CatBoost classifier, DecisionTree classifier and GradientBoost classifier with different samples of the dataset. The dataset for this research work has been taken from Kaggle which is imbalanced dataset. That is among 5110 patient details only 249 stroke positive cases. This will lead to mistakes in stroke prediction. So the preprocessing is necessary to make data perfect for analysis .

The dataset contains 5110 rows with 12 attributes are defined as follows:

Table 1: Dataset description

S.No	Attribute Name	Definition	Data type	Example Values	Observation	Remarks
1	id	Uniquely identifies the patient	Integer	9046 51676 31112 Etc.,	Not necessary for stroke prediction	Can be removed from the dataset
2	Gender	States the gender of the Patient	String Literal	Male, Female, and Other	Among 2994 females 141 have a stroke Among 2115 males 108 have a stroke Other-1	Not much difference between gender and stroke rate
3	age	Tells the age group of the patient	Integer	Mixed-age group data	The average age of stroke positive is 67	Some outliers are there
4	hypertension	Whether the patient has hypertension or not	integer	0 – not having hypertension 1- Having hypertension	66 of 432 hypertension having a stroke	Influences stroke
5	Heart_disease	Whether the patient has heart_disease or not	integer	0 – not having heart_disease 1- Having hypertension	Among 276 heart disease patients 47 patients having stroke Among 4632 non-heart disease patients 202 having stroke	Heart disease is an influenced factor of stroke in this dataset.
6	Ever_married	Tells patient marriage status	String literal	Yes – married No – not married	Among 3353 married patients, 220 have a stroke	Marriage has a high influence on stroke data
7	Work_type	Tells work type of the patient	String literal	Children Government Private Self-employed Not working	Among 2925 private employees 149 have a stroke 65 of 819 self-employed have stroke	Private sector working is a major cause of stroke
8	Residence_type	Tells the living environment of the patient	String literal	Urban rural	135 of 2596 urban have stroke 114 of 2514 rural have a stroke	Urban people have a slightly high stroke rate compared to rural people.
9	Avg_glucose_level	The sugar	Floating	228.69	Stroke rate	Sugar

		level of the patient	point	202.21 105.92	increases as avg_glucose Level increases	patients have a high risk of stroke
10	bmi	Body mass index	Floating point	36.6 N/A – not available 32.5 34.4 24	201 bmi row values are not available	It has to be handled (mean or median)
11	Smoking_status	Tells the smoking status of the patient	String literal	Unknown- data is not available Never smokes Smokes Formally smoked	90 of 1892 never smoked people have a stroke, but 47 of 1544 smoking unknown data patients also have stroke	In this dataset, smoking has no to influence on stroke
12	stroke	Tells whether the patient is having a stroke or not	Integer	0- No stroke 1- stroke	Only 249 patients are having strokes among 5110 data	Imbalanced data have to correct in order to make accurate prediction

The contribution of our research work is as follows:

1. This paper aims to create different samples from the dataset and compare the accuracy of machine learning algorithms in stroke prediction. The under-sampling of the data are (a) preprocessed 5110 rows with mean valued bmi, (b) preprocessed 5110 rows with median bmi, (c) 498 data of 249 strokes positive and 249 stroke negative cases with mean bmi. (d) removing 201 BMI values, (d) 498 data of 249 strokes positive and 249 stroke negative cases with mean bmi
2. The accuracy of the above four models was compared by Accuracy metric, Precision score, Recall score, F1 score and Support score, and ROC curve.

4. MODEL DESCRIPTION

K-Nearest Neighbor Classifier

K-Nearest Neighbor Classifier is a supervised ML algorithm that is very simple and mainly used for classification and regression. The perfect K-Value will reduce the error rate and achieve good accuracy. In this research, the best k value has been identified through an error plot. Followed by the XGboost classifier KNN performs well in all four sampled datasets.

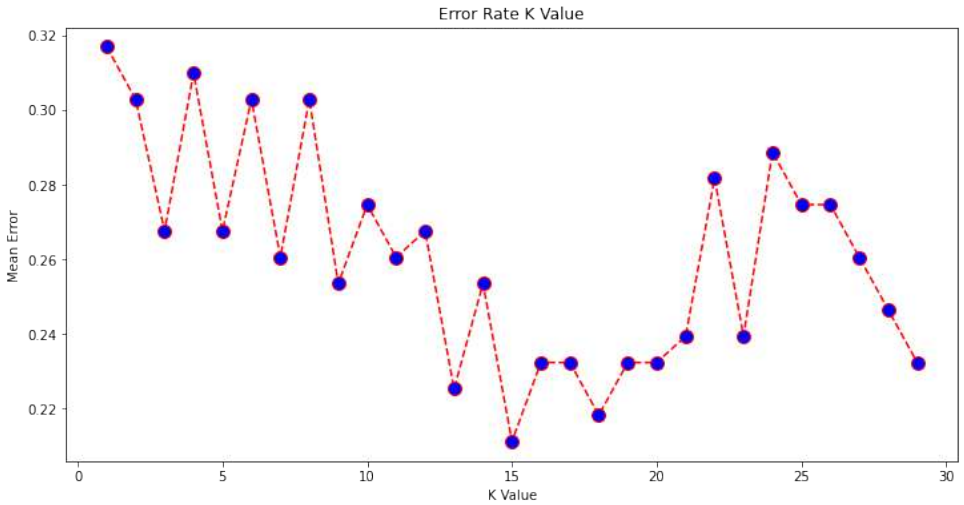

Figure 1: The identification of the best k-value through an error plot.

Decision Tree Classifier

[7] Decision Tree Classifier is also a supervised classification algorithm that works in a tree-structured manner in which decisions are represented as a branch, internal nodes represent data features, and leaf nodes represent the final output. Regression problems can also be solved using the Decision Tree Classifier. In this study, the average performance of decision tree classification is poor compared to all other classifiers.

Gradient Boost Classifier

[8] Gradient Boosting algorithm suits well with a complex and large dataset. The foremost feature of this algorithm is speed and accuracy. It is used to reduce the bias error. It is a boosting algorithm like AdaBoost only differs in setting the value of base estimator calculation. Gradient Boosting algorithm has a fixed base estimator value whereas the AdaBoost-base estimator value will change based on the input needs. In this research, large Dataset has a higher accuracy rate than smaller ones.

XG Boost Classifier

[9] eXtreme Gradient Boost Classification is a supervised machine learning model solving classification and regression problems, especially for leger datasets. The main advantage of the XG Boost classification model is speed. This can be achieved by the paralyzed model which is executed in various GPUs across the different networks. In this research work, XG Boost Model achieves a higher accuracy score than all other models.

Cat Boost Classifier

[10] Cat boost classification model is the boosted decision tree algorithm. It offers high speed classification without tuning the attributes and GPU support. This supervised machine learning model is well suited for heterogeneous and noisy data. In this comparative analysis Cat Boost got high accuracy in balanced data than larger one.

RESULT AND DISCUSSION

This research work analyzed the impact of the different sampled datasets in the classification of stroke disease using machine learning algorithms KNN, Decision Tree Classifier, Gradient Boost Classifier, XG Boost Classifier, and Cat Boost Classifier. The dataset used for this study has 12 attributes with 5110 rows. Among 12 attributes the high influenced attributes on stroke disease are age, hypertension, heart disease, work type, smoking status, average glucose level, and BMI.

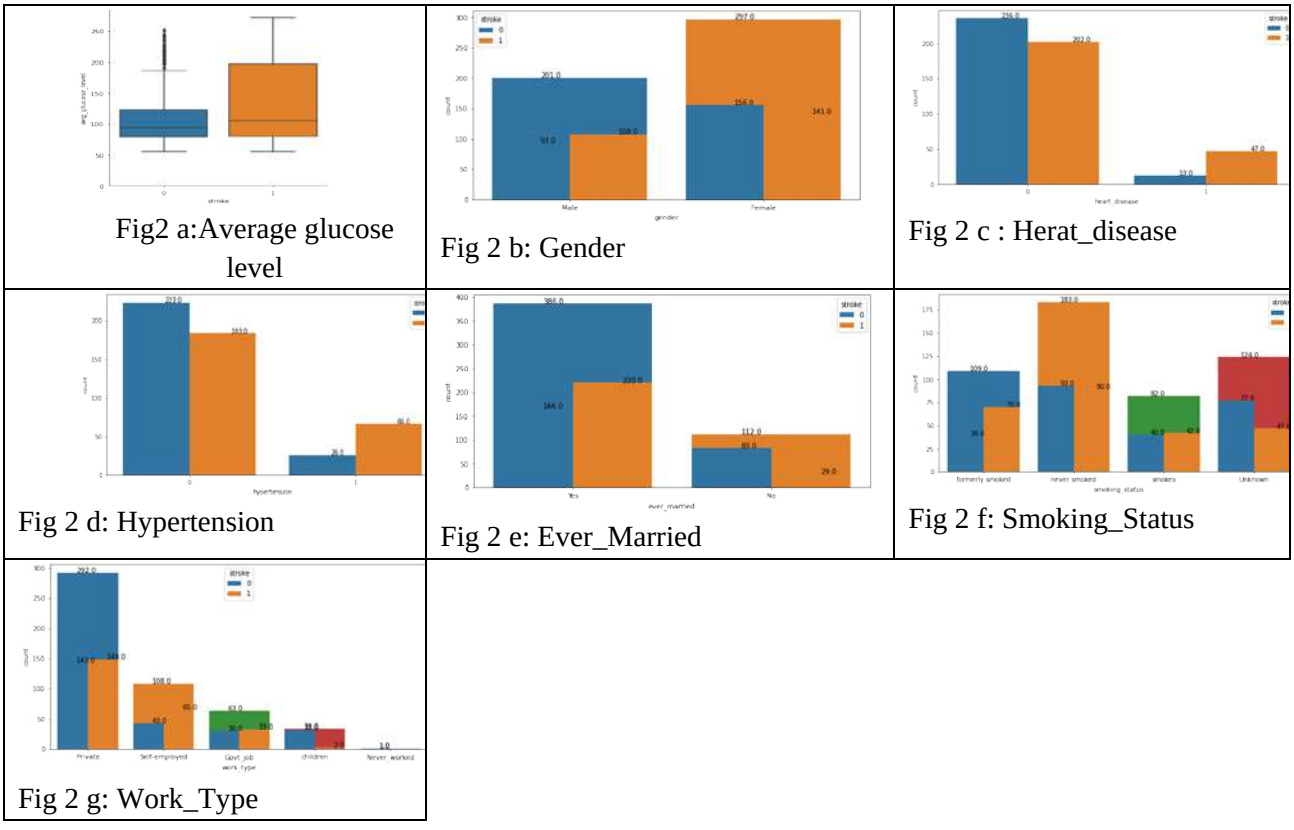

Fig2 a:Average glucose level

Fig 2 b: Gender

Fig 2 c : Herat_disease

Fig 2 d: Hypertension

Fig 2 e: Ever_Married

Fig 2 f: Smoking_Status

Fig 2 g: Work_Type

Figure 2: High-influenced dataset fields on stroke disease.

The large and imbalanced data has been preprocessed in such a way that can be implemented on machine learning algorithms. First, the id field uniquely identifies the patient is not necessary for stroke prediction. So it is been removed from the dataset. The BMI value has 201 null values which is a crucial factor in stroke prediction. Therefore, it has to be filled up by mean or median value. Accordingly, the dataset has been split up into four different samplings, and each under-sampled data is tested by using Five different machine learning algorithms. The result showed that XG Boost Classifier got the highest average score in all four samples.

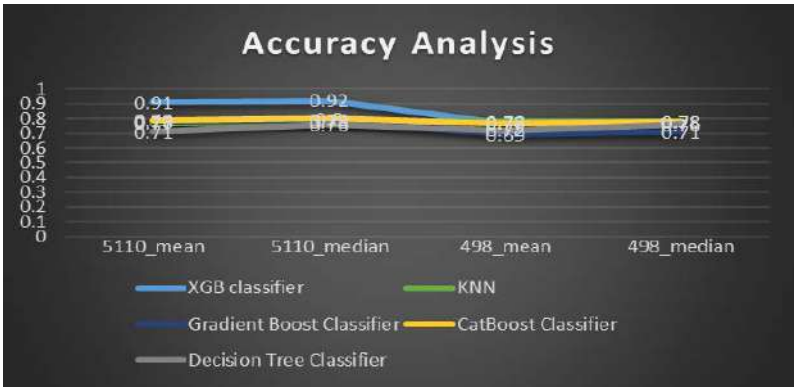

Figure 2: Accuracy Analysis of ML Models

Table 2: Evaluation of Machine Learning models

		XGB classifier				KNN				Gradient Boost Classifier				CatBoost Classifier				Decision Tree Classifier			
		Acc	F1	precision	recall	Acc	F1	precision	recall	Acc	F1	precision	recall	Acc	F1	precision	recall	Acc	F1	precision	recall
5110_bmi_mean	No stroke	0.91	0.92	0.97	0.88	0.77	0.76	0.72	0.8	0.78	0.81	0.9	0.74	0.79	0.79	0.74	0.84	0.71	0.72	0.73	0.7
	Stroke		0.91	0.86	0.96		0.78	0.78	0.75		0.76	0.68	0.87		0.81	0.86	0.77		0.71	0.69	0.71
5110_bmi_median	No stroke	0.92	0.93	0.97	0.89	0.78	0.77	0.72	0.83	0.79	0.79	0.79	0.79	0.8	0.79	0.73	0.86	0.76	0.73	0.65	0.85
	Stroke		0.92	0.88	0.97		0.8	0.85	0.75		0.79	0.79	0.79		0.82	0.88	0.77		0.79	0.88	0.72
498_bmi-mean	No stroke	0.77	0.76	0.73	0.8	0.78	0.78	0.76	0.81	0.69	0.7	0.69	0.7	0.77	0.76	0.73	0.8	0.72	0.72	0.7	0.74
	stroke		0.78	0.82	0.75		0.79	0.82	0.77		0.7	0.7	0.69		0.78	0.82	0.75		0.73	0.75	0.72
498_bmi_median	No stroke	0.78	0.75	0.65	0.88	0.78	0.77	0.75	0.8	0.71	0.71	0.69	0.72	0.78	0.76	0.69	0.84	0.76	0.73	0.66	0.82
	stroke		0.81	0.92	0.72		0.79	0.82	0.76		0.72	0.73	0.7		0.8	0.87	0.74		0.78	0.86	0.72

The performance of the models was analyzed [12] using accuracy score, f1-score, precision score recall score, and ROC. The result showed that

1) The machine learning models performed well in the large data set compared with the smaller one.
2) BMI median field got a higher prediction rate than BMI mean value.
3) The XG Boost Classification algorithm has the highest accuracy score of all other machine learning models.

5. CONCLUSION:

On-time stroke classification may help the doctors in the correct treatment process. Machine learning plays a vital role in the medical field to investigate the patient's previous records for future prediction. This work analyzes the impact of dataset and efficiency of machine learning models in diverse under-sampled data. XG Boost Classification algorithm achieved high accuracy – 92% than KNN, Gradient Boost classification, Cat Boost Classification, and Decision Tree Classification.

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A COMPARATIVE EVALUATION OF FOOD CLASSIFICATION USING DEEP LEARNING TECHNIQUES

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Abstract: Obesity is a condition that happens when an individual puts on an abundance muscle to fat ratio. It is an abrupt and uncommon expansion in muscle to fat ratio. It can prompt heart-related illnesses, pulse, hypertension, cholesterol, and different other medical problems Food journaling is an essential aspect of living a healthy lifestyle and avoiding and controlling obesity. To automate image categorization for nutritional intake tracking, computer vision technologies were applied to food logging. Convolution Neural Networks are powerful deep learning techniques that perform both generative and descriptive tasks. This paper provides a comparison of the performance of Convolution Neural Network architectures, ResNet50, DenseNet-161,and Inception-V3 with the Food101 dataset.

Keywords: *Food Recognition; Food Identification; DenseNet-161, Inception-V3, ReseNet-50; Comparative study; deep learning models;*

1. INTRODUCTION

The global rise in nutrition-related diseases has raised awareness of the importance of maintaining healthy eating habits. Food intolerance reactions, weight problems[1], malnutrition, and some cancers are all reduced by eating a healthy diet. There are various applications available that allow us to manually track what we consume and identify food items before consumption. However, for easy identification, many applications require prior knowledge of the food item. In this instance, automated food identification techniques will be useful. Image classification is one of the core problems with a large variety of practical applications. A lot of attention has been associated with Machine Learning, specifically neural networks such as the Convolutional Neural Network (CNN) winning image classification competitions, Convolutional Neural Networks (CNN) [2]. Convolutional layers are the main building blocks of convolutional neural networks. Input vectors, such as an image, filters, such as a feature detector, and output vectors, such as a feature map, are frequently found in this layer. After passing through a convolutional layer, the image is distracted to a feature map, also known as an activation map. Convolutional layers convolve the input before passing the output to the next layer. A neuron's reaction to a single stimulus in the visual cortex is akin to this. Each convolutional neuron

Towards Automation: The Multifaceted Manipulation of Intelligent Bot

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ABSTRACT

Discussing with enquirers or patrons, providing information about the domain, clarifying and rectifying doubts is the major task of customer support executives. Human-like bot tool is an amazing concept that replaces the human effort in answering an opponent and makes them comfortable in a manner that they feel like they are talking with a human only. Nowadays almost all the fields have the chatbot feature which substitutes the human being and tries to perform like them. From e-commerce websites to all social media websites having the bot feature and providing customer support. Chatbots not only provide information but also a companion to the clients, relieve them from stress, and make them happy, especially elderly people. This paper discussed and reviewed the multifaceted manipulation of Chatbot.

Keywords:**Chatbot, Artificial Intelligence, Social Chatbot, Healthcare Bot, Commercial Bot.**

INTRODUCTION

A Chatbot is a facilitating tool that assists the human being in clarifying, rectifying doubts and providing information like a human being. There are various terms to specify Chabotwhich are chatterbot, IM Bot, Bot, Interactive agent, etc.,.[1]Chabot is first developed by Michael Mauldin in 1994, named "Julia". When the types of applications come into consideration, there are lots of domains that uses chatbot as one of the human-like helping tools that replace the human being. Today's era has lots of bots like Google Assistant, Amazon Alexa, Facebook Messenger, and bots in apps or websites for a specific business.Online E-commerce business, Educational websites, Tourist websites, and online ticket booking service provider are some of the common domain which uses chatbot. So in this paper, the importance and evidence of Chatbot aresurveyed and discussed.

LITERATURE REVIEW

This section studied 20 chatbots from various domains and explains their significance. Pavel smutny et al[2], reviewed the educational Chabot for the Facebook messengers. They evaluated47 educational Chatbot using the Facebook messenger platform based on the analytic hierarchy process against the quality attributes of teaching, humanity, affect and accessibility. They also examine the availability of the chatbot with learning facilitation using artificial intelligence. The study concludes that the education chatbots on Facebook messengers are still in the early stage.Asbjorn Folatad et al [3],proposed a typology for chatbots that can be used as a basis for the design of high-level interaction design for the purposes such as content curation, customer support, coaching and personal assistance. For this purpose, They have analyzed 57 chatbots from various domains.Rohit Binu Mathew et al [4], proposed a medical chatbot for disease prediction

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and treatment recommendation using machine learning. The proposed work is an android app that allows the registered users and predicts the disease of the user based on their quires. The KNN is used for this purpose. And finally, provide the link where that describes the treatment for the disease.Jonathan Grudin et all [5], describe the terminology and taxonomy of chatbots. This paper also categorizes the type of chatbot based on their scopes, such as virtual companions (like Eliza), Intelligent Assistants(like Google Assistants), and task-oriented chatbots(customer service bots). The success and challenges of the chatbot were also discussed. [6] Petriv, Yet al, presented a novel approach namely chatbots, in the public sector in order to communicate between government and citizens. The proposed approach builds on several AI techniques and data from various sources in order to develop a new digital channel of communication between citizens and government. The proposed digital channel enables 'richer' and more expressive interaction of citizens with government in everyday language, facilitating and advancing both information seeking and conducting of transactions. [7] Nicole Radziwill and Morgan Benton present a literature review of quality issues and attributes as they relate to the contemporary issue of chatbot development and implementation. Finally, quality assessment approaches are reviewed, and a quality assessment method based on these attributes and the Analytic Hierarchy Process (AHP) is proposed and examined.[10] Heung-Yeung Shum, Xiaodong He, Di Li developedXiaoIce,a social chatbotthat can performs core chat with visual awareness skills. Which can dynamically recognize emotion and engagethe user even for long conversations with appropriate interpersonal responses.It builds emotional attachment to user and uses scalable skill set with EQ and IQ for user assistance in various forms like text, voice and images. RNN based encoder and decoder is used for core chat, Deep CNN is visual awareness in developing this model.

[8]Lister, K., et al,introduced conversational user interfaces (CUIs) for health and it describes UX design principles. informed by a systematic literature review of relevant research works. It is a survey on UX design principles and interaction patterns in conversational interfaces and chatterbots.Ari Schlesinger et al [9] proposed a work which explains the biased contents of databases, the syntactic focus of natural language processing, and the opaque nature of deep learning algorithms creats difficulty in handling race-talk for chatbots. By making the abstract and disparate qualities of chatbots can be created to handle race-talk in its many forms. The HCI community with ways to begin addressing the question, *how can chatbots handle race-talk in new and improved ways?*

Alaa A Abd-alrazaq et al[10]provides an overview of the features of chatbots used by individuals fortheir mental health. Seven bibliographic databases Medline, Embase, PsycINFO, Cochrane CentralRegister of Controlled Trials, IEEE Xplore, ACM Digital Library, and Google Scholar were used in the search. The backward and forward reference list checking was conducted formerly.Then study selection and data extraction were carriedout by two independent reviewers. Finally a narrative approach to synthesis extracted data platforms, response generation,dialogue initiative, input and output modalities, embodiment, and targeted disorders based chatbots were created.Martin Adam et al [11]An empiricalexamination through a randomized online experiment is performed to find the anthropomorphic design cues and the foot-in-the-door techniqueaffect user request compliance. It concludes that both anthropomorphism as well as the need to stay consistentsignificantly increase the likelihood that users comply with a chatbot's request for service feedback. Also it finds that social presence mediates the effect of anthropomorphic design cues on user compliance.Iulia Nica et al [12] Chatbot for e-tourism is proposedand it allowspeople textually communicate for booking hotels,planning trips, and asking for interesting sights worth being visit. This model-based reasoning & enhances user experience during a chat, e.g., in cases where too manypossible selections are available or where user preferences are toorestricted causing inconsistencies and as a consequence not possibleanswers to be provided. In addition to that a use case from the intended tourism domain to show how sucha model-based chatbot can be used in practice effectively. Reem Alotaibi et al [13]An AI text-based chatbot "Smart Guidance" is as a mobile application is proposed. It simulates a chat with users in a natural languagein a two-way interaction which a single point of contact for all user communications. In addition a use case in the city of Jeddah, Saudi Arabia is provided the proposed bot could understand meanings and users' requests and manyusers commented the interaction is effective, and quick in the natural language. Ana Paula Chaves et al [14]This paper proposed sociolinguistic theory adapted a technique called register analysis. It characterize the linguistic register used by humans in a specific conversational context; and drive chatbot

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language design. An exploratory study also provided for tourist assistant register analysis chatbots and shows how the results could be used to develop them to adopt the appropriate register. David Corsar et al[15] the role of chatbots are in various areas like tourism and hospitality industry and then barriers are analyzed.This study proposed variousrecommendations like an intra-industry, cross-national study within the tourism sector, such as airlines, hotels/accommodations, and restaurants. All findings there will beunderstoodin this research stream and offer significant managerial insights.Additionally, future studies could explore consumer-level factors influencing chatbots adoption. For instance, a study that profiles customers' demographics such as age, income, status, lifestyle, and education could offer some insights. Similarly, future studies could also explore if consumers are able to make any sense between the features of a mobile application and the capabilities of a chatbot. Finally, mobile applications run on mobile devices (smartphones and tablets). Per chatbots, future studies can explore how the embedding of chatbots on multiple platforms such as mobile devices, websites, and messenger apps influence adoption.

Adam S. Miner et al [16] analyzed the importance of chatbots during pandemic, they did an in-depth research on a chatbot clara named by the CDC,USA, clara was utilized to share information, suggest behavior & to offer emotional support to the people,by providing reliable evidence-based information which is critical in a pandemic and two issues have material impact: The conflicting advice between global and local authorities, and misinformationwas highlighted by the authors and they finally concluded that the fact sheets are designed effectively, chatbots may help to prevent misinformation, aid in symptom detection, engender infection-limiting behaviors, and lessen the mental health burden of pandemic response.

Aleksandra Przegalinska et al [17] argued that using proper performance measuring tools we could build better social bots for interaction in business or commercial environments can be built and trust is the focal point of successful human chatbot interaction and trust as a relevant category is being redefined with the advent of deep learning supported chatbots. They propose a novel methodology of tracking human-chatbot interactions and measuring chatbot performance that considers ethical concerns-in particular, trust toward chatbots using text mining based on machine

DISCUSSION ON MULTIFACETED CHATBOT

Chatbot performs conversations with the customers by text, voice, image, and videos. AI(Artificial Intelligent) improves communication based on the client's chat history. The main advantage of a chatbot is it is not being on time-dependent service. The chatbot provides 24/7 service with the same energy and pleasant words. It saves time, money, and human effort. It reduces the employee's stress and tedious task.

As discussed in the above chapter chatbot is a multifaceted service that can be implemented to various fields. [18]Teaching and learning(66%) is the major use of chatbots in the education field. The other applications are research and development, assessment, administration, and advisory. With the advancement of technology, tourism has been made easy than we think. The tourist can get complete information about the place where they want to go. The tourism chatbot has to provide complete data about places, boarding, transport, and restaurants. [19]So the inter-domain study and research is the essential need for tourism chatbots. Branding a product and business making will be easy in social media chatbots. [20]Social media chatbots provide the services like product promotion, leading the product, driving sales, and uninterrupted customer service. Figure 1. Shows the traditional customer service. Figure 2. Explains the chatbot service.

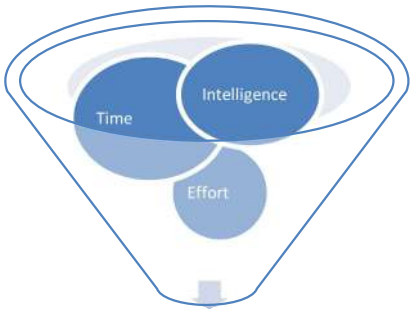

Figure 1. Traditional customer service

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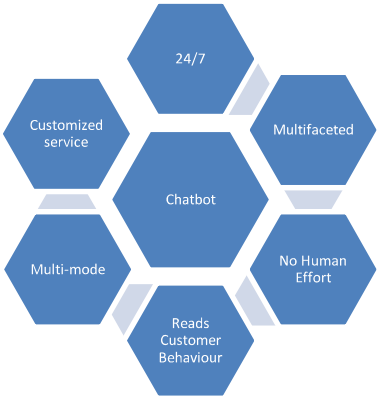

Figure 2. Chatbot applications

CONCLUSION

Traditional customer service requires human effort, and time and the service are completely based on the intelligence of the employee. Chatbots are Intelligent agents which offer multifaceted services in all domains. This conceptual study about Chatbot only concentrates on the application of chatbots in various sectors. In the future, the study will find depth in the algorithms and get intrusion into the specific domain.

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சீர்மிகு **வளர் தமிழ் ஆய்வு**

[பன்னாட்டு ஆய்விதழ்]

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வளர் தமிழ் ஆய்வு மன்றம்
மற்றும்
எம்.வி.முத்தையா அரசினர் மகளிர் கலைக் கல்லூரி, திண்டுக்கல்
இணைந்து நடத்திய
பதினெட்டாவது பன்னாட்டுக் கருத்தரங்க ஆய்விதழ்

வெளியீடு :
போதி பன்னாட்டு ஆய்விதழ்
வாழ்வியல் புலங்கள், கலை மற்றும் அறிவியல்
சிறப்பிதழ்

மே - 2022

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புலம் பெயர்ந்தோர் இலக்கியங்களில் வாழ்க்கைப் பதிவுகள்

'புலம் பெயர்ந்தோர்' என்ற சொல் சொந்த மண்ணை விட்டு வெளியேறிய மக்கள் தமக்கு அந்நியமான நாட்டிலும் பண்பாட்டுத் தளத்திலும், மொழிச் சூழலிலும் வாழ்வது குறித்ததாகும். பூர்வீகத் தாயகத்தின் சொந்த அனுபவங்களும் புலப் பெயர்வுக்குப் பிறகான உயிரோட்டமான அனுபவங்களும் ஒருங்கே குவியும் இத்தகையப் படைப்புக்கள் ஒருவகை மாற்று நேசியமாதல் கோட்பாட்டைப் பேசுகின்றன எனலாம். பொருளாதாரத் தேவைக்காகப் புலம் பெயர்வு என்பதிலிருந்து போர் காரணமாகப் புலம் பெயர்ந்த சூழல் மாறுபட்டதாகும். வெளியேறுதல் - என்பது உடல் ரீதியாகவும் சமூகக்கலாச்சாரச் சூழலிருந்து மன ரீதியாகவும் என இரட்டைத்தன்மையானது. நினைவுகளுக்கும் விருப்பங்களின் எல்லைக்களுக்கும் இடையே உருவாகும் இந்தப் பயணங்கள் ஒரு பன்மைக்கலாச்சார வெளியை உருவாக்குகின்றன. அந்நியப்பண்பாட்டை தன்வயமாக்குதல் - சொந்தப் பண்பாட்டு அடையாளங்களை, வேர்களைக் கண்டடைதல் என்ற நெருக்கடியிடையே தான் படைப்பாளிகள் உருவாகின்றனர். புலம்பெயர் இலக்கியங்களில் தீவிரமாக முகங்காட்டுகின்ற போரழிவுகள் - போரழிவு இலக்கியம் என்ற வகைமையோடு பொருந்துகின்றன. ஏனெனில் போர்ச் சூழலில் அதிக துன்ப் படுவது பெண்களே. அதிகம் அழிவுகளைச் சந்திப்பவர்களும் அவர்களே கரு அழிப்பிலிருந்து கற்பு அழிவு வரை உடல் ரீதியா சிதைக்கப்படும் பெண்கள் - புலம்பெயர்ந்து செல்வதற்கு ஏற்படும் எண்ணற்றத்தடைகள் - கொடுமைகள் - பாலியல் சுரண்டல்கள் அவமானங்கள் - மனரீதியாகவும் சிதைக்கின்றன என்பதை 'ஆழியாள்', 'அனார், நாளயானி, பஹீமாஜகான், தர்மின், மதனி, எதிர்க்கா உட்பட பல பெண் களைஞர்களின் படைப்புகளை 'மை' தொகுப்பு நூல் மூலம் காணலாம்.

புலம் பெயர்வும் வரலாறும்

"1948-ல் இலங்கை குடியுரிமைச் சட்டம் இந்திய வம்சாவளி மலையகத் தமிழர்களுக்கான குடியுரிமையை மறுத்தபோது செல்வநாயகம் - பெடரல் கட்சி துவங்கிப் போராடி 1960-ல் இலங்கை இந்திய ஒப்பந்தம் ஏற்பட்டு நாற்பது சதவீதம் குடியுரிமை வழங்கப்பட்டு, மீதம் இந்தியாவிற்குத் திருப்பி அனுப்பப்பட்டனர்.

1956-ல் சிங்களவர் மட்டும் உரிமைச் சட்டம் - சிங்களம் மட்டும் அரசுமொழி - ஆகியவற்றால் வேலைவாய்பில் தமிழருக்கு உரிமையில்லை - ஒடுக்குமுறை 1985 கலவரம் - பொறியாளர் மருத்துவர் புலம் பெயர்ந்தனர்.

1972-ல் உயர் கல்வி தமிழருக்கு மறுக்கப்பட்டதால் தமிழ் அறிஞர்கள் புலம் பெயர்ந்தனர்.

1973-ல் பெடரல் கட்சி தனித்தமிழ் நாடு கோரிக்கை - 1977 கலவரத்தில் 300க்கும் மேற்பட்ட தமிழர் கொல்லப்பட்டனர். 1981 - கலவரத்தில் யாழப்பாண நூலகம் (97,000 புத்தகம்) தீ வைக்கப்பட்டது.

983-ல் தமிழ் ஈழ விடுதலைக் குழு ஆயுதப் போராட்டம், அது முதல் 2002 வரை 2,15,000 பேர்கள் கொல்லப்பட்டது.

8 லட்சம் பேர் உள்நாட்டிலேயே குடிபெயர்ந்தனர் 2 ½ லட்சம் கனடா, இந்தியா ஆகிய நாடுகளுக்குப் புலம் பெயர்ந்தனர்.

இலக்கியங்கள் வழி அறியப்படும் புலம் பெயர்ந்தோரின் வலிகள்

இலங்கை தமிழர்கள் இன்று உலகம் முழுவதும் புலம் பெயர்ந்தாலும் தங்கள் தாயகத்தை இன்றும் மனதில் சுமந்தபடிதான் இருக்கின்றனர். தங்கள் மனவலியையும், காயங்களையும் வேரிலிருந்து பிரிக்கப்பட்ட வேதனையையும் சிலகந்த உறவுகளின் பிரிவையும் தங்கள் இலக்கியங்களின் வாயிலாக வெளிப்படுத்தியுள்ளதை இனிக் காண்போம்.

முனைவர் க.நாகநந்தினி, எம்.வி.முத்தையா அரசு மகளிர் கலைக் கல்லூரி, திண்டுக்கல்.

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யாதும் ஊரே
யாவரும் கேளிர்

வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

திருமிகு / முனைவர் / பேரா. வி.சி.ஸ்வரி ..... அவர்கள் 28.05.2022 அன்று திண்டுக்கல், எம்.வி. முத்தையா அரசு மகளிர் கலைக் கல்லூரியோடு இணைந்து நடத்தப்பட்ட வளர் தமிழ் ஆய்வு மன்றப் பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கில் பங்கேற்றார் / பங்கேற்று .வள்ளுவர் வாய்மொழிந்த நட்பியல் வாழ்க்கை..... ..... என்னும் தலைப்பில் கட்டுரை வழங்கினார்.

முனைவர் தாயம்மாள் அறவாணன்	திருமதி க. சின்னம்மாள் சின்னராணி	முனைவர் சி.மைக்கேல் சரோஜினி பாய்
தலைவர்	பொருளாளர்	செயலாளர்

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வளர் தமிழ் ஆய்வு

(பன்னாட்டு ஆய்விதழ்)

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வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

2022

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ன்று செல்வத்தில் - கலையில் - இன்பத்தில் - ஏன்? விளையாட்டில் கூடப் பிறருக்குத் துன்பம் செய்யாத - அல்லல் இல்லாத மகிழ்ச்சியளிக்க வேண்டும் என்று மனிதகுலத்தின் பொதுப்பண்பினைத் தொல்காப்பியர் வலியுறுத்துகின்றனர். நம் சான்றோர்கள் இசைதரும் செயல் எனில், தம் இன்னுயிரையும் நசையுடன் நல்குவர். வசைதரும் வினையெனில் இவ்வையத்தையே காணிக்கையாய்க் காலடியில் படைத்தாலும் செய்யமாட்டார். இதனையே வள்ளுவர்,

அடுக்கிய கோடி பெறினும் குடிப்பிறந்தார்
குன்றுவ செய்தல் இலர் (குறள்.954)

என்றியம்புகின்றார். அத்தகைய சான்றோர்களால் தான் இத்தரணியின் இயக்கம் இன்றும் தடை இன்றி நடைபெற்று வருகின்றது என்று கூறுவதோடு

தமக்குஎன முயலா நோன் தாள்
பிறர்க்கு என முயலுநர் உண்மை யானே (புறம்.182:8,9)

புறநானூறு என உலகம் நிலைத்திருப்பதற்குரிய காரணம் உயர்பண்பாளர்களே எனவும் உணர்த்துவதைக் காணலாம்.

உலகம் என்பது உயர்ந்தோர் மாட்டே

என்ற கருத்தும் ஈண்டு ஒப்புநோக்கத்தக்கது. பண்பு என்பது வழிவழி வரும் வல்லமை பெற்றது. அதனால்தான் நற்குடியில் பிறந்த நல்லாரிடம் நற்பண்புகள் தனிசிறந்து காணப்படுகின்றன. அல்லும் பகலும் அருங்குணங்களையே எண்ணி எண்ணி அதன் காரணமாய் அவற்றை இயற்கையாகப் பெற்றிடுவதே பண்புடமை ஆகும். நல்லவையாயினும், தீயவையாயினும் அவரவர் எண்ணத்தின் அடிப்படையிலே தான் அமைகின்றன. அதனால்தான் இன்றும் பெரியவர்கள் வாழ்த்தும் பொழுது, "மனம் போல் வாழ்வு" அமைய வாழ்த்துவதனைக் காணலாம். எனவே, எக்காலத்திலும் நல்லவனாய் வாழ வேண்டுமென்று எண்ணி எல்லோரிடத்தும் எளிமையோடும் இனிமையோடும் பழகி, பண்புடையமையைப் பெற வழிகாட்டுகின்றார் வள்ளுவர். அதோடு, "பண்புடைய மக்களே மக்கள்" என அவர் வரையறை செய்ததை,

உறுப்பொத்தல் மக்களொப்பு அன்றால் வெறுத்தக்க
பண்பொத்தல் ஒப்பதாம் ஒப்பு (குறள் .993)

என்ற குறள் வழி அறிய முடிகின்றது. இத்தகைய மக்கட் பண்பில்லாதவனை வள்ளுவர் மரத்தோடு ஒப்பிடுவதையும்

அரம் போலும் கூர்மையரேனும் மரம் போல்வர்
மக்கட் பண்பில்லா தவர் (குறள்.997)

என்ற குறள் மூலம் அறிய முடிகின்றது. மனிதனுக்குப் பண்பு தேவை. பண்பு அழிந்தால் உலகம் அழியும், வாழ்வு துன்பமயமாகும். இந்த அரிய கருத்தினை வள்ளுவம்.

பண்புடையார்ப் பட்டுண்டு உலகம் அஃதின்றேல்
மண்புக்கு மாய்வது மன் (குறள்.996)

என்று நிண்ணமாகக் கூறுவதனையும் காணலாம். எனவே, வையத்துள் எப்படி வாழவேண்டும் என வள்ளுவம் உரைக்கின்றதோ அதன்படி வாழ்ந்தால், மண்ணில் நல்ல வண்ணம் வாழலாம் என்பதோடு, வானுறையும் தெய்வதோடு இணைபாகவும் கருதப்படுவோம்.

மனிதனுக்கு அடிப்படையாக அமைந்திருக்க வேண்டிய பண்புடைமை பற்றியும் இவ்வுலக வாழ்வில் மனிதன் மேன்மை அடைய வேண்டுமானால் அவன் பின்பற்ற வேண்டிய வழிமுறைகளையும் கண்டோம். இவ்வழிமுறைகளை மேற்கொண்டு பண்புகளை உடைமையாகக் கொண்டு மனிதன் வாழ்ந்தான் என்றால் அவன் தானாகவே இறைவனை அடைந்துவிடுவான். எனவே, இவ்வுலகில் பிறந்த ஒவ்வொரு மனிதனும் அன்பையும் அருளையும் 'கருணை' என்ற இரு கண்களாகக் கொண்டு, பொறையினைத் தன் நெஞ்சமாகக் கொண்டு; ஆள்வினை, ஊக்கம் என்ற முயற்சியினைத் தன் மூச்சாகக் கொண்டு, அறிவைத் தன் ஆசையாகக் கொண்டு அடக்கத்தை நடத்தையாகக் கொண்டு ஒழுக்கத்தை உயிராகக் கொண்டு நாணத்தைத் தன் ஆடையாகக் கொண்டு வாழ்ந்தான் என்றால், 'பண்பு' என்ற பதவி அவனைவிட்டு என்றும் நீங்காது. பாரே போற்றும் பண்பாளனாக அவன் திகழ்வான்.

பயன்பட்ட நூல்கள்

1. ச.வே.சுப்பிரமணியன், தொல்காப்பியம், மூலமும் உரையும்.
2. நீபூ செஞ்சுரி புக் ஹவுஸ், கலித்தொகை, மூலமும் உரையும்.
3. மு.வரதராஜன், திருக்குறள் மூலமும் உரையும்.

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வள்ளுவர் வாய்மொழிந்த நட்பியல் வாழ்க்கை

முன்னுரை

உலகத்தில்தன் நிலையில் உயர்ந்துநிற்கும் மொழி தமிழ் மொழி. தமிழ் மொழியின் பெருமையினை அண்டவெளியில் ஆனந்த மாய்த்தன் எழுத்தால் தாங்கி உயர்த்தி காலம் கடந்தும் நிலைபேறு உடையதாய்ச் செய்து கொண்டிருக்கும் பெருமை வள்ளுவரையும் அவர்தம் தேன் கவை நிறை திருக்குறளையும் சேரும். பெருவளம் நிறைந்து, நாம் பெரும் வளத்தினை அவ்வப்போது அள்ளி வழங்கி, மனிதகுல வாழ்வியல் நெறிமுறைதனை வழிப்படுத்தும் மாபெரும் பணியினைத் திருக்குறள் செய்துவருகின்றது. இத்தகு பெருமைமிக்கதிருக்குறளில் நட்பு,நிறைவாழ்வின் நிறைவும் மலர்ச்சியும் வெளிப்படுத்தும் செய்திகளேஆய்வுக்கட்டுரையின் நோக்கமாக அமைகின்றது. ஆகவேபொருட்பால்பிரிவுபற்றி

அரசியல் ஐயைந்துஅமைச்சியல் ஈரைந்து
உருவல் அரண் இரண்டுஒன்றுஒண்கூழ்--இரு இயல்
நிண்படைநட்புப் பதினேழ் குடிபதின்மூன்று
எண்பொருள் ஏழாம் இவை.

திருவள்ளுவ மாலை-26குறிப்பிடும் பொருட்பால் இயல் பகுப்பில் நட்பு இயல்17 அதிகாரங்கள் மட்டுமே இத்தஆய்வுக் கட்டுரையின் ஆய்வுஎல்லையாகஅமைகின்றது.

நட்பு இலக்கணம்

உள்ளங்கள் ஒன்றிணைதலேஉண்மையானநட்புஎன்கிறார் வள்ளுவர். இதனை

புணர்ச்சிபழகுதல் வேண்டாஉணர்ச்சிதான்
நட்பாம் கிழமை தரும் (குறள் 785)

என்றகுறள் வழியும்,

முகநகநட்பதுநட்பன்றுநெஞ்சத்து
அகநகநட்பதுநட்பு (குறள் 786)

என்ற குறளின் ஊடாகவும் விளக்கிச் செல்கிறார் வள்ளுவர். உள்ளங்கள் ஒன்றிணைந்து அந்த உள்ளங்கள் மகிழ்வதே உண்மையான நட்புஎன்கிறார் . அப்படிப்பட்டநட்பேமனிதவாழ்வின் மகத்துவத்தினைஉணரச் செய்துநல்வழிப்படுத்தும்.

ஆராய்ந்தநட்பின் பயன்

ஆராய்ந்து அறிந்துநாம் தேர்ந்தெடுத்த நல்ல நட்பு நமக்கு வழித்துணையாய் அமையும் தன்மை பெற்றுநல் வாழ்விற்குவித்தாகிறதுஎன்பதனையும் வள்ளுவர் முன் வைக்கிறார். குணத்தையும் குடிப்பிறப்பினையும்குற்றத்தையும் அவனதுசுற்றத்தையும் அறிந்துநட்புகொள்ளவேண்டும் என்பதனை:,

குணனுங் குடிமையுங் குற்றமுங் குன்றா
வினனுமறிந்தியாக்கநட்பு(குறள்:793)

என்ற குறளின் வாயிலாக வெளிப்படுத்திய வள்ளுவர் உயர்ந்தகுடியில் பிறந்ததனக்கு வரும் பழிக்கு அஞ்சுபவனிடம் பொருள் கொடுத்தாவது நட்பு கொள்ள வேண்டும் என்கிறார்,

குடிப்பிறந்துதன்கட் பழிநாணுவானைக்
கொடுத்துங் கொளல்வேண்டுநட்பு(குறள்: 794)

முனைவர் வி.ச.ஈஸ்வரி, எம்.வி.முத்தையா அரசு மகளிர் கலைக்கல்லூரி,திண்டுக்கல்

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வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

திருமிகு / முனைவர் / பேரா. பா. ரதி தேவி ..... அவர்கள்

28.05.2022 அன்று திண்டுக்கல், எம்.வி. முத்தையா அரசு மகளிர் கலைக் கல்லூரியோடு இணைந்து நடத்தப்பட்ட வளர் தமிழ் ஆய்வு மன்றப் பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கில் பங்கேற்றார் / பங்கேற்று சீங்க இலக்கியங்களில் கையறு நிலை ..... என்னும் தலைப்பில் கட்டுரை வழங்கினார்.

தாயம்பாள் அறவாணன்		
முனைவர் தாயம்மாள் அறவாணன்	திருமதி க. சின்னம்மாள் சின்னராணி	முனைவர் சி. மைக்கேல் சரோஜினி பாய்
தலைவர்	பொருளாளர்	செயலாளர்

சர்வதேச

வளர் தமிழ் ஆய்வு

[பன்னாட்டு ஆய்விதழ்]

மலர் : 1 இதழ் : 2

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வளர் தமிழ் ஆய்வு மன்றம்
மற்றும்
எம்.வி.முத்தையா அரசினர் மகளிர் கலைக் கல்லூரி, திண்டுக்கல்
இணைந்து நடத்திய
பதினெட்டாவது பன்னாட்டுக் கருத்தரங்க ஆய்விதழ்

வெளியீடு :
போதி பன்னாட்டு ஆய்விதழ்
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சிறப்பிதழ்

மே - 2022

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சங்க இலக்கியங்களில் கையறு நிலை

மனித வாழ்க்கையானது இன்பமும் துன்பமும் என் இரண்டறக் கலந்த கலவையாகும். இன்பம் சார்ந்த நிகழ்வுகள் ஒரு புறம் நிகழ்ந்து கொண்டிருக்க துன்பவியல் சார்ந்த நிகழ்வுகள் மறுபுறம் நிகழ்ந்து கொண்டிருப்பது உலகியல் தன்மையாகும். இரவு என்பது துன்பம் என்பது இயல்பாய் நிகழ்கின்ற இயற்கை சார்ந்ததாகும். உதாரணமாக இரவும் பகலும், வெயிலும் நிழலும், நீரும் நெருப்பும், தொடக்கமும் முடிவும், வானமும் பூமியும் என்று சொல்லிக் கொண்டே போகலாம். இயற்கையின் செயல்பாட்டினை நிறுத்திவிட முடியாது. இயற்கையோடு தொடர்புடைய மனிதனது வாழ்க்கையானது இன்பம், துன்பம் என்னும் இரண்டு நிலைகளிலும் அமைகிறது. பிறப்பு இறப்பு என்னும் நிகழ்வுகளோடு பிற அனைத்துச் செயல்பாடுகளும் நிலவுகின்றன.

பிறப்பு என்னும் நிகழ்வில் மலிந்த மனம் எத்தகைய இன்பநிலை எய்துகிறதோ அதே நிலையில் துன்ப நிகழ்வுகளையும் எதிர்கொள்கிறது. இறப்பு என்ற நிலை மட்டுமல்லாது பிரிவு சார்ந்த எல்லா நிலைகளிலும் அதாவது இழப்பு என்பது எவராலும் ஈடுசெய்ய இயலாததாகிறது. நடைமுறை வாழ்வியல் சிந்தனைகளை அடியொற்றி எழுந்த வாய்மொழி இலக்கியங்கள் முதல் சங்க இலக்கியங்கள் தொடங்கி இக்கால இலக்கியங்கள் வரை இழப்பு குறித்த பதிவுகளை ஆய்வு செய்ய முடிகின்றது.

சங்க இலக்கியங்கள்

தமிழ் இலக்கிய ஆராய்ச்சியாளர்களால் சங்க இலக்கியங்கள் என்று குறியிடப்படுகின்றவை அனைத்தும் சங்க காலத்தில் தொகுக்கப் பெற்ற இலக்கியங்களேயாகும். அவை எட்டுத் தொகையும் பத்துப்பாட்டும் ஆகும். திருக்குறளும், லெப்பதிகாரமும் மணிமேகலையும் சங்க இறுதியில் அல்லது சங்கம் மருவிய காலத் தொடக்கத்தில் இயற்றப் பெற்றனவாக இருத்தல் வேண்டும். பண்டைத் தமிழகத்தின் பல்வேறு காலகட்டங்களில் பல்வேறு மனநிலைகளில் பாடப்பெற்ற பாடல்களின் தொகுப்பே சங்க இலக்கியங்களாகும். இப்பாடல்கள் பாடப்பெற்ற காலத்து மக்களின் வாழ்க்கை முறை, பழக்க வழக்கங்கள், வாணிபம், கல்விநிலை, பொருளாதார வளம், நாகரிகம் அரசியல் முதலியவற்றை கலையழகுடன் கூறுகின்றன.

'சங்க இலக்கியம் வெகு இயல்பாக உள்ளது. அளவுக்கு மீறிய கற்பனை ஒப்பனைகள் அதில் இல்லை. தன் வெளிப்பாடுகளை நாகரிகமாக வெளிப்படுத்துகிறது. நடைமுறை வாழ்க்கையைப் படம் பிடித்துக் காட்டுகிறது" என்று நா.வேலுச்சாமி மார்க்சிய லெனினியப் பார்வையில் சங்க இலக்கியம் என்ற நூலின் முன்னுரையில் கூறுவது குறிப்பிடத்தக்கது.

தமிழர் தங்கள் வாழ்க்கையையும் அதைச் சார்ந்த நிகழ்வுகளையும் இரண்டு பெரும் பிரிவாக வகுத்து வாழ்ந்தனர். ஒன்று அக வாழ்க்கை மற்றொன்று மற்றும் புறவாழ்க்கை. இவற்றை அகத்திணை, புறத்திணை என்ற பாகுபடுத்தினர். இந்தப் பகுப்பும் பணியும் உலகில் வேறு எந்த இனங்களுக்கும் இல்லை. தமிழினம் ஒன்றிற்கே உரிய சிறப்பான இலக்கணம். அக்கால மக்களது அகவாழ்வின் ஒழுக்கப் பண்புகளையும், நெறிமுறைகளையும் அக இலக்கியங்கள் எடுத்துக் காட்டுகின்றன. புற வாழ்க்கையில் நிகழும் போர் வெற்றி தோல்வி, வீரம், கொடை, புகழ் கல்வி பின்பற்ற வேண்டிய நெறிமுறைகள் ஆகியவற்றைப் புற இலக்கியங்கள் விளக்குகின்றன. 'மனித இனத்தின் போக நுகர்ச்சியோடு கூடிய காதல் வாழ்க்கையைத் தவிர மீதமுள்ள அனைத்து வாழ்வியற் கூறுகளும் புறம் என்பதனுள் அடங்கும்" என்று மு.வரதராசனார் குறிப்பிடுகிறார்.

'புறநூற்கண் காணப்படும் எண்ணங்களும் சொற்களும், இலக்கண ஒழுக்கமும், இலக்கியச் செறிவும் பெற்றுத் திகழ்கின்றன. பண்டைத் தமிழ் மக்களின் நல்லொழுக்கத்தையும் சீலிய நாகரிகப் பண்பாட்டையும் நல்லறிஞர் நன்கு விளக்குகின்றனர்" என்று அ.சிதம்பரநாதச் செட்டியார் கூறுவதிலிருந்தும் அறியலாம். அகத்திணை, புறத்திணை ஆகிய இவ்விரண்டு திணைகளுக்கும்

பா.ரதிதேவி, எம்.வி.முத்தையா அரசு மகளிர் கல்லூரி, திண்டுக்கல்

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வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

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சர்மிகு வளர் தமிழ் ஆய்வு

[பன்னாட்டு ஆய்விதழ்]

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பதினெட்டாவது பன்னாட்டுக் கருத்தரங்க ஆய்விதழ்

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சிறப்பிதழ்

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Self attested
by
H. பிரியா
10.10.2022

ஆசாரக் கோவை உணர்த்தும் தமிழ் அறம்

முன்னுரை

"ஆசாரம், கோவை" என்னும் இரண்டு சொற்கள் இணைந்து "ஆசாரக் கோவை" என்றாயிற்று. ஆசாரம் - பின்பற்றக் கூடியவை, கோவை - தொகுப்பு பின்பற்றக் கூடிய ஒழுக்கங்களைத் தொகுத்துக் கூறுவது ஆசாரக் கோவையின் பொருளாகும்.

இன்னின்ன செயல்கள் செய்யத்தக்கன, செய்யத்தகாதன என்று கூறும் விதிகாக் செய்யுட்கள் காணப்படுகின்றன. மக்கள் அனைவரும் ஆசாரத்தைப் பின்பற்ற வேண்டும் அந்தணர், அரசர், வணிகர், வேளாளர் கடமைகளைத் தனித்தனியே வலியுறுத்துகின்றன.

"ஆசாரக் கோவை "நூலை ஒரு பொதுச் சுகாதார நூல் என்று கூறலாம். நோயற்ற வாழ்வு வாழவும், ஊரும், நாடும் பொது இடங்களும் சுகாதாரக் கேடின்றி எவ்வாறு இருப்பது என்றும், புறத்தில் தூய்மையுடன் வாழ வழி கூறுவது மட்டுமன்றி அகத்தில் சுய ஒழுக்கத்துடன் அழுக்கின்றி வாழ வழி காட்டுகிறது இந் நூலின் சிறப்பு.

ஆசிரியர் குறிப்பு

நூலாசிரியர் பெருவாயின்முள்ளியார் வட மொழியிலும் புலமை மிக்கவர். வெண்பாக்கள் நீரோட்டம் போலவே சரளமாக அமைந்திருக்கின்றன. இரண்டடி முதல் ஐந்தடி வரையில் உள்ள வெண்பாக்கள் இதில் காணப்படுகின்றன, பாடல்களின் எண்ணிக்கை நூறு.

இனசரிக் கடமைகள்

மக்களுடைய நல்லொழுக்கங்களுக்கு அடிப்படையான குணங்களாக,

"நன்றி அறிதல், பொறை உடைமை, இன சொல்லோரு,
இன்னரத எவ்வுயிர்க்கும் செய்யாமை, கல்வியோடு
ஒப்புரவு ஆற்ற அறிதல், அறிவுடைமை நல்
இனத்தாரோடு நட்டல், இவை எட்டும்
சொல்லிய ஆசார வித்து".

ஆசாரத்திற்கான விதை எட்டுக் குணங்கள் இவைகளைப் பின்பற்றுவோரே ஒழுக்கம் தவறாமல் வாழ முடியும்.

காலையில் எழுந்தது முதல் இரவில் படுக்கையில் உறங்குவத வரை என்னென்ன செய்ய வேண்டும் என்று இந்நூல் கட்டளையிடுகின்றது பல் விளக்குவது, குளிப்பது, உடுத்துவது, உண்பது, படிப்பது, யார் யாருக்கு மரியாதை காட்டுவது, உதவி செய்வது, யார் யாரிடம் எப்படி நடந்து கொள்ள வேண்டும், படுக்கையில் இருந்து எழும் போது செய்ய வேண்டியவை, படுக்கும் போது செய்ய வேண்டியவை என்பவற்றையெல்லாம் தொகுத்துச் சொல்லப்பட்டிருக் ஆயிரக்கணக்கான ஆண்டுகளுக்கு முன்னே வாழ்ந்த மக்கள் பின்பற்றிய ஒழுக்கம் இன்றைய, விஞ்ஞான முறையோடு ஒத்திருப்பது கண் கூடு.

நீராடும் போது செய்யக் கூடாத காரியாங்களாக கூறும் செய்யுள்

"நீராடும் போதில் நெறிப்பட்டார் எஞ்ஞான்றும்
நீந்தார் உமியார் இளையார் விளையாடார்
காய்ந்தது எனினும் தலை ஒழிந்து ஆடாரே
ஆயிந்த அறிவினவர்"

நல்லொழுக்கம் வாய்ந்தோர் தினந்தோறும் குளிக்கும் போது தண்ணீரில் நீந்த மாட்டார்கள்,

Self attested by
K. மாலா
10.05.2022

முனைவர் சு.பிரியா, எம்.வி.முத்தையா அரசு மகளிர் கலைக் கல்லூரி, திண்டுக்கல்.

வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

திருமிகு / முனைவர் / பேரா. ...சோ. கண்டபாணி..... அவர்கள் 28.05.2022 அன்று திண்டுக்கல், எம்.வி. முத்தையா அரசு மகளிர் கலைக் கல்லூரியோடு இணைந்து நடத்தப்பட்ட வளர் தமிழ் ஆய்வு மன்றப் பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கில் பங்கேற்றார் / பங்கேற்று ...நாட்டுப்புறப் பாடலிகளில் அகத்திணை..... ...மரபுகள்..... என்னும் தலைப்பில் கட்டுரை வழங்கினார்.

முனைவர் தாயம்மாள் அறவாணன்	திருமதி க. சின்னம்மாள் சின்னராணி	முனைவர் சி.மைக்கேல் சரோஜினி பாய்
தலைவர்	பொருளாளர்	செயலாளர்

மலர் : 1, இதழ் : 2

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வளர் தமிழ் ஆய்வு

(பன்னாட்டு ஆய்விதழ்)

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முனைவர் சி. மைக்கேல் சரோஜின் பாய்

வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

2022

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முன்னுரை

நாட்டுப்புறப் பாடல்கள் என்பது கல்வி பெற வாய்ப்பற்ற திராமப்புற மக்கள் தாங்கள் செய்யும் வேலைகளின் கனம தெரியாமல் இருக்க பாடிய (படைக்கப்பட்ட) பாடல்களே நாட்டுப்புறப் பாடல்கள் ஆகும். இந்நாட்டுப்புறப் பாடல்கள் அல்வட்டார மக்களின் பழக்க வழக்கங்களையும் பண்பாடுகளையும் எடுத்துக்கூறும் கருத்துக் கருவூலங்களாகத் திகழ்கின்றது. இந்நாட்டுப்புறப் பாடல்களில் அகத்திணை மரபுகள் எவ்வாறு பயன்படுத்தப்பட்டுள்ளன என்பதைப் பற்றி இக்கட்டுரை ஆய்வு செய்துள்ளது.

காதல்

'காதல்' என்பது அகத்திணையில் 'களவு' என்று கூறப்படுகிறது. சங்ககால மக்களின் அகவாழ்க்கை முறையைக் களவு, கற்பு என்று இரு வகையாகப் பகுத்து வாழ்ந்தனர். திருமணத்திற்கு முன் அவர்கள் வாழ்ந்த காதல் வாழ்க்கையைக் 'களவு' என்றும் திருமணத்திற்குப் பின் அவர்கள் வாழும் வாழ்க்கையைக் 'கற்பு' என்றும் இரு வகையாகப் பாகுபடுத்தினர்.

"எலுமிச்சம் போல
இரு பேரும் ஒரு வயது
சரியா இருப்ப மின்னு
சத்தியமும் கூறினமே"

இவ்வாறு சங்க இலக்கியத் தலைவி போல் கிராமத்துக் காதலியும் காதல் மிகுதியால் தன் காதலனிடம் சத்தியம் கேட்கின்றாள். இது சங்க இலக்கியத் தலைவியின் வன்புறையை ஒத்தது.

அலர்

மறைமுகமாக நடை பெற்ற களவு அம்பலாவதை அலர் எனலாம். இளங்குமரியின் காதல் ஒழுக்கம் பற்றி ஊர் மகளிர் வாய்க்குள் பேசிக் கொள்வது அம்பல் எனவும் வெளிப்படையாகப் பேசுவது அலர் எனவும் அகத்திணை இலக்கியம் பேசும். தலைவனும் தலைவியும் இந்த அலருக்கு அஞ்சி உடன்போக்கினை மேற்கொள்வது உண்டு.

"திலரும் பலரும் கடைக்கண் நோக்கி
மூக்கின் உச்சி சுட்டுவிரல் சேர்த்தி
மறுகிற் பெண்டிர் அம்பல் தூற்றச்
சிறுகோல் வலந்தனள் அன்னை"

அலர் காரணமாக உடன்போக்கு மேற்கண்ட தலைவியைப் பற்றிப் பேசுகின்றது நற்றிணைப் பாடல்.

"வழிபட்ட தெய்வந்தான் வலியெனச் சார்ந்தார்
கழியுநோய் கைம்மிக அணங்காகி யதுபோலப்
பழிபரந் தலர்தூற்ற என்தோழி
அழிபடர் அலைப்ப அகறலோ கொடிதே"

என்ற கலித்தொகைப் பாடலில்; ஊரார் அலர் தூற்றத் தலைவி வாடுவதைப் பார்த்துத் தோழி விரைவில் அவளைத் திருமணம் செய்து கொள்ளுமாறு தலைவனிடம் வற்புறுத்துவதை விளக்குகின்றது.

முனைவர் சோ.தண்டபாணி, எம்.வி.முத்தையா அரசு மகளிர் கலைக் கல்லூரி, திண்டுக்கல்.

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வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

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முனைவர் தாயம்மாள் அறவாணன்	திருமதி க. சின்னம்மாள் சின்னராணி	முனைவர் சி. மைக்கேல் சரோஜினி பாய்
தலைவர்	பொருளாளர்	செயலாளர்

ப.வ/ங்கமே.எம்.ஏ.எம்.

சீர்மிகு வளர் தமிழ் ஆய்வு

[பன்னாட்டு ஆய்விதழ்]

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முதன்மைப் பதிப்பாசிரியர்
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நாலடியார் நவிலும் நிலையாமை

சங்கம் மருவிய காலத்தில் தோன்றிய நாலடியார் பதினெண்கீழ்க்கணக்கு நூல்களுள் ஒன்று. நீதியைப் புறந்தள்ளிய காலக்கட்டத்தில் நீதியை நிலைநாட்ட எழுந்த நீதி நூல்களுள் திருக்குறளுக்கு இணையான இடத்தைப் பெற்றுள்ளது நாலடியார். நான்கு அடிகளைக் கொண்ட நானூறு வெண்பாக்களால் ஆனது. சமண முனிவர்களால் இயற்றப்பட்ட நானூறு தனிப்பாடல்களின் தொகுப்பு இந்நூல். இதனால் இது "நாலடி நானூறு" என்றும் "வேளாண் வேதம்" என்றும் அழைக்கப்படுகிறது. வாழ்க்கையின் எளிமையான பொருட்களை உவமையாகக் கையாண்டு நீதி புகட்டுவதில் நாலடியார் தனித்துவம் பெற்று விளங்குகின்றது.

"ஆலும் வேலும் பல்லுக்குறுதி; நாலும் இரண்டும் சொல்லுக்குறுதி"இ "சொல்லாய்ந்து நாலடி நானூறும் நன்கு இனிது," "பழகுதமிழ்ச் சொல்லருமை நாலிரண்டில்"

என்னும் கூற்றுக்கள் திருக்குறளுக்கு இணையாக நாலடியாரைப் போற்றுவதை உறுதி செய்கின்றன. இத்தகு சிறப்பு வாய்ந்த நாலடியார் கூறும் நிலையாமை பற்றி ஆய்வதே இக்கட்டுரையின் நோக்கமாகும்.

நிலையாமை

அறநூல்களின் அறக்கோட்பாட்டுச் சிந்தனைக்கு அடிப்படையே நிலையாமைதான். நிலையாமை பற்றிய எண்ணம் சங்க காலத்திலேயே இருந்தது. எனினும் இக்கருத்து அதிகம் பேசப்பட்டது சங்கம் மருவிய காலமாகிய நீதிநூல் காலமாகும். நிலையாமை மற்றும் யாக்கை நிலையாமை முதலிய நிலையாமைகளை எடுத்துக் கூறுவதுடன் வீடுபேற்றிற்குக் காரணமான நல்லறங்களையும் நாலடியார் நவில்கின்றது. நிலையாமை பற்றி முதல் மூன்று அதிகாரங்களிலும் மற்றும் சில பாடல்களிலும் நயமுற நவில்கின்றது. புலவர்கள் புகட்ட வந்த அறங்களையெல்லாம் நிலையாமையை எடுத்துக் கூறுவதன் மூலம் குறிப்பாகவோ, வெளிப்படையாகவோ அறிவுறுத்துவதை நாலடியார் வழி அறியமுடிகின்றது.

செல்வம் நிலையாமை

செல்வம், சிற்றின்பம், இளமை மற்றும் யாக்கை நிலையாமை குறித்து நாலடியார் தெளிவாக இயம்புகின்றது. அறத்துப்பால் துறவறவியலில் "செல்வம் நிலையாமை" என்ற அதிகாரத்திலும் பிற இடங்களிலும் செல்வத்தின் நிலையாமையைச் செவ்வனே செப்புகின்றது.

ஒருவனிடம் இருக்கும் செல்வம் பிறருக்கு உதவுவதற்கே ஆகும். அவ்வாறு உதவவில்லை என்றால் அது பயனற்றது என்பதை தேனீக்களை உவமையாகக் கூறி பின்வரும் பாடலில் வலியுறுத்துகிறது நாலடியார்.

"உடாஅம் உண்ணாதும் தம்முடம்பு செற்றும்
கெடாஅத நல்லறமும் செய்யார்-கொடாஅது
வைத்தீட்டி னார்இழப்பர் வான்தோய் மலைநாட!
உய்த்தீட்டும் தேனீக் கரி" (நாலடி-10)

அதாவது சிறப்பாக உடுத்திக் கொள்ளாமலும், நன்றாக உண்ணாமலும், உடம்பு நலிவுற்ற நிலையிலும் பிறருக்கு நல்லறத்தைச் செய்யாமலும் சேர்த்து வைக்கும் பொருள், தேனீக்கள் சேகரித்த தேன் பிறருக்குப் பயன்தராவில்லை என்றால் எவ்வாறு வீணாகுமோ, அதே போன்று பிறருக்கும் கொடுக்காமல், தானும் அனுபவிக்காமல் சேர்த்து வைக்கும் செல்வம் பயனற்றது என்கிறது நாலடியார். அதுமட்டுமின்றி, நாலடியாரின் எட்டாவது பாடல் பெரிய செல்வந்தர் என்று தலைக்கணம் கொண்டு தாம் செல்லும் இடங்களில் எல்லாம் செல்வச் செருக்கால் பிறரை மதியாத அற்ப மனிதர்களில்

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யாவரும் கேளிர்

வளர் தமிழ் ஆய்வு மன்றம்

திண்டுக்கல்

பதினெட்டாவது பன்னாட்டுக் கருத்தரங்கம்

பங்கேற்புச் சான்றிதழ்

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பெத்லகேம் குறவஞ்சியின் சிறப்புகள்

வடமொழியில் பிரபந்தங்கள் எனவும் சிற்றிலக்கியங்கள் எனவும் சுட்டப்படுகின்ற இலக்கியங்கள் தமிழிலக்கியப் பரப்பில் பலவுள்ளன. அறம், பொருள், இன்பம், வீடு எனும் நான்கு உறுதிப் பொருள்களுள் ஏதேனும் ஒன்றைத் தருவதாக அமைவது சிற்றிலக்கியம். இவ்வகையில் பள்ளு, தூது, உலா, பிள்ளைத் தமிழ், கலம்பகம், கோவை, குறவஞ்சி போன்ற பல வகை இலக்கியங்கள் சிற்றிலக்கியம் என்ற வகைமையுள் அடங்கும். சிற்றிலக்கிய வகைகளின் எண்ணிக்கை தொண்ணூற்றாறு என மரபாகக் கூறப்படுகிறது. இந்த தொண்ணூற்றாறு வகைகளையும் தாண்டி பல வகை சிற்றிலக்கியங்கள் வளர்ந்தும் விரிந்தும் தொண்ணூற்றாறு என்ற எண்ணிக்கையைக் கடந்து பிற்காலத்தில் கூடிவிட்டது. இதன் எண்ணிக்கைக் குறித்து அறிஞர்களிடையே மாறுபாடு உள்ளது. இந்த எண்ணிக்கையானது குறைந்தபட்சம் 186 என்றும் அதிகபட்சமாக 417 எனவும் கூறப்படுகிறது. சிற்றிலக்கிய வகைகளுள் 'குறவஞ்சி இலக்கியம்' தனித்த பண்பும் இனித்த சுவையும் வாய்ந்தது. தமிழக கிறித்தவ இலக்கிய வரலாற்றை ஆய்ந்து பார்க்கும் போது தெளிவாக நம் கண்ணில் படுவது 'சுவிசேடக் கவிராயர்', 'ஞானதீபக் கவிராயர்', 'வேதஞான வேத சிரோன்மணி' என்றெல்லாம் போற்றிப் பாராட்டப்பட்ட வேதநாயக சாஸ்திரியார் 1800 ஆம் ஆண்டு தமிழுலகிற்கு எழுதி அளித்த 'பெத்லகேம் குறவஞ்சி'யே ஆகும். ஒவ்வொரு படைப்பாளனும் தன் படைப்பு பிற இலக்கியங்களைவிடச் சிறப்புடன் இருக்க வேண்டும் என்ற எண்ணமுடையவர்களாகவே இருப்பார். அவ்வெண்ணம் வேதநாயக சாஸ்திரியாரிடம் அதிகமாக இருப்பதை 'பெத்லகே குறவஞ்சி'யின் மூலம் அறியமுடிகின்றது. மற்ற குறவஞ்சிகளில்இல்லாத சில தனித்தன்மைகளை அவர் கையாண்டுள்ளார்.

"இறைவனை ஊனுருகப்பாடுவதில் வாழையடி வாழையெனத்
தோன்றிய தமிழ்நாட்டுப் பக்திப் புலவர்களையும் சீர்திருத்தச்
சிந்தனைகளையும் அள்ளி வழங்குவதில் பிற்கால வீறுணர்ச்சிக்
கவிஞர்களையும் ஒத்துக் காணப்படுகின்றார் வேதநாயகம்"

என்பர் அறிஞர்.(சுப்பிரமணியன் ச.வே., தமிழிலக்கியக் கொள்கை, தொகுதி.2)

பெத்லகேம் குறவஞ்சி பக்திச் சுவை மிக்கதாய், பலவகை உறுப்புகளையும் பெற்று சிலேடை, மடக்கு முதலிய பல அணிநலன்களையும் உடையதாகி, விருத்தம், வெண் செந்துறை, தாழிசை மற்றும் இசைப் பாக்கள் பல விளங்கக் கடல் போல் பரந்து கிடக்கின்றன. இத்தகைய தனித்தன்மைகள் வாய்ந்த 'பெத்லகேம் குறவஞ்சி'யின் சிறப்புக்களை இக்கட்டுரை ஆய்வுக்கு உட்படுத்தியுள்ளது.

கதைச் சுருக்கம்

சிற்றிலக்கியங்களின் மரபுப்படி எல்லாக் குறவஞ்சி இலக்கியங்களிலும் உள்ளீடான கதை ஒன்றாகவே தான் இருக்கும். தலைவன், தலைவி, குறத்தி, குறமகன், கட்டியங்காரன், தோழி போன்றோர் இடம்பெறுவர். ஊரும் பெயரும் மட்டுமே வேறாக இருக்கும் ஆசிரியர்கள் தங்கள் எண்ணங்களுக்கேற்பவும், இலக்கியப் போக்கிற்கு ஏற்பவும் படைப்புகளை அழகாக மாற்றுகின்றனர். பெத்லகேம் குறவஞ்சி, மற்ற குறவஞ்சிகளுக்கு இல்லாத தனிச்சிறப்பாக உருவகப் போக்கில் அமைந்துள்ளது. 'தேவ மோகினி;' என அழைக்கப்படும் சீயோன் குமாரத்தி இக்கதைத் தலைவி. இயேசு பெருமானாம் தேவகுமாரனே கதைத் தலைவர். எருசலேம் மாநகர் வீதிகளில் இயேசு பெருமான் தம் சீடர்கள், தூதர்கள் மற்றும் பல்லோர் புடைசூழப் பவனி வருகின்றார். இப்பவனிக்கு முன்பாக யோவான் ஸ்நானகன் எனும் கட்டியங்காரன் முன்தோன்றி அவர் வருகையை அறிவிக்கிறார். பவனியின் போது மன்னவர் இயேசுவைக் கண்டு மையல் கொள்ளுகிறாள் தேவமோகினி. இறைவனை இவள் சேராமல் இவளை வருத்தும் உலக மாயைகளும் உபத்திரவங்களும்

முனைவர்.சி.இராஜலெட்சுமி, எம்.வி,.முத்தையா அரசினர் மகளிர் கலைக்கல்லூரி, திண்டுக்கல்

SECTIONAL PRESIDENT'S ADDRESS - ECONOMIC HISTORY SECTION

AGRARIAN ECONOMYOF SOUTHEAST INDIA (1700-1900 AD.)

Dr. R. Abbas

I am extremely obliged to thank the President, General Secretary, the office bearers and the members of the Executive Committee of South Indian History Congress for nominating me to preside over the Economic History section of the 40th Annual session of the South Indian History Congress being held at our university. I feel indebted to the organization that my services are recognized and my association with this academic body since 1999 is truly honoured. I feel privileged to present to you some of my views on the concerned topic: "Agrarian economy of Southeast India (1700-1900AD)".

The region of 'south-east' India, on which this paper concentrates, can most easily be conceived as consisting of the territories governed by the Presidency of Madras from c.1801 – with the exclusion of the two western districts of Malabar and South Kanara. It stretches down the south-eastern littoral from Vizagapatnam in the North to Kanyakumari in the South and reaches as far inland as Bellary, Coimbatore and the environs of Bangalore. In economic terms, this conception is somewhat arbitrary and has mainly been chosen because the data from the colonial era is most facilely organised in this way. In fact, there were always important flows of goods and people linking this region to economies further to the west (in the territories of the princely states of Hyderabad, Mysore and Travancore) and also to the North, especially Bengal. Nonetheless, the region also has a certain degree of historical integrity. Its local cultures escaped Mughal overlordship until very late and preserved patterns of 'little kingship' and temple based religion, which were distinctive in relation to the rest of India. The region's definition also properly highlights the significance of the sea, which provided conduits for bulk as well as luxury commerce and which, in many ways, dominated economic aspirations. Further, and over many centuries, the region saw intensive forms of interaction between its Telugu speaking North and Tamil speaking South with the former constituting source territories for the migration of peoples, goods and ideas towards the latter. In 1957, when proposals emerged to split the Telugu country (Andhra) from the Tamil in order to form linguistically based regional states, the extent of their effective engagement became clear in the bitter struggle for possession of Madras city whose population was almost equally divided between 'native' Tamil and Telugu speakers. Tamil Nadu won the city but Andhra Pradesh maintained control of some of its most vital water resources which has been the cause of scarcely less bitter controversy ever since.

From certain angles, the story of the south-eastern agrarian economy between 1700 and 1900 might be summarized as quantitative expansion but qualitative stagnation or even decline. While it is difficult to provide meaningful aggregate statistics because of local variations, differential soil-fertility and the significance in the region of double- and triple-cropping the same land, the balance of the secondary literature is in agreement that cultivation expanded at least in line with population growth until 1900 and may even have moved ahead of it in the first half of the century.[1] However, there were few signs of farming adopting any startlingly new technologies and some indications that per acre/per crop yields might have declined.[2] Cultivation was expanding beyond its traditional foci of concentration in the better watered river valleys. Also, it was plainly being less supported by inputs derived from adjacent forest wastes and from animals, both of which were under pressure from the expansion of human population. While the nature of the data prevents it from being anything more than an impression, perhaps the greatest difference between farming at the turn of the 18th and of the 20th centuries may have been the relative lack of animal power by the latter date. Cattle used to abound, when not pulling ploughs then in trains carrying the bulk commodities (cotton, salt, iron) whose trade articulated the various specialist sub-zones of the region. The cotton carrying trade from the

CHANGING INFORMATION LANDSCAPE AND ITS TRANSFORMATION IN LIS EDUCATION

Editors
Prof. S. Thanuskodi
Dr. S. Kishore Kumar
Dr. S. Raja
Dr. A. Alagu

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OPEN ACCESS RESEARCH OUTPUT ON "NEUTRINO": AN AUTHOR METRIC ANALYSIS OF WEB OF SCIENCE DATABASE (2012-2021)

Dr.Padma, P.&Dr.Ramasamy, K.

Abstract

This research work aims at exploring the scientometric aspects of author productivity in Neutrino research output published in open access outlets as indexed in Web of Science database during a decade viz., 2012-2021. A total of 6225 documents were downloaded and analyzed with Biblioshiny and MS Excel. It is found that: A majority of 23-24% of total research output was contributed by two authors (23.18%, 1443) and Three authors (24.40%, 1519). The most local cited author is Sarkar S with 4602 citations followed by Yoshida, S with 4153 citations. The most number of papers (154) are published by Sarkar S followed by Anton G with 129 publications. SARKAR S tops the table with 9495 total citations followed by Yoshida A, with 8357 TC, Kappes A with 8083 TC and Beatty J J with 8060 TC. Sarkar S has secured the highest h-index score of 50 followed by two authors Ahlers M and Kappes A with a h-index score of 46 each. The author with the highest g-index is Sarkar, S (95) followed by Yoshida S with 90. The highest m-index (4.57) was owned by Collin, GH followed by Sarkar S with 4.54 value.

Keywords: Neutrino Research; Scientometrics; Author Metrics; Biblioshiny.

Introduction

A neutrino is a subatomic particle that is very similar to an electron but has no electrical charge and a very small mass, which might even be zero. Neutrinos are one of the most abundant particles in the universe. Because they have very little interaction with matter, however, they are incredibly difficult to detect (What Is a Neutrino?, n.d.). Perhaps the most important thing to know about neutrinos is that they come in three types, or flavors: electron neutrino (ve) ; muon neutrino (vμ) ; tau neutrino (vτ). Each flavor of neutrino is considered a fundamental particle, or one of the basic building blocks of our universe that can't be broken down into any smaller pieces. They are associated with three similarly named fundamental particles, the electron, muon, and tau. When a neutrino (finally!) interacts, its partner particle often shows up. That helps scientists identify what flavor neutrino the particle was before it interacted. Scientists never actually see the neutrino itself; instead, they see the other particles that are made when a neutrino interacts in a detector (Neutrino Flavors | All Things Neutrino, n.d.).

Objectives of the Present Study

- The objectives of the present study are:
- To explore the authorship pattern of Neutrino research output during 2012-2021
- To analyze the year-wise authorship pattern of the given literature
- To find out the most local cited authors (> 3800 citations)
- To trace out the most productive authors (>100 publications)
- To list the most productive authors based on total citations (>7300)
- To know the most productive authors based on h index (>40)

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ETHICAL RESTRAINTS IN RESEARCH AND PUBLICATIONS

Dr. Padma, P.& Dr. Ramasamy, K.

Introduction

Ethics is the morality of a human act. By morality, we mean the "rightness "or "wrongness" of a human act. Basically, it is concerned with what is good for the people and the society. Research ethics is one of the main supports for scientific integrity and credibility, for enhancing the academic community, improving the research integrity & publishing research articles in journals and conferences following standard ethical policies. It provides ethical principles or guidelines for the researchers to conduct successful research. The attitude and habit of the researchers to conduct research depends on their appropriate ethical, legal and professional obligations and standards.

Keywords: Research; Research and Publications; Research Ethics.

Importance of Ethics in Research

Research ethics ensures respect, reliability, equality, and care. It provides rules that govern the society. Performing ethically means doing the right things at the right time. Research around the world has been conducted unethically and is being conducted unethically today. Research is often done to try to improve things, to find treatment for disease or to find ways to help people. So, research ethics is about making sure that this happens at all levels, all the way through the research process. If we practice respect, reliability, equality, and care throughout the process of conducting research, then our research will be ethical.

What isResearch Ethics?

- Research ethics is defined to be ethics of planning, conducting and reporting research.
- Research ethics are moral principles that guide researchers to conduct and report research without deception or intention to harm the participants of the study or members of the society as a whole, whether knowingly or unknowingly.
- Research ethics are the set of ethical guidelines that guides us on how scientific research should be conducted and disseminated.

Objectives of Research Ethics: There are three major objectives

- To safeguard/uphold human participants, their self-respect, justice and prosperity.
- To make sure that research is directed in a manner that assists welfares of persons, groups and /or civilization as a whole.
- To inspect particular research events and schemes for their ethical reliability.

Ethics in Research and for Researchers: In research, ethics

- Provides guidelines for the responsible conduct of research.
- Allows researchers and scholars to further educate themselves and monitor their activities in the conduct of research.
- Ensures a high ethical standard.

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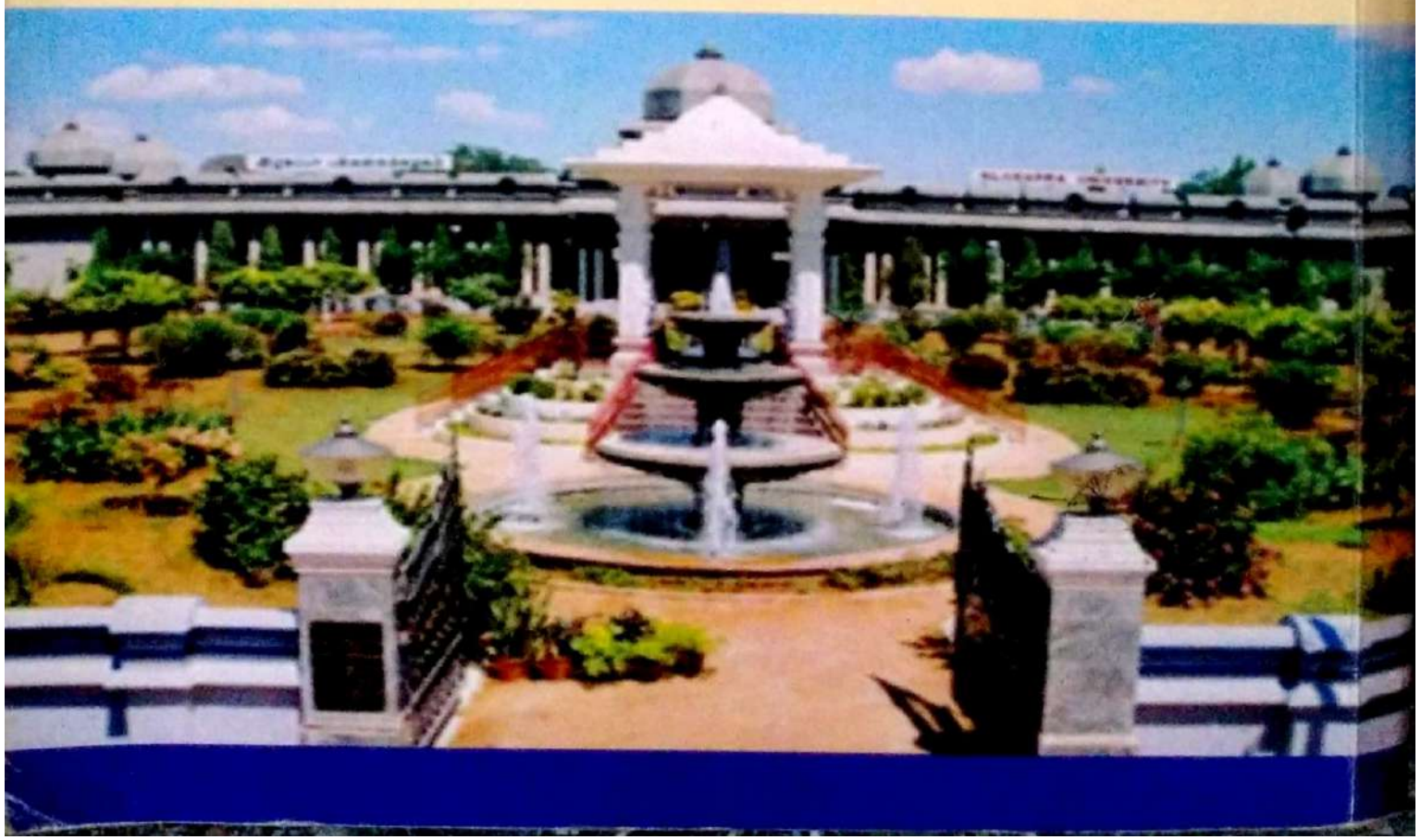

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RESEARCH DATA REPOSITORIES AS REGISTERED IN RE3DATA: AN PANORAMIC PRESENTATION OF SOUTH AFRICAN REPOSITORIES

Dr.M.Mani[1], Dr. K.Ramasamy[2] & I.Noorul Hasan[3]

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stract

This paper attempts to spell out what is research data repository and typology of sitories. Like DOAJ, OpenDOAR and ROAR, we have a couple of directories for research repositories too. This paper draws our attention to one such registry viz. Re3data. e page of Re3data, three different methods available for browsing the research data sitories and country-wise distribution of repositories are detailed. 15 research data sitories of South Africa are registered in Re3data. The subject coverage of these 15 sitories, content types, access patterns, a brief description of select south African arch data repositories are also given.

words: Data repositories, research data, re3data, South African data ositories, South Africa.

oduction

Data repositories are digital archives collecting, preserving and making available research and their metadata. Permalink is a comfortable means for linking and citing datasets. A repository is also known as a data library or data archive. This is a general term to refer data set isolated to be mined for data reporting and analysis. The data repository is a database infrastructure - several databases - that collect, manage, and store data sets data analysis, sharing and reporting.

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Dr.P.Balasubramanian is presently working as University Librarian and Head, in Manonmaniam Sundaranar University, Tirunelveli (Tamil Nadu). His qualifications M.C.A.,M.B.A.,M.A.,(Eng.),M.A.,(His)., M.L.I.Sc., M.Phil., PGDPR and Ph.D., He is a life member of various Professional Associations. He has contributed 73 books (Tamil and English) around 156 papers in Seminars, conferences and refereed journals. He has organized many national and international seminars and workshops in various emerging topics of Library and Information Science. He has produced 9 M.Phil., and 31 Ph.D., scholars, presently guiding 8 Ph.D., scholars. He has been teaching Library and Information Science for the past 22 years. He attended conference held in Malaysia and Sri-Lanka presented papers.

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BOOSTING INFORMATION ACCESS IN THE LIBRARY AND INFORMATION CENTRES: AN ENDEAVOR WITH THE LUSTROUS LIBGUIDES

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ABSTRACT

Libraries make use of various tools and techniques to improve the library usage, enhance the ac library resources and to extend the help to the library patrons in their academic and research activities. LibG are one such elegant tool that can be employed by all types of libraries. They serve as information sharing platform with curated content targeted at specific group of library users. This paper attempts to narrate the idea of LibGuides – meaning, types, contents, special features and use for patrons. In the second part, the illustrates how a LibGuide is organized and presented with an example taken from University of Pittsburg LibGuide on Citation Styles.

Keywords :*Library resources, LibGuides, University of Pittsburg, Library Access, Research Guides, Guides.*

Introduction

LibGuides are a content management and information sharing system designed specifically for lib LibGuides are user-friendly, efficient electronic resources that can meet the information needs of our p online. This LibGuides system is commonly used by librarians to create research or subject guides. Guides outermost component that functions as a mini-website on a topic or subject. They contain pages, boxes content.

The platform allows for easy navigation through and instruction on core and relevant resources in a part subject field, class, or assignment.Furthermore, this platform effectively invites collaboration between libr and instructors to meet the research needs of a particular department, class, or assignment.

Types of Guides

1. **Published Guides** are designed to provide guidance on resources relevant to a specific topic or s (e.g. Business, Food, Government, Law, etc.).

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SCIENTOMETRIC MAPPING OF RESEARCH PRODUCTIVI MADURAI KAMARAJ UNIVERSITY (2006-2020) : AN EXPLORA GEO-METRICS OF MOST PRODUCTIVE COUNTRIE

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ABSTRACT

The present study aimed at exploring the geo- metrics of research output of Madurai Ka with 2993 records harvested from Web of Science database covering the period 2006-2020. M Excel were used for analyzing the collected data. The findings reveal that: India is the most pro with a SPI score of 69.16 contributing 3005 papers. USA is the country with the second highest SP with 215 records; India, the most productive country, has progressive publications throughout th Among the most productive countries, USA is the only country which has publications through The Activity Index of India is more than 100 in the first three blocks (115.41, 109.95 and 104.60 less than 100 in the last two blocks (92.33 and 91.56 respectively).The AI of USA is 10.74 in followed by 7.73 in the fifth block and 6.41 in the first block. India tops with 48259 citations f followed by USA with 4092 citations for 215 papers. While Saudi Arabia has obtained 3602 cit papers, South Korea has obtained 3420 citations for 116 papers. Spain leads the countries with 3.09 followed by South Korea (1.63), UK (1.60), Saudi Arabia (1.37) and Taiwan (1.28).India has index score of 82, the highest among all, for her 3005 articles and 48259 citations. The country highest h-index scores include South Korea (33) with 3420 citations, USA (32) with 4092 citations with 4863 citations.

Keywords: Scientometrics, Madurai Kamaraj University, Geo-Metrics, Science Production Index, Relative Citation Impact, h-index.

Introduction

Scientometrics is "a discipline that uses mathematical methods to quantify the scientific research and achievements to reveal the process of scientific development, and can provide scientific basis decision making and management" (Qiu,Zhao, Yang & Dong, 2017). Scientometrics uses citation

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CROWD SOURCING AND CROWD FUNDING: THE ACCLAIMED MEASURESTO COMBAT THE CHALLENGES OF LIBRARIES IN THE DIGITAL ERA

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ABSTRACT

The libraries,be it Academic, Public or Special, always exist amidst several challenges.Thelibrary relevance are well recognized by the Policy makers due to which the Institutes are never graded high with fledged Library services.In the Academic Library Context,only few Institutions of National Importance are with enough funds,other institutions always struggle to satisfy the requirements.All kinds of libraries are need of more and more resources and funds to increase the footfalls and log-ins. The digital revolution has up new avenues of open and online access but for only fewresources.Most of the full text resource packages full-fledged rights need to be subscribed for heavy prices.Thus,posing challenges to the libraryadministrators ICT has also provided with solutions for the funding and sourcing,not from single or few persons but huge

Keywords *:-Crowd sourcing, Library challenges,Crowdfunding and Outsourcing*

Introduction

As the fifth law of Library Science says "Library is a growing Organism" All the aspects of Library in multi direction, like the number of patrons,The ReadingResources,furnitures,Library space and there requires more and more Resources and Funds.CrowdSourcingis a means to acquire more knowledge or from huge number of individuals or crowd by the digital means. Crowd Sourcing and Crowd funding is by many organizations to strengthen their online database and Economy.Crowd sourcing is the process of work done or collecting funds through online from a crowd of people.Collectingideas,content and rendering by soliciting contributions from online mob. James Surowiecki,2004 has expressed that "Crowd of persons are diverse, Independent and decentralized usually make better Judgements or decisions than the single

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Editors Profile

Dr.N.Ashok Kumar is a prolific researcher and writer in the field of library and information science who received Ph.D in Library and Information Science from Annamalai University, Tamil Nadu and he is currently working as Deputy Librarian in the University Library, Tamil Nadu Physical Education and Sports University, Chennai. His research interests on user perceptions and utilization of e-resources in special libraries and published scholarly contents in this area. As a special type of academic library where he is rendering his services he has mainly focused primarily on total automation and digitization, establishments of institutional repository, text mining, usage analysis, NMEICT projects along with running of Information literacy programs in the Library. He has published nine articles in journals as well as he received state planning commission Tamil Nadu innovative initiatives scheme project worth of two crore fifty one lakhs rupees for the establishment of e-library in university campus. He also received three awards from TNPESU for implementing library automation, e-library and RFID.

Dr. K.Kaliyaperumal former University Librarian of University of Madras. Before joining as a Deputy Librarian in this University he had been working as Assistant Librarian both in NIRD, Hyderabad and Anna University, Chennai. He introduced [illegible] innovative projects in the Anna University Library [illegible] AICTE funded project of Creation of Digital Library [illegible] Madras University Library, he was the instrumental to complete the automation program of UGC funded RECON project. For the Modernisation of this Library he obtained 1.17 crores rupees from UGC – UPEE program. He developed database of articles for the Tamil Nadu pollution Control Board Library by obtaining grand from the TNPCB. As Madras University called Mother University and its Library is also called as mother academic Library as such, it has many rare documents, an initiation has been taken to digitize these documents by him along with signing MOU with Anna Centenary Library, Chennai. Former Secretary of MALIBNET who is one among the prolific writer in the field of LIS and has published more than 6 bestselling books in this filed as well as a Literary writer, his works in literary area are well recognised and few of his works are taken by the research scholars for their research. He produced nearly 13 PhD and 45 M.Phil Scholars in the field of Library and Information Science. Published more than 40 articles which are mostly in the journals which are indexed both in Scopus and WEB of Science databases along with UGC CARE List of Journals and these articles are well cited by the authors in the field of LIS.

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Transformation of Learning Resource Centres in the Digital Era

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2022

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Transformation of Learning Resource Centres in the Digital Era

Department of Library, K.S.Rangasamy College of Technology (KSRCT)
&
Society for the Advancement of Library and Information Science (SALIS)

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The Nuances of Oral and Digital Storytelling: Creative Way to Improvise Reading among the Digital Natives

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Abstract

Ever since the evolution of the primitive mankind, stories are the most preferred paradigm to share ideas in the society. The stories are the carriers of the customs, traditions, and culture, it originates from. The textual Literature is only of recent development whereas "the oral stories' dates to very old period during the verbal communication served as the carriers of the customs, beliefs, traditions and cultures. They transcend the knowledge from generation to generation. The Impact of ICT has resulted in the art of story- telling being carried over to its digital format and the result is the Digital storytelling. The Digital story telling has added aspects of illustrations, video and audio along with contemporary story telling. It fires the imagination of both the story teller and the listener, digitizing adds to the intensity and the extent of reach of the stories among the patrons. The digitized story telling promotes the thought process, fuels the imagination, knowledge gathering and transfusions in the society. This paper discusses about Digital Story telling effectiveness and the required skills of the creator and the Audience.

Keywords: Digital Storytelling, Reading stories, Free Voluntary Reading, Digital Skills

Introduction

Digitization is all pervasive and the story -telling is of no exception. The main criteria of story- telling is Imagination and creativity, the digitized version requires both in higher level for creating the video, audio, illustrations to present them live and catchy for the audience. The genre of the story telling depends on the personality characteristics and demographic features of the patrons. Conceiving an Idea, developing a story background, selecting the plot for the story and deciding the characters are some of the basics in story- telling. Digitization can be said as the value addition to the story using technology. Unless and Otherwise the Digital story teller has profound reading habits, he/she cannot justify the creation. The digital story telling invokes the quest to know more thus promoting the reading among the audience. The DST (Digital Storytelling) task is gaining momentum in this decade as its beneficial aspects are highly accepted and acclaimed by and large in the education sector.

The Concept of Digital Storytelling

Digital Story telling is the integration of technology and the use of interactive media, which includes the Audio, Video, Digital Books and multimedia messages. Digital Story telling was conceptualized by Dana Atchley, Joe Lambert, Nina Mullen and the center for Digital Story writing at the University of California, Berkeley in 1993. Paul,(2002) opines that the Digital story writing to the products and

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Online Resources on Metallurgy as Indexed in Bielefeld Academic Search Engine (BASE): A Case Study

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Abstract

The present study conducted a quantitative analysis of documents on 'Metallurgy' as indexed in Bielefeld Academic Search Engine (BASE). The data was collected from the BASE website in August 2022. DDC browsing option was used to narrow down the search string to get required data. The study reveals that: 2,42,579 documents on Metallurgy are indexed in the BASE; a majority of 2 documents have CC-BY license followed by 5605 documents with CC-BY-NC-ND license; a major 1,15,058 documents are open access documents while 12,925 documents are non-open ac documents; A huge majority of them are article contributions (131116) followed by texts (5527 theses (10685). 9760 documents are conference objects, 4230 documents are reports, 308 doctoral and postdoctoral theses and 2461 are master theses ; a high majority of 186560 documents 'Metallurgy' in BASE engine are in English language followed by 3207 documents in Chinese, 134 French and 1010 in Russian language ; A majority of 36484 documents are provided by DO (Directory of Open Access Journals) followed by 11952 documents by DTIC technical rep database; 9586 by CiteSeerX ; 9463 by PubMed Central and 9167 documents by Archive ouverte. The highest majority of 20343 documents were contributed in 2021 followed by 18982 documents 2019 and 18543 documents in 2020. We could observe a positive growth pattern of documents 'Metallurgy' as available in BASE engine.

Keywords: BASE Search Engine, Metallurgy, Information Resources, Academic Web Resources

Introduction

Among the various search engines available for us, BASE is a different and unique one. BASE is of the world's most voluminous search engines especially for academic web resources., journal arti preprints, digital collections, images / videos or research data. BASE provides more than 240 m documents from more than 8,000 sources. You can access the full texts of about 60% of the ind documents for free (Open Access). BASE is operated by Bielefeld University Library. BASE indexing the metadata of all kinds of academically relevant resources - journals, institut repositories, digital collections etc. which provide an OAI interface and use OAI-PMH for provi their contents. BASE is a registered OAI service provider. Database managers can integrate the B index into their local infrastructure (e.g. meta search engines, library catalogues).

Features of BASE

In comparison to commercial search engines, BASE is characterized by the following features:

- Sources are indexed only after check by qualified personnel of Bielefeld University Library
- Only document servers and journals that comply with the specific requirements of academic qu and relevance are included

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Open Educational Resources for the Academia of Hospitality and Hotel Administration: An Exploration

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Abstract

This paper aims to analyse the available Open Educational Resources in Hospitality and Hotel Administration domain using descriptive method of exploring the results retrieved from Google Search Engine. Only 5 OER sites, selected by the researchers, are discussed in length. The OER sites namely IGNOU's e-gyankosh and e-PG Pathshala are Government projects while other sites namely hmhub, ihmnotessite and ihmnotes.in are from private organizations, individuals and a body of HM (Hotel Management) professionals and students. The study reveals that the academia of Hotel Management domain will be much benefited with the teaching and learning resources – syllabus, course materials, solved papers, question papers, e-books, exam preparatory materials etc. – made available in these six OERs.

Keywords: Open Educational Resources, Hotel Management, Hospitality Administration, IGNOU

Introduction: Open Educational Resources

The term Open Educational Resources includes all types of educational resources. The list includes such items as course materials, syllabus, question papers, multimedia presentations, audio and video materials etc.). They are supposed to be used in teaching and learning aspects of any academic environment. They are freely available for the students and teachers to use, reuse, adapt, revise and retain. The users need not pay any royalty amount for using such materials.

"Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation" (UNESCO,).

Hospitality and Hotel Administration: A Hot Cake

Hospitality and Hotel Administration (H&HA) is a promising career for the youngsters who are interested to pursue their career as a Chef, front office managers, operation managers, accommodation officers, entrepreneurs etc. The course has better prospects in various foreign countries both inland and waterways. The course is available both at UG and PG level. The courses in H&HA are offered by the National Council for Hotel Management and Catering Technology (NCHMCT), New Delhi via its affiliated institutes – Central IHMs (Institute of Hotel Managements) and SIHMs (State IHMs).

Objective of the Paper

The present study aims to bring into light few popular Open Educational Resources that are available online for the academia of H&HA.

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Research Supervisor's Outlook of Shodh-Chakra

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Abstract

Shodh-Chakra is an work of the INFLIBNET, guided by the UGC, to assist the scholastic community all through the research. This will be a digital workspace for researchers/guides to gather, store, compose, and cite their work. The method of utilizing the portal and marking of an assertion between the College and the INFLIBNT. Researchers, investigative administrators, and colleges are explained in this paper.

Keywords: Shodh-Chakra, INFLIBNET, UGC

Shodh-Chakra: Shodh-Chakra is an effort of the Information and Library Network (INFLIBNET) Centre, guided by the University Grants Commission (UGC), to assist the academic community throughout the research life cycle. Shodh-Chakra offers a one-of-a-kind environment for the researcher, guide/supervisor, and university to manage a research scholar's research lifecycle. This will function as a digital workplace for researchers to collect, store, organise, and cite their research findings. The process of using the portal begins with the signing of an agreement between the University and the INFLIBNET Centre. Furthermore, researchers can log into the system and use the Shodh-Chakra functions.

Shodh-Chakra an Expedition

- In the Home Page Introduction about Shodh-Chakra., About Shodh-Chakra. , Login credentials for Researcher, University & Guide are displayed.
- In the stakeholder's page (Researchers, Guides/Supervisors, and Universities) operations are displayed.
- In the Objectives page the objectives of Shodh-Chakra are Recorded
- In the Resources page the Knowledge Resources details, Full-Text Thesis, Scholarly Communications, Journals, Workshops, and Conferences details, Reference Management System and My Library are displayed.
- From the Researchers' registration page basic information like their First Name, Last Name, Email Address, Mobile Number, University, Department, and so on are entered. Then enter the Captcha text and press the Register button for researcher registration
- From the Sign-in Page the Researcher, Institute and Guide can sign after receiving an email with a username and one-time password after entering the details that will allow you to log in and reset your password by clicking on the change password option. There are two sorts of credentials: those issued by the university and those self-registered by the research scholar; in the case of self-registration, the involved university will authorize and validate your registration. You will be able to access the site once it has been verified by the institution.

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SUSTAINABLE DEVELOPMENT GOALS FOR TRANSFORMING OUR WORLD BY 2030

Dr.M.Inbalakshmi

SUSTAINABLE DEVELOPMENT GOALS FOR TRANSFORMING OUR WORLD BY 2030

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NO POVERTY IN INDIA: A STEP TOWARDS SUSTAINABLE DEVELOPMENT-2030

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Abstract

Poverty is a complex societal issue. Poverty is the state or condition in which people cannot meet their basic needs. Poverty is not a consequence of limited global resources but political and economic injustice. As per the Government of India report in 2019, 6.7% of its population is below its official poverty limit. Poverty causes to high rate of infant death, malnutrition, child labour, lack of education and the like. These are not good for the growth of economy. This research paper aims to analyze the present state of poverty and measures are taken by the Government of India to alleviate poverty. The data used in this paper is purely based on e-content available on various websites.

Keywords: Sustainable Development, Poverty, Alleviation of Poverty

Introduction

Sustainable development is the idea that human societies must live and meet their needs without compromising the ability of future generations to meet their own needs. Sustainable development is a way of organizing society to exist in the long term. This means considering both the vital factors available at present and to be needed for future such as the preservation of the environment and natural resources or social and economic equity.

Sustainable development is not an independent task. It has 17 interrelated goals to achieve sustainable development by 2030 throughout the countries agreed in 2015 in United Nations General Assembly. Among the 17 goals, the first and foremost goal of Sustainable Development is '**No poverty.**'

Poverty defined as a situation or circumstance in which an individual or a group lacks the financial means and necessities for a basic level of living. A situation in which one's earnings from work are insufficient to meet fundamental human requirements called as poverty. Poverty is hunger. Poverty is a lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, fear for the future and living one day at a time. Poverty is losing a child to an illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom.

According to the **World Bank**, India has made enormous progress in poverty alleviation by lifting **90 million out of poverty between 2011 and 2015.** To achieve this development the government **enacted many schemes for poverty alleviation** which were able to address the needs of the poor and generate employment and provide food and shelter.

Based on the availability of 71% of the data from 2019-2021 collected by 'Demographic and Health Survey' for the country before the pandemic, the United Nations (UN) reported that there is a "historic change" in India. About 415 million people exited multidimensional poverty in India during the 15 years. Before the Covid-19 pandemic, roughly 275 million were lifted out of poverty between 2005-06 and 2015-16. And another 140 million did so between 2015-16 and 2019-21. As per the latest Multidimensional Poverty Index (MPI) compiled jointly by the UN Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI) it can be inferred that the incidence of poverty in the country dropped from 55.1% in 2005-06 to 16.4% in 2019-21. UNDP said that "India is an important case study for the Sustainable Development Goals," as it demonstrated that the 'Sustainable Development Goal' target of reducing poverty by half the proportion of men, women, and children of all ages by 2030 was possible even at a large scale. The occurrence of poverty fell from 36.6% in 2015-2016 to 21.2% in 2019-2021 in rural areas and from 9.0% to 5.5% in urban areas. About 4.2% of the population in the country still alive in severe poverty, and about 18.7% - roughly the same proportion as in 2015-2016 - are endangered to poverty.

Evil effects of Poverty

- **A high rate of infant death**

India has one of the highest child death rates in the world, with over 1.4 million children dying before their fifth birthday each year. Pneumonia, malaria, diarrheal illnesses, and chronic malnutrition are the leading causes of death.

- **Malnutrition**

Regarding malnutrition, India is at the top. More than 200 million people including 61 million children are malnourished.

- **Child Labour**

In India, application of child labour under the age of 14 is illegal, although the government data show that 12.5 million children between the ages of 5 and 14 are employed. Moreover the impact of poverty reflects that 65 million youngsters aged 6 to 14 do not attend school and instead work in farms, industries, quarries, private residences and even prostitution.

- **lack of education**

Poverty never permits the people to get proper education. According to UNICEF, over 25% of children in India do not receive an education. Most probably Girls are more lacking in getting education than boys. Even men and women are equal, the poverty accommodate most space in impact on women's education.

- **Marriage of a child**

Even though child marriage is illegal, it is still done in several Indian communities due to poverty. Because of their poverty, many parents force their children to marry young in the hopes of a better life. Young ladies become mothers when they are still children. Mental and physical immaturity leads the young married children to struggle with their life.

- **Lack of participation on decision making**

Poverty brings back the group of people in participating on decision-making especially lack of participation on civil, social, and cultural life. When a group of people are poor, they do not have a power to express their opinion in the society and must depend on other more powerful groups or individuals to express their rights and choices. This put a risk in human rights in society and frequently leads to an improper political system that affects social growth and peace.

- **Poor Purchasing Power**

Poverty reduces an emerging country's or households per capita income. Due to poverty the purchasing power of people falls below a certain minimum standard and there is a lack of medical care and health facilities, low productivity, and there is illiteracy. This resulted in epidemics and disease in society.

- **Increasing lawbreaking activities**

Financially Poor people will engage in socially unacceptable behaviours such as drug addiction, crime, position, violence, and terrorism in order to satisfy their stomachs. These factors undermine human self-esteem and moral and social values in society as a whole. As a result, an increasing number of people in the community become intolerant and rude to one another in their daily lives.

- **The Exploitation of people in poverty**

Poor people live in disreputable conditions, with some members of their families dying of hunger or scarcity of food. It causes parents to sell their children into slavery due to a lack of resources to feed or care for that child and it occurs when government institutions fail to protect the rights of the poor. This poses a threat to the social fabric.

Poverty Alleviation

Poverty Alleviation is the set of steps taken in an economic and humanitarian way to eradicate poverty in a country. According to the World Bank, if a person is living on $1.90 a day or less, then they are living in extreme poverty. And currently 767 million people in the world fall under that category. According to the last released official data in 2011, 268 million people in India were surviving on less than $1.90 a day. The Government of India launched various programs and schemes to erase poverty and provide basic facilities to the poorest Indian households. Especially the Schemes, namely Pradhan Mantri Awas Yojana and Housing for All by 2022, were developed to provide housing to the rural and urban poor. The latest government schemes like Start-Up India and Stand up India focuses on authorizing people to earn their livelihood.

Poverty Alleviation Program before SDG and after SDG

Since the early 1950s, the Government of India has initiated, sustained, and refined various planning schemes to help the poor attain self-sufficiency in the acquisition of food and defeat hunger and poverty. All the Five-year plans introduced in India had elements in them to dwindle Poverty. Most of the plans executed by the Government of India has been continuously emphasizing poverty alleviation. This is in conform

with the policy of the Socialistic Pattern of Society. The Government has taken various measures to remove poverty. Here are some of the schemes implemented by the government of India to reduce poverty.

Public Distribution System

This scheme was first started in 1945, during the Second World War and since 1947 the distribution system which is prevailing at present is followed. After the increase in Agricultural production and Green Revolution, the outreach of PDS has been extended to tribal blocks and areas of high poverty incidence in the 1970s and 1980s.

Food for Work Programme

It was launched in 1977-78 by providing food grains as a substitute for wages. This was then restructured with changes and implemented in 2001 in the most 150 backward districts of the country to create additional employment for the provisions of lives. This programme's objective is to make availability of supplementary resources apart from the existing availablity of resource under the Sampoorna Grameen Rozgar Yojana. This program can lead to the creation of additional wage employment opportunities and make available food safety through generating need-based societal, financial, and communal assets in these backward districts.

Integrated Rural Development Programme (IRDP)

IRDP is the poverty alleviation programme started in 1978-79 to reduce unemployment by providing self-employment to the target audience who are living below the poverty line. Under this scheme beneficiaries were selected based on their annual income. This target group includes agricultural labourers, small and marginal farmers, and rural artisans. In addition, inclusions compelled, where 50% is allotted to the scheduled castes and tribes. For this Rs.10456 crores in total spent during the five-year plans of VI and VII. Through this program 43.02 million people were benefited.

Training for Rural Youth for Self Employment (TRYSEM)

This is the central government plan started on 15th August 1979. It helps to IRDP. Under this young man's experience and efficiency are improved through training in technology, under this scheme youngsters who are below poverty line trained through DICs, Voluntary service organizations. Along with training, it make arrangement for bank loan, government subsidy for the young entrepreneur.

National Rural Employment Programme (NREP)

It was implemented on April 1st, 1986. It aimed to generate additional employment to create durable community assets and enhancement in the standard of living of village people. It ensures an effective public distribution of essential commodities.

Rural Landless Employment Guarantee Programme (RLEGP)

It was implemented in 1983. This is working with an aim to increase job opportunities in rural areas where there is less opportunity in agriculture and to creating permanent assets in to improve rural infrastructure.

Jawahar Rozgar Yojana

The National Rural Employment Program and Rural Landless Employment Guarantee programme are blended into a single employment programme called Jawahar Rozgar Yojana on April 1, 1989. At present this program is working under the name Sampoorna Grameen Rozgar Yojana(since September,2001). This scheme aimed to generate demand-driven communities in rural areas with the rationale of employing the people. To get Employment under this scheme the beneficiary should live below the poverty line which is defined by the government. Further 3% allocated to providing barrier free infrastructure to people who are disabled.

Employment Assurance Scheme

It launched on 2nd October, 1993. It covers drought-prone areas, desert region, tribal parts, and hill region areas. During 1994-95 this scheme was implemented across the nation's 409 blocks and by April 1997 this scheme was extended to cover all the blocks. The primary objective of this scheme was to generate additional wage employment options when there is an acute shortage in manual work during inclined agricultural seasons. The secondary goal of this program is to generate financial infrastructure and community assets for employment and growth for rural India.

National Social Assistance Programme (NSAP)

The program was launched in 1995, with its primary target of giving social security to the neglected categories of the society that are widows, disabled persons, aged persons belonging to the BPL section of the society. To alleviate poverty there are three schemes under this particular programme, namely National Old Age Pension Scheme and National Maternity Benefit Scheme and National Family Benefit Scheme.

Jawahar Gram Samridi Yojana

It was implemented in 1999. The main aim of this program is developing infrastructure in rural areas like roads, schools and hospitals. Its secondary objective is to give out sustained wage employment.

Annapurna

The scheme had its initial implementation in 1999-2000, where its main aim has always been to provide a nutritional diet to the senior citizens who are cannot do that for themselves. This scheme under the poverty alleviation program offers 10 kg of free nutritious diet every month for above mentioned aged citizens.

Antyodaya Anna Yojana (AAY)

It was introduced in the year 2000 to provide food grains at a highly subsidized rate of Rs.2.00 per kg for wheat and Rs.3.00 per kg for rice to poor families under the Targeted Public Distribution System (TPDS).

Sampoorna Gramin Rozgar Yojana (SGRY)

Government of India has launched this plan in 2001 to gain the objective of providing gainful employment for the rural poor. It was established by merging the provisions of the Employment Assurance Scheme (EAS) and Jawahar Gram Samridhi Yojana (JGSY). The program is self-targeting in nature and aims to provide employment and food to people in rural areas who live below the poverty line.

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

It was activated in the year 2005. It aims to provide at least **100 days** of wage employment to rural area in a financial year to every household whose adult members volunteer to do unskilled manual work. Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds and wells).Through the process of providing employment on works that address causes of chronic poverty such as drought, deforestation and soil erosion, the Act seeks to strengthen the natural resource base of rural source of support and create durable assets in rural areas. Effectively implemented MGNREGA has the potential to **transform the geography of poverty.**

National Rural Livelihood Mission

This was implemented in 2011 with the objective "To reduce poverty by enabling the poor households to access gainful self- employment and skilled wage employment opportunities resulting in appreciable improvement in their income on an unceasing basis, through building strong and sustainable grassroots institutions of the poor."

National Urban livelihood mission

It was executed in 2013, and which focuses on organizing urban poor into Self Help Groups, creating opportunities for skill development leading to market-based employment. And help the urban poor people to set up self-employment ventures by ensuring easy access to credit.

Pradhan Mantri Grameen Awaas Yojana

The above programme is one of the most flourishing schemes under the **poverty alleviation programmes initiated by the government which is enacted in 2015. Its main** aim is to provide free houses for the people living in rural areas that are considered BPL. Here the advancement made through the subsidy process, involvement of the private sector and offer low expensive housing to the people at subsidized rates.

Saansad Aadarsh Gram Yojana (SAGY)

This scheme was enacted in 2014 by the Ministry of Rural development to develop the institutional and physical infrastructure in three villages by 2019. The project aims to develop five 'Adarsh Villages' or 'Model Villages' by 2024.

Pradhan Mantri Suraksha Bima Yojana

This was launched in the year 2015 by the Ministry of Finance as an insurance policy for people belonging to the deprived sections of society.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY) or Skill India

On 16th July, 2015, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), often known as Skill India was launched to combat poverty. The ultimate goal is to upskill roughly 40 million Indian youth. This government program is for low-income students and encourages them to look for innovative ways to strengthen their skills.

Pradhan Mantri Garib Kalyan Yojana (PMGKY)

Pradhan Mantri Garib Kalyan Yojana is a plan launched by the Prime Minister of India in 2016. This scheme provides an opportunity to declare unaccounted wealth and black money secretly and avoid prosecution after paying a fine of 50% on the undisclosed income. An additional 25% of the undisclosed income invested in the scheme, which will be refunded after four years without any interest. This pro-poor welfare plan implemented to remove poverty from the lives of the poor. .Members of Parliament is primarily driven by the government to bring the underprivileged into the spotlight. Such members can use it to arrange a skill-based workshop.

National Maternity Benefit Scheme

This program was implemented in 2016 by the Ministry of Health & Family Welfare (MHFW). Its main objective is to provide a sum of Rs.6000 to a pregnant mother aged above 19 years. The sum is provided typically 12–8 weeks before the birth in three installments.

Pradhan Mantri Ujjwala Yojana (PMUY).

It was announced in 2016 through the Ministry of Petroleum and Natural Gas. It envisages the distribution of 50 million LPG connections to women below the poverty line.

Solar Charkha Mission

This scheme is established in 2018 through the Ministry of Micro, Small and Medium Enterprises (MSME). It aims at provide employment to nearly one lakh people through solar charkha clusters in rural areas.

National Nutrition Mission (NNM), Poshan Abhiyan

It was launched in 2018 by the Government of India through Ministry of Women and Child Development. It aims to reduce the level of under-nutrition and enhance the

nutritional status of children in the country. Also aims to improve the dietary outcomes of adolescents, children, pregnant women, and lactating mothers.

Ayushman Bharat Scheme

The Central government has started the Ayushman Bharat Yojana, or National Health Protection Scheme on 14th April 2018, to focus on the wellness of low-income households and provide medical benefits. Around ten crores low-income families will be given an annual insurance coverage of Rs. 5 lakhs and will be able to receive cashless treatment at all the government and private scheduled hospitals across the country for secondary and tertiary care operations under this scheme.

Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM)

This scheme was framed in 2019 by the Ministry of Labour and Employment. This central government scheme introduced to safeguard old age people and to provide social security to Unorganized Workers (UW)

Prime Minister Street Vendor's Atma Nirbhar Nidhi – PM SVanidhi

It was implemented in 2020 by the Government of India through the Ministry of Housing and Urban Affairs (MoHUA), which aimed to provide micro-credit facilities to street vendors affected due to the COVID-19 pandemic.

Conclusion

Poverty Alleviation Relief or Reduction is a set of ways by which governments' policies can intend to permanently lift up people out of poverty line. As per the **Global Multidimensional Poverty Index (MPI) 2020,** India ranks at 62nd position out of 107 nations with an MPI score of 0.123. Regarding **the Global Hunger Index 2021,** with a score of 27.5, India ranks 101st out of 116 countries and according to the data, the **level of hunger is serious**. By analyzing various reports and studies, it can be clear that there is a reduction in the percentage of people residing below the poverty line, but the figure are not favorable after that either. As of May 2021, about 84 million people are dwelling in severe deprivation which makes up about 6% of the total population of the country. However the Government has been attempting hard to raise these individuals out of the clutches of poverty through various poverty alleviation programs, but that has some contradicting perspectives in India. The major reasons for the ineffectiveness of the poverty alleviation programs are the poverty alleviation program may not properly identify and target the exact number of poor families in rural areas. As a result, some of the families who are not registered under these programs are benefited by the facilities rather than the eligible ones. Overlying of similar government projects is a major cause of ineffectiveness as it leads to confusion among poor people and authorities and the help do not reach the poor. Overpopulation in the nation increases the burden of providing the help of the projects to a large number of people and thus reduces the success of the programs. Deceit at various levels of performance of plans is another major reason. It is concluded that India

will need to go on a long journey to achieve the Sustainable development Goal of 'No Poverty'. Apart from Government, youngsters need to move a step forward to alleviate poverty through application of their skills in entrepreneurial activity. Thereby employment opportunity will be created and purchasing power of people will be increased. No poverty is not only the UN proposed Sustainable Development Goal, but is a fundamental need of human society.

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ABOUT THE BOOK

This edited volume provides various perspectives on various technological applications in academic libraries. This volume focuses on the viewpoints of researchers, librarians, information professionals, publishers, and library users in India. This volume provides an excellent overview of innovative librarianship especially in academic libraries and its helps readers find, retrieve, read and use the research they need. At the same time, it allows authors to enlarge their audience and amplify their impact. Innovation and creativity are universal as every person or organization has the desire for innovation and creativity in varying degrees. Both are included in creative process. Creativity means bringing something into existence whereas innovation means to bring something into use. In these circumstances the editors were collected 39 papers from Library and Information Science Professionals from the National level and titled on **Ingenious Librarianship: Enriching Self-Reliance**. Contents are edited suitably in order to appreciate the professionals. This edited volume consists of 39 papers from Library and Information Science Professionals under four themes such as, i) Enriching the Self Reliance in Libraries, ii) Open Educational Resources in Libraries, iii) Innovative Technology and Digital Libraries and iv) Web based Sources and Services in Libraries.

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Digital Deep Reading Strategies and Comprehension:The Stavanger Declaration Concerning the Future of Reading

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Introduction

Reading helps the individual to gain knowledge, Information and data. The type of reading ranges from leisure reading to Intensive reading. Depending on the purpose and method of reading,the reader gains in-depth knowledge or procures just a small data to satisfy the time-bound requirement.Intensive reading also known as deep reading or critical reading is always preferred to gain mastery over the content being read.Intensive/ Deep Reading is done mostly by Researchers, Scholars and Experts. The process of Intensive reading requires high focus and good grasping capacities forpro longed duration.The ICT has bestowed the boon of digital Intensive reading with easy and open access to large chunk of E-Resources and databases in every field of knowledge.The Digital Reading is the order of the Day and the Researchers focus on its pros and cons ,recommending future research on certain unexplored aspects of Reading in digital and Paper format.

Evolution of Reading:Sheet-based to Screen-based

The advantage of Online reading over Paper based is the access to plenty of E-Resources,whichare open and mostly free to use,with copyright and licensing validity, paving ways for intense research and reading through multiple kinds of affordable gadgets.This trend has helped the Learners andresearchers to access the relevant materials profusely, doubling the digital reading compared to the paper reading.The digital or the Online Reading is done as followed in paper based material but the strategies differ from offline reading to online reading.

There are several highly acclaimed and validated Reading strategies for precise comprehension of the text read in paper.The digital reading is a sudden upsurge and has only a few strategies,lacking or lagging in validated methods of reading.This lead to the research on the digital reading by the European Group of Researchers:COST funded by European funding bodies.

European COST:Open Call for Research

COST (Cooperation inScience and Technology) is anEU funded Inter-Governmentalframework with more than 40 members for Research Innovation networks.The Research Initiatives or Actions of COST help in stimulating Research and connecting the researches done across Europe and beyond.The COST Actions are bottom-up network with the duration of four years that boost research. The prime objective is to support the 'Open call' for the COST.The decision- making body is the General Assembly members, committee of Senior Officials and the Legal bodies of the Executive board.

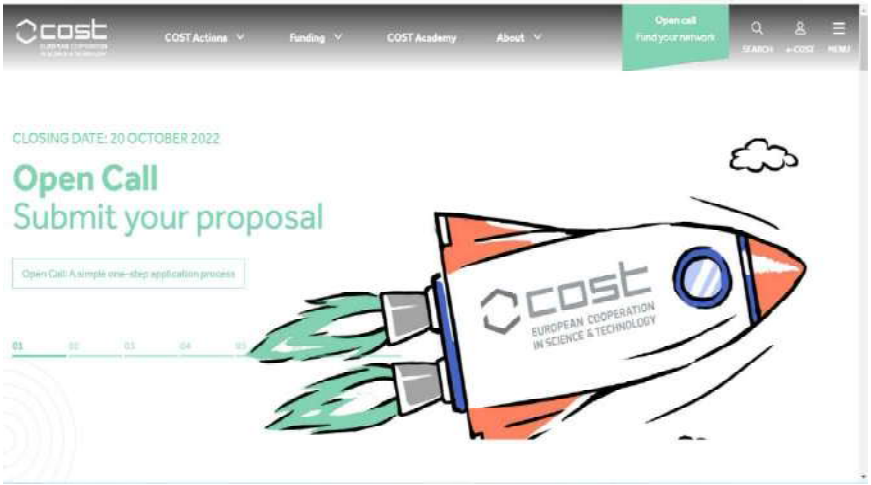

Fig. 1: The Home page of "COST"

Evolution of reading in the age of digitisation (E-READ)

Fig -2 : Logo of E-READ

Evolution of Reading in the Age of Digitisation (E-READ)

A European research initiative funded by European- COST, connecting almost 200 scholars and scientists of reading, publishing, and literacy from across Europe, in a single platform, a joint effort to research the impact of digitization on reading practices.

The research has focused on how readers, and very particularly children and young adults, comprehend or remember written text when using print or digital materials.

The goal of the COST Action was to improve scientific understanding of the implications of digitization, thereby helping the individuals, disciplines, societies and sectors across Europe to cope optimally with the effects.Based on a multidimensional, integrative model of reading, and blending paradigms from experimental sciences along with perspectives (e.g., diachronic) from the humanities.

There are four Working Groups which focused its Research on different Aspects of Reading

Working Group -1: Continuing/skilled reading

Working Group -2: Developmental aspects of reading

Working Group -3: - The Aura study, An Empirical study on Shakespeare Sonnet Reading.The Cognitive and Emotional Aspects of Literary Prose Reading.

Working Group – 4: - A Database on Book and Reading Eco system,Educational Publishing and Trade Publishing

The Stavanger DeclarationConcerning the Future of Reading:-

The relevant stakeholders and members of the E-READ, met on 3–4 October 2018, in Stavanger University,Stavanger, Norway.The main findings of four years of empirical research and debates (2014 – 2018) were presented. The Stavanger Declaration Concerning the Future of Reading has three parts.

1. Key Findings 2. Recommendations 3. Questions of Future Research.

Key Findings of the Research

- ✓ Individual differences in skills, abilities, and predispositions form distinct learning profiles that affect children's ability to use and learn from digital versus print sources.
- ✓ Digital text offers excellent opportunities to tailor text presentation to an individual's preferences and needs. Benefits for comprehension and motivation have been demonstrated where the digital reading environment was carefully designed with the reader in mind.
- ✓ Digital environments also pose challenges. Readers are more likely to be overconfident about their comprehension abilities when reading digitally than when reading print, in particular when under time pressure, leading to more skimming and less concentration on reading matter.
- ✓ A meta-study of 54 studies with more than 170.000 participants demonstrates that comprehension of long-form informational text is stronger when reading on paper than on screens, particularly when the reader is under time pressure. No differences were observed on narrative texts.
- ✓ Contrary to expectations about the behavior of 'digital natives', such screen inferiority effects compared to paper have increased rather than decreased over time, regardless of age group and of prior experience with digital environments;

- ✓ Our embodied cognition (i.e. that how and what we learn, know, and can do depends on features of the entire physical body) may contribute to differences between reading on paper and on screen in terms of comprehension and retention. This factor is underestimated by readers, educators and even researchers. These findings are consistent with those conducted in countries outside of Europe.

Recommendations:

- Systematic and careful empirical investigation into the conditions under which learning and comprehension is enhanced – and of the circumstances under which they are hindered – in both print and digital environments needs to be conducted.
- Students should be taught strategies they can use to master deep reading and higher-level reading processes on digital devices. In addition, it remains important that schools and school libraries continue to motivate students to read paper books, and to set time apart for it in the curriculum.
- Teachers and other educators must be made aware that rapid and indiscriminate swaps of print, paper, and pencils for digital technologies in primary education are not neutral. Unless accompanied by carefully developed digital learning tools and strategies, they may cause a setback in the development of children's reading comprehension and emerging critical thinking skills.
- Appropriate action is needed to develop better guidelines for the implementation of digital technologies, especially in education, but also in media environments more generally. With respect to education this pertains, for example, to the development of empirically validated instruction in digital literacy skills (selecting, navigating, evaluating, and integrating information encountered digitally). Such digital skills will be applicable in many contexts, for example in dealing with government communication and other public information.
- Educators, reading experts, psychologists, and technologists should partner to develop digital tools (and related software) that incorporate insights from research about the processing of digital and printed formats, including the role of embodied cognition, for reading practices.

- Further research into digital learning materials should involve increased cooperation among technology developers and humanities and social science researchers to help facilitate unbiased and evidence-based public debates on the digital transformation.

Questions for future research

- As the use of digital materials for both education and personal reading grows, important questions about the future of reading, the pedagogy of literacy, and the long-standing importance of textual communication arise: In what reading contexts and for what readers can the use of digital text be most fruitful?
- Conversely, in which domains of learning and literary writing should the medium of paper be encouraged and championed?
- Is the tendency for screen reading to be more fragmented, less concentrated, and to involve more shallow processing turning skimming into the default reading mode that is carried over to paper reading habits?
- Is our susceptibility to fake news, biases and prejudices amplified by overconfidence in our digital reading skills?
- What can be done to encourage deeper processing of texts in general and, in particular, of texts read on screen?

Conclusion

The Research on paper based and Online based Reading strategies are highly focused due to its high relevance.Though most of reading are in digital format, paper-based reading is till preferred by the senior citizens for the emotional bonding they carry for the printed books. The future research,based on the recommendations and directions of the Stavanger Declaration may give clear cut strategies and methodologies to reap the benefit of both the modes of reading.The digital divide gap may be bridged by the innovations of the future.

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Ingenious Library Services for Digital Era Users

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INTRODUCTION

Libraries arethe center of learning and have been imparting knowledge to community since a very long time. With the digital revolution and increased access to digital devices, information is readily available at the fingertip for everyone. Libraries are no longer limited to physical spaces and a whole library can be carried in a pocket-sized device. To remain relevant in today's world, libraries are transforming both in terms of architecture and services. Traditional library services like classification, cataloguing, circulation etc. are still pertinent to users and are being redesigned to cater to the needs of new age users. Libraries are also providing many new innovative services to attract more users and to remain an integral part of the society. Some of such services which can be introduced in modern libraries are discussed in this paper.The sudden strike of pandemic and closure of libraries had inspired many libraries to launch several digital services to meet the expectations of modern users. As these services are highly beneficial to users, librarians can launch creative services based on the type of institution and users' requirements. There are several constraints involved in offering new services but it can be subdued with proper planning and creative ideas.

TRADITIONAL LIBRARY SERVICES

According to Gavit (2019) "library services are defined as the facilities provided by a library for the use and dissemination of library material like books, journals, theses, dissertations, etc. in order to meet the users' requirement" (p.2).Earlier libraries had more print collection and users would directly visit the library. So, services were mostly designed to serve such a clientele. Some of the traditional library services offered were classification, cataloguing, circulation, interlibrary loan, document delivery service, reference service, current awareness service, selective dissemination of information, newspaper clipping service etc. With the advent of computers and learning management software, many of the manual services became automated. Nowadays, the libraries have hybrid collection with both print and e resources and large part of the clientele are online users, so libraries are offering web-based services along with traditional services.

NEED FOR REDESIGNING LIBRARY SERVICES

With the introduction of web 2.0, a new and significant term named library 2.0 has also emerged and brought a revolution of digital library(Tiwari, 2016). Today's libraries have a virtual presence with digital collection and online users and there is a need to redesign the traditional services to serve the virtual users as well. The digital natives and even the digital immigrants are preferring to work in online environments and they expect digital information services to be offered to them by libraries. There is also a change in the information- seeking behaviour of the users. Thus, it is advisable for the libraries to transform as per the expectations and demands of the user population in order to retain their existing clientele and attract new ones. If the libraries do not transform to provide modern services, they are at the risk of extinction. Offering innovative services have become a necessity to maintain the position of libraries as centres of knowledge and learning. ("Modern library", n.d.).

INNOVATIVE LIBRARY SERVICES

Innovative services can either be a modified version of a traditional service to suit the requirements of the new age users or a completely new service designed for the changing world. Services can be specially designed for physical library users and also online users. A few innovative services which can be introduced for physical library users are as follows:

Self Check In/Check Out Kiosks

As technology is evolving rapidly, future libraries will have less

staff based and more technology enabled services. Many libraries have already implemented Radio-Frequency Identification (RFID) to books and automated circulation services. Such self checkin and check-out machines have been of great use during the time of pandemic as social distancing and less physical interaction was recommended. This service is greatly useful for users especially in big libraries as they can issue, return, renew or reserve books in a hassle free and quick manner. By providing this facility, circulation service in libraries can be extended to longer hours and users can visit libraries to issue or return books at their convenient time.

Digital Device Lending Service

Traditionally libraries were lending resources such as books, journals, CDs etc. to users. With the digital revolution, libraries started procuring more e resources and started providing computer facility to access such resources. E reading has become very popular these days and using computers for longer hours can be inconvenient, so handy devices are more preferred by users. As every user may not own such devices, libraries can purchase few laptops, tablets, kindle etc. and lend it to users who prefer to read e resources. It can be either lent to use within libraries or may be issued to users for a particular time period.

Literary Events and Training Programs

Modern libraries have huge scope to serve its users in various ways by utilizing the expertise of library staff and technology available. Even though we live in a digital world, not all are technologically competent. Patrons often experience several issues such as inability to use OPAC, locate appropriate resources, determine the quality of online information etc. So, libraries can play an important role in imparting technology training to users to teach them about internet and various digital devices. Workshops and hands on training programs can also be conducted on various topics like information literacy, digital content creation, open access educational resources etc. to benefit library users and ensure maximum utilization of resources. Libraries can also host literary programmes like meet the author, readers forum, book exhibition etc. to promote reading related activities. All these programs can be conducted in a physical space or as virtual events such as webinars.

Innovative Library Spaces

Today's libraries are no longer just a learning space but have become a hub of edutainment and social meeting. Libraries can redesign its architecture and provide space for unconventional library activities like group

discussions, brainstorming, social gathering, relaxation etc. Innovative spaces like maker space, discussion rooms, exhibition space, cafe etc. are inevitable for futuristic libraries. Libraries can also offer free internet and Wi-Fi facilities, digital wall, QR code scanning for fine payment, digital studio, content creation facilities etc. Apart from these spaces, new age libraries can also provide special services and facilities such as help desk, special rooms, interactive books, information resources in alternate formats, lifts, ramps etc. for differently abled users and make the library barrier free and accessible to all.

Some of the web based library services for digital era users are as follows.

Remote Access

As many users of today's generation prefer to access information resources online, library can provide remote access services to them. Libraries can digitize question papers, journal back volumes, print books which do not have copyright restrictions etc. and upload them in library website or institutional repositories. Users can be given login credentials for remote access to the resources and in this way,they can browse and access the library resources at their convenient place and time.

Library Website and Library App

Libraries can create a website to act as the information base for users regarding library's vision, mission, services, resources, operational hours, staff etc. It also provides a gateway to digital collection, online databases and other electronic resources subscribed by the library. It provides updates on library events, new arrivals, staff publications etc. (Emezie, 2018). Several web based services can be provided through library website, such as web OPAC to browse through library collection, list of frequently asked questions (FAQ), library tour video, demo videos on information searching etc. Digital reference service is another useful service which can be provided through 'Ask a Librarian' option in the website. It helps users to get answers to reference queries quickly and conveniently.

Libraries can also create mobile application to serve its clientele in a better way. Most of the website services can be given through the app. In addition, users can use the library app to pay fines, renew or reserve books, book discussion rooms, get notifications regarding due dates, new arrivals etc. Thus, library website and app can be the main platform for library to communicate and connect with online users on a regular basis and render services to them.

Social Media Presence

Majority of people today spend a lot of time in various social media platforms.Libraries can also create official accounts in various social media likeFacebook, Instagram, Twitter etc.to create a virtual presence and connect with its users. Social media has a lot of potential to offer several services like reference service, online document delivery service, making announcements about new arrivals and events organized by libraries etc. It can also help in the promotion of library collection and services offered.

BENEFITS OF PROVIDING INNOVATIVE SERVICES

Offering innovative services have several advantages for both library and users. It enables users to access the resources and avail the services of the libraryat the comfort of their home without a physical visit.Also, information requirements of users can be fulfilled instantly with minimal operating costs. Web based library services save the time of the users and a large number of users can be helped simultaneously by the staff. As technology and machines take up many of the routine services, libraries can function with lesser staff and and users have less dependency on the library staff for getting the required information(Gavit, 2019). It saves the time of library staff and they can do more productive works. Apart from the initial cost in implementation, such technology-based services can be economically beneficial for institutions in the long run and ensure smooth conduct of library activities. Libraries providing these innovative services can attract more users and ensure maximum utilization of resources. Such libraries can become a role model for other institutions and in turn help in the promotion and publicity of the library among the public.

CHALLENGES IN PROVIDING NEW SERVICES

The advantages of providing innovative services are manifold but there are several reasons which restrict libraries from offering such services to the users. The main issue is budget constraint. Many libraries do not get enough funds for collection and infrastructure development to serve its clientele effectively. As a lot of these innovative services involve high cost, their effective execution becomes challenging with limited budget allocated to libraries. Also lack of access to digital devices and internet related issues can cause hindrance in providing these services. Another issue is lack of technical expertise of library staff. Well qualified and technically sound staff are required to offer these technology and web-based services to the users. Also, users need to have knowledge about using special equipment, web-based services, copyright laws, licensing agreements etc.Many a times,

even digital natives do not turn out to be digital literate. Thus, proper education and training of users and library staff is necessary for ensuring smooth delivery of modern services. Above all, dedication of staff to serve the library users to their maximum capacity is very important for implementing these ingenious services.

CONCLUSION

Today's libraries are transforming to satisfy the changing needs of the modern user community. It's a task to bring users to the library in this Google era. So, libraries are providing more value-added services along with conventional services to stay relevant in today's information age. Traditional services are modified to suit the needs of modern clientele. Many new physical and web based innovative services are introduced by several libraries which can be implemented in other libraries as well. As these services are of great benefit, the library can attempt to overcome the constraints involved in its implementation. Library staff can creatively design new services based on the users' requirement and funds available to create futuristic libraries.

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What, Why and How of Hippocampus Videos?: The OER of Choice Among the Academia

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Introduction

HippoCampus.org is a free, core academic web site that delivers rich multimedia content—videos, animation, and simulations—on general education subjects to middle-school and high-school teachers and college professors, and their students, free of charge. Teachers project HippoCampus content during classroom learning and assign it for computer labs and homework. Students use the site in the evenings for study and exam prep. Users do not need to register or log in to use the site.

As an open resource for personalized learning, HippoCampus.org was designed as part of a worldwide effort to improve access to quality education for everyone. HippoCampus is powered by The NROC Project, a non-profit, member-driven project focused on new models of digital content development, distribution, and use. NROC makes editorial and digital engineering investments in the content to prepare it for distribution by HippoCampus.

Other noteworthy points

- Students are not required to log in to HippoCampus.org, so there is no way to track student use from the public site. However, institutions that are members of the National Repository of Online Courses (NROC) have access to HippoCampus content through

their school's learning management system, which can track use, assignments, and grades.

- HippoCampus is provided by the NROC Project for personal enrichment and individual instructor use only. The unlicensed use of this content by educational organizations or commercial vendors is prohibited.
- Unfortunately, there is no way to download the video from the website. As an individual user, however, you may create a custom HippoCampus page and then link to an individual topic. After you have created your custom page, there will be buttons in the upper right corner that allow you to view the text version (when available), bookmark, or link to the topic.
- All the content we provide at HippoCampus is created by other educational institutions and contributed to us to distribute as part of our non-profit mission.
- Use the "Comments and Questions" feature in the Media Window control bar. The icon looks like a small speech bubble, and allows you to send in a description of the error directly from the relevant piece of media. Or you can send an email to Help@Hippo Campus.org.

Browse the Video Collections @ HippoCampus

Go to Google and type Hippocampus videos. When the results are listed, click on the site ' www.hippocampus.org' and you will reach the below screen which is very simple and clear (Fig.1).

It has a top menu row with options to know more about Open Educational Resources, to get user guides from HelpCentre, to login to the hippocampus account by teachers and know about hippocampus, in general.

It has got three columns. The first column has the list of subjects, on which educational videos are available. The second row shows the relevant image and the third column has the list of available collections of videos.

Figure 1 :Home Page : https://www.hippocampus.org/

Browse 13 subjects

More than 7000 educational videos are categorized and grouped under 13 subject categories. These 13 categories are grouped under four major groups like Math, Natural Science, Social Science and Humanities (Fig.2).

Figure 2 :13 Subjects in 4 Groups

Suppose, if you want to browse / search for videos on Chemistry, click on 'Chemistry' available under Natural Science Group. You will land at Fig. No.3.

Fig.3 shows the video providers and the categorization of videos under each provider. For example, the videos on Chemistry are grouped under two broad types: Presentations and Simulations. Under presentations,

We have Khan Academy Collection and NASA Collection while the simulations section has The Concord Consortium Collection and PhET Collection.

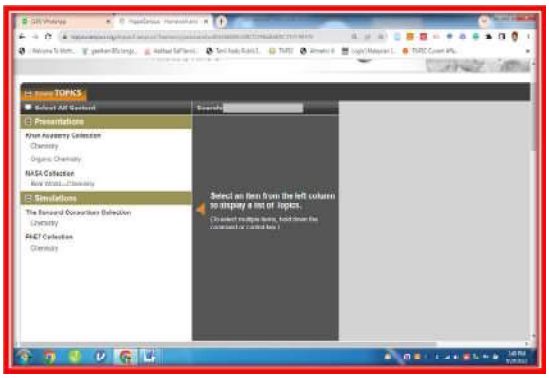

Figure 3 :Videos in Chemistry Subject

Click Organic Chemistry of Khan Academy and see the list of videos appear in the second column (Fig.4)

Choose and click the video you want to watch. The video will start playing in the third column (Fig.5).

If you want to search for videos matching specific keyword from all the collections, check the box ' Select All Content'. Then, all the videos of the collections will appear in the second column. Either you can sort them by sequence or name. We can even search for specific keywords also. For example, I typed the keyword 'atom' in the search interface (Fig.6). Only those videos that match the keyword will appear in the second columns as the results.

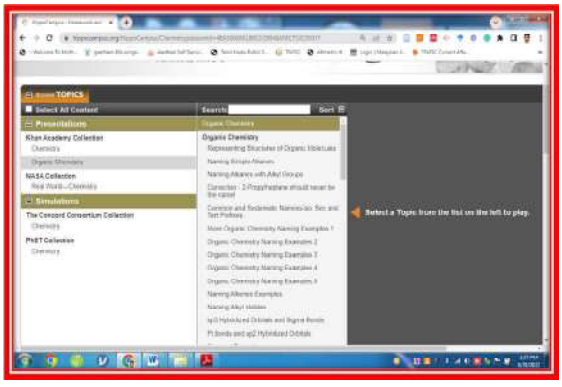

Figure 4 : List of videos in Organic Chemistry

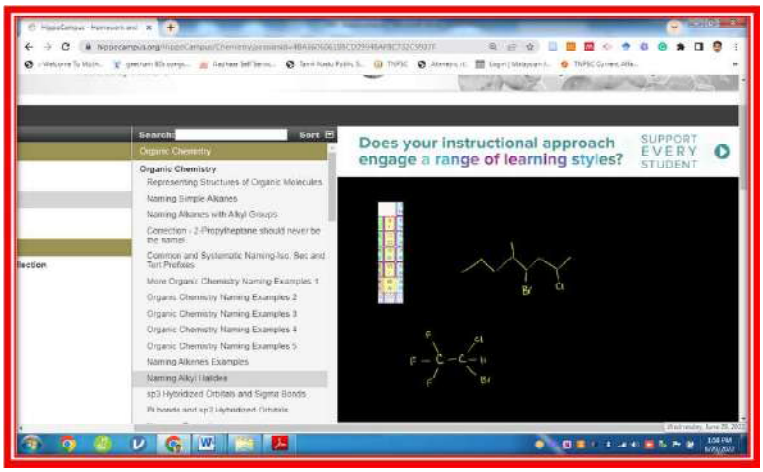

Figure 5 : Watching the Video in the third Column

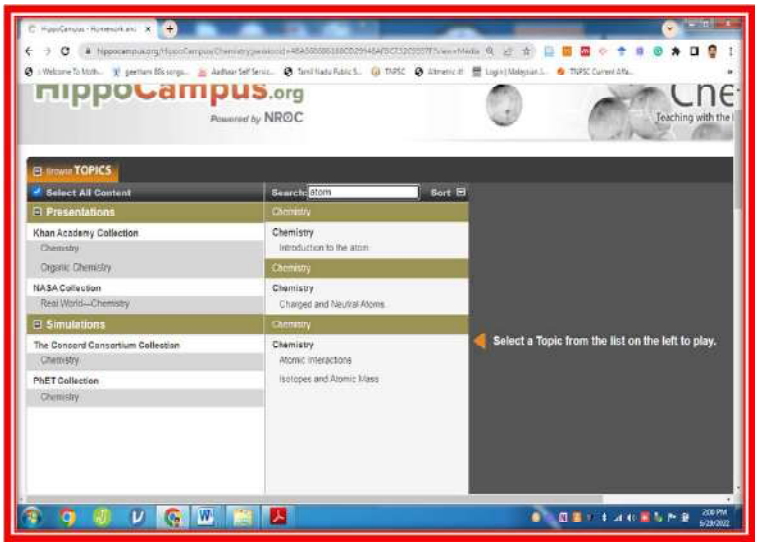

Figure 6 : Select All Content and Search Options

Browse Collections

The videos are grouped under more than 20 different collections based on the content providers. The NROC project, PhET, Khan Academy, Phoenix, MSJC, Learning Games Lab, OpenIntro, Biointeractive, The concord consortium, APES, Grammatically correct, Virginia Historical Society are some of the content providers you may find on the column ' Browse Collections' (Fig.7).

If we are interested to get videos on statistics, click the collection 'OpenIntro'. All the videos related to statistics will be listed (Fig.8).

At the same time, if you want to select the collections based on standards/grades according to certain international standards, that is also quite possible if you select and choose the relevant options by clicking the menu 'Standards Correlations'. Content Standard, Subject and Grade Level are the three filters that can be used to refine the results here (Fig.9).

Figure 7 : Collections

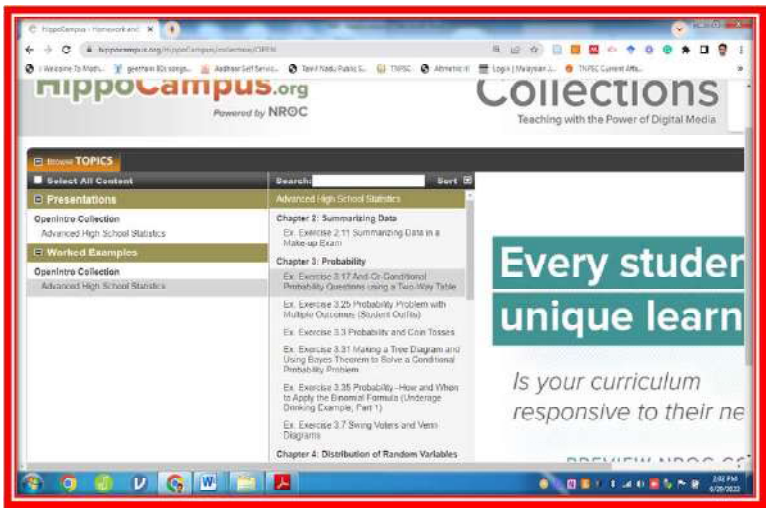

Figure 8 : Videos from OpenIntro

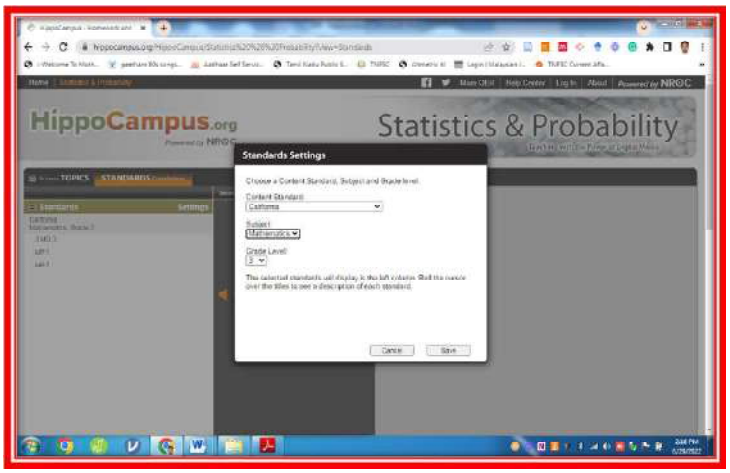

Figure 9 : Choosing Standards / Level of Content

Creating own playlists @ HippoCamps

As the librarian / teacher, we can create our own playlists in HippoCampus by clicking on the button 'Sign Up' available in the home page (Fig.10).

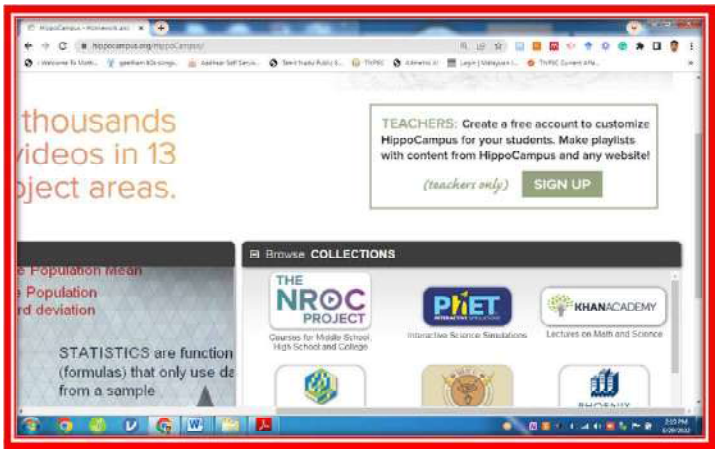

Figure 10: Sign up Option in the HomePage

When the get the following screen, fill the particulars asked for under the create account tab. Once the required details including username, password, email address, name, position, institution, state and country and subject of interest are filled properly, click Create my account (Fig. 11).

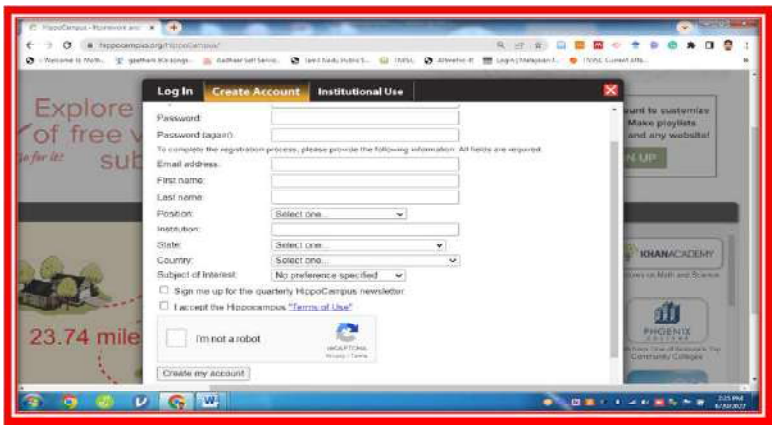

Figure 11 : Creation of New Account

You will be getting username and password along with required links to access your customized page in hippocampus. When you enter HippoCampus the next time, click 'Login' and enter your login and password. Your login screen will look like Fig.12.

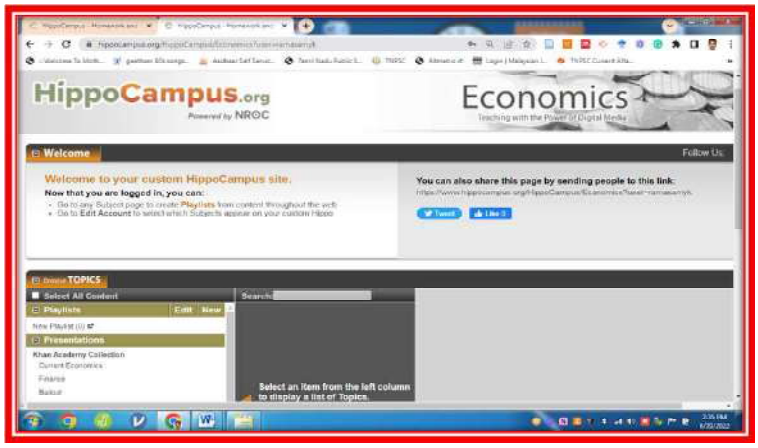

Figure 12 : Playlist Option

Now choose the subject area in which you want to create your own playlist. Now, a new button 'Playlist' appears in the screen with an option to edit, create a new playlist and add videos to the playlists. I have selected 'Economics' first, then chosen 'Banking/Finance' and got the related videos displayed in the second column. I have dragged two selected videos and dropped them in the playlist button. Now my playlist has two videos (Fig.13).

Now, click the playlist to enter the settings page (Fig.14). Here you

can give a new name for your playlist, add a new playlist, change the settings for each added video and you can even delete the video from the playlist.

Then, click on the 'Settings' button to give a small description about your playlist, copy the dedicated URL page and add any external URL (any website, google docs page etc.) in the Add URL option (Fig.15).

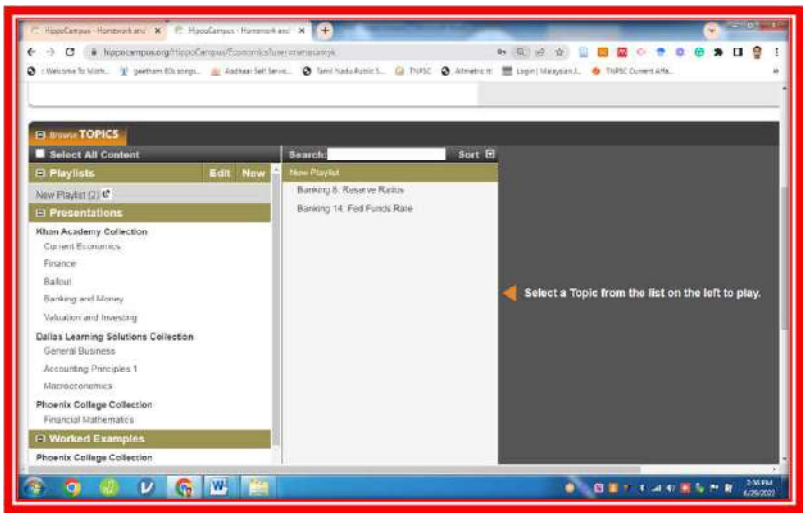

Figure 13 : New Playlist with 2 videos

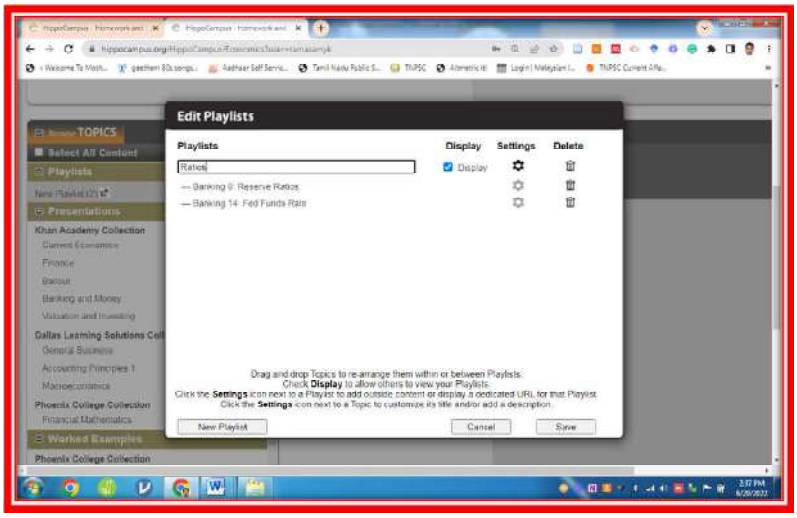

Figure 14 : Naming, Renaming and Settings

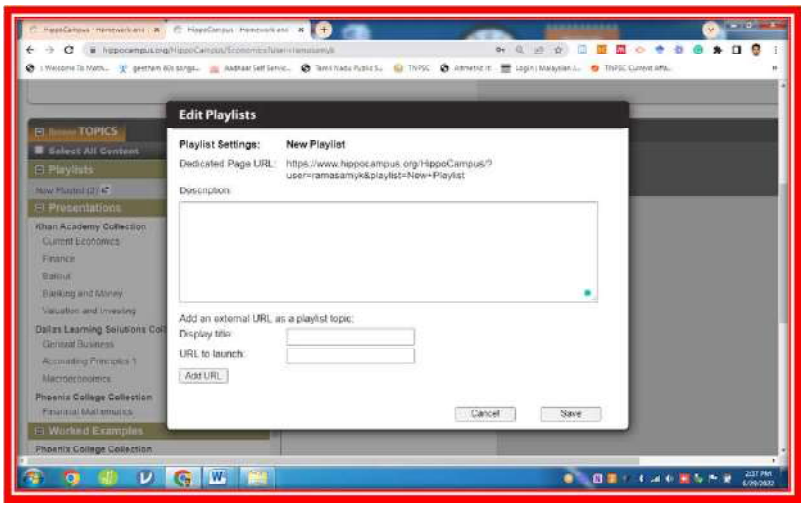

Figure 15 :Description, Adding URL and Copying Dedicated Page

Conclusion

Thus, Hippocampus is a viable option for the librarians to render reference service and current awareness service to the chosen clients by way of creating custom playlists based on the information requirements of the users. The playlists thus created may be updated now and them depending on the course of study of the users. The librarian needs to just send the dedicated custom playlist URL to the users. The users may just paste the URL in their web browser and will be able to see and watch the videos enlisted in the given playlist. The users need not open any account in HippoCampus. Though it has got a good number of videos for school library users, a sizeable number of videos are meant for college students also. The LIS professionals may find this video OER quite useful for rendering information services to their clientele.

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Ingenious Librarianship:Enriching Self–Reliance (2023) : 295-312
Editor: Dr. S. Dhanavandan
Today & Tomorrow's Printers and Publishers, New Delhi - 110 002

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Contents of the Library Website of the NAAC A++ Re-accredited University of Kerala

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Introduction

The development of every nation is highly dependent on education. The education scenario has been growing with several abrupt developments and several Universities and institutions sprouting up by the day. High standard Universities and institutions as well as below standard ones. To check the quality of these Universities and institutions, several measures and agencies to check the quality of education provided has been setup by the government bodies.National Assessment and Accreditation Council (NAAC) was established by the UGC in September 1994 at Bangalore for evaluating the performance of the Universities and Colleges in the Country. NAAC's mandate includes the task of performance evaluation, assessment and accreditation of universities and colleges in the country. The philosophy of NAAC is based on objective and continuous improvement rather than being punitive or judgmental, so that all institutions of higher learning are empowered to maximize their resources, opportunities and capabilities.The National Education Policy (NEP) 2020 gives high emphasis on accreditation. It states that, "Through a suitable system of graded accreditation and graded autonomy, and in a phased manner over a period of 15 years, all Higher

Education Institutes in India will aim to become independent self-governing institutions pursuing innovation and excellence."

NAAC "evaluates the institutions on a range of parameters, including their structure of governance, infrastructure, financial soundness, teaching and learning, research, etc. And issues grades ranging from A++ to C based on these parameters. Institutions are graded under four categories, viz. A, B, C and D, denoting Very good, Good, Satisfactory and Unsatisfactory levels respectively. An institution with a grade Dmeans it is not accredited.

University of Kerala

Initially called University of Travancore, a public university run by the Kerala State.It was established in 1937 after an official declaration by Chithira Thirunal Balarama Varma, the Maharajah of Travancore, who also came to become the first Chancellor of the university. It was the first university in Kerala, and one of the first among 16 in the country. Currently, the university has more than 150 affiliated colleges (60 Arts and Science colleges, 2 Law colleges, 17 Engineering Colleges, 9 MBA/MCA Colleges, 37 Teacher Training Colleges, 4 Medical Colleges, 4 Ayurveda colleges, 2 Homeopathy Colleges, one Siddha Medical College, 3 Dental colleges, 10 Nursing Colleges, 4 Pharmacy Colleges, 2 Fine Arts Colleges, and a Music College.), sixteen faculties and 43 Departments of teaching and research in addition to study centres and other departmentsunder its umbrella. It also has a National College of Physical Education affiliated to it.

It was ranked 22nd in the NIRF 2019 ranking, followed by 23rd in 2020 and 27th in 2021.

First accredited by NAAC in 2003, with a B++ grading, it was without accreditation since 2008. The university received an A grade NAAC accreditation in 2015 with a CGPA of 3.03 on four point scale. And in June 2022, it received re-accreditation by NAAC with highest grade of A++ scoring 3.67 points out of 4, making it the first university in the State to receive the highest rank in NAAC assessment thus making it eligible to get projects worth up to Rs 800 crore from the UGC.

As the NAAC guidelines for Universities states, " Though it is institutional accreditation that the NAAC does, the assessment of a library, a vital sub-unit, is a key step that integrates itself with the overall evaluation. Library is the fulcrum of support for the entire range of academic activities on an educational campus. In today's high-tech learning environment, the

library as a learning resource is taking up increasingly more academic space and time in the life of a learner. In times ahead, this will be even more so. All this plays up the need for scientific evaluation of a library so that its role as the centrepiece of academic development is protected and enhanced. It is in this context that the NAAC has after wide consultations evolved a set of guidelines on quality indicators, to help academic libraries to be always in their best form.

In the process of institutional accreditation, libraries have a crucial role. The services of the libraries have been expanding as they contribute significantly to the learning process, particularly, the e-learning process.

In the accreditation process, evaluation of libraries is an essential component, where the collection, services and their outreaching capacity are monitored. In the recent past, significant developments have been reported in library and information services and the libraries are shouldering newer responsibilities in higher education. Hence the standards for assessing the quality of library services need to be updated. It is true that libraries largely support learning, teaching and research processes in institutions".

It is in this backdrop, that the NAAC has developed a set of objective indicators to facilitate assessment of the Library and Information Services of academic institutions.

A. MANAGEMENT OF LIBRARY AND INFORMATION SERVICES

a. Number of days the Library is kept open

b. Working hours

c. Library Advisory Committee

d. Manpower development

e. Infrastructure of the Library

f. ICT Infrastructure and Know-how

g. Overall policy of the institution on library

h. Budget

B. COLLECTION AND SERVICES PROVIDED TO USERS

(i). Collection

(ii). Services

C. EXTENT OF THE USE OF SERVICES

D. BEST PRACTICES FOR UNIVERSITY/AUTONOMOUS COLLEGE LIBRARIES

The Kerala University Library

The University of Kerala has its Main Library near its city campus and caters to all students, staff and public. It was established in 1942 and is the biggest and oldest university library in the State.The library stocks a collection of over 350,000 books with 5000 titles being added annually every year. The library also subscribes to around 500 journals/ magazines / magazines; 43 foreign Journals, more than 400 Indian periodicals, 35 magazines and 20 Newspapers.The library also stocks bound volumes of more than 1000 journal titles. UGC Infonet Digital information services is also provided. It stocks a unique set of Kerala Studies in its special collection among others such as General Biographies, Women' Studies, UN and World Bank Publications, Government publications and bound volumes of rare books and newspapers and journals. The rare books collection is in the process of digitizing.The Manuscript Library of the University has over 65,000 works mainly palm leaf manuscripts. Also in its Manuscripts collection are paper manuscripts, copper plates, writings on birch bark, bark of Amyris agallocha and textiles.The library is managed using Koha open source library management system.

The library has its own exclusive website www.kulib.in. The website is very detailed and advanced and meets the requirements of its members. The library website is available only in English. The navigation bar is provided on every page of the website. The navigation bar provides the following links to the other pages of the websites.

Home

About Us

Collection

Services

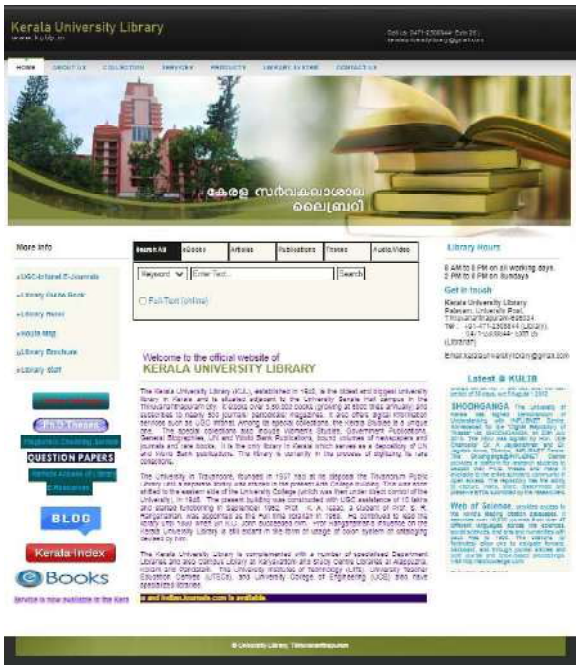
Products

Library System

Contact Us

a. Home (Homepage)

The Homepage of the website gives a brief description and history of the library. It provides links to all other pages of the website and links to the library e-resources for easy navigation. The Homepage also displays links to the WebOPAC, Ph.D Theses, Plagiarism Checking Service, Shodhganga member ID, Previous Question Papers, Remote access to library e-resources, Blog service, Kerala Index, link to e-books, basic information such as Library hours, Contact details of the Library, Latest News and a Search facility of its resources.The Homepage also provides access to UGC Infonet e-journals, Library guide book, Library rules, Route map, Library Brochure and Library Staff directory.



b. About Us

The 'About Us' page gives a brief description of the Library, its history, timeline, and organisation of the library into 11 sections of the library, viz.

Sections

Circulation Section

Acquisition section

Technical section

Reference section

Periodical section

Documentation and Information Services section

Information Technology section

Kerala Studies Section

UN & World Bank Section

Research Section and

Maintenance Section (Stack Room).

c. Collection

The 'Collection' page gives information about the collection of books, Journals, maps, microfilms, CDs, Theses, Dissertations, etc. It also provides information about the kinds of reference sources available at the library such as Encyclopedias, Dictionaries, Biographies, handbooks, etc. It also briefs about the category of special collection available at the library.

Special Collections

Kerala Studies

Women studies

Government publications

General Biographies

Bound volumes of Newspapers

UN & World Bank Publications

Theses

Bound volumes of periodicals (Science& Social Science)

Closed Reference (Rare Books)

d. Services

The 'Services' page lists the services provided by the library.

Bibliographic services

CD-ROM search

Current awareness service

Current Content services

E- Journal services

Extension services

Indexing services

Inter library loan services

Internet services

Lending of Books

OPAC search

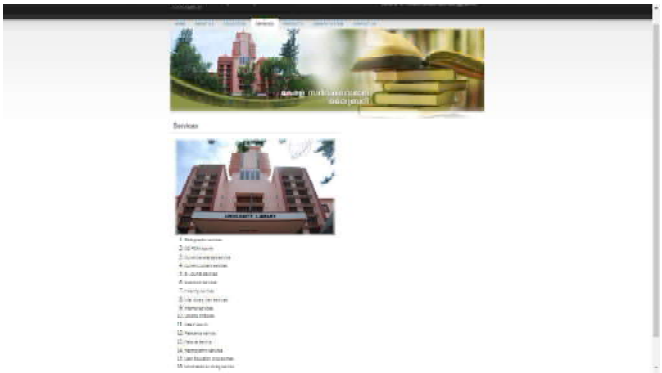
Reference service

Referral service

Reprographic services

User Education programmes

World Bank e-library service



e. Products

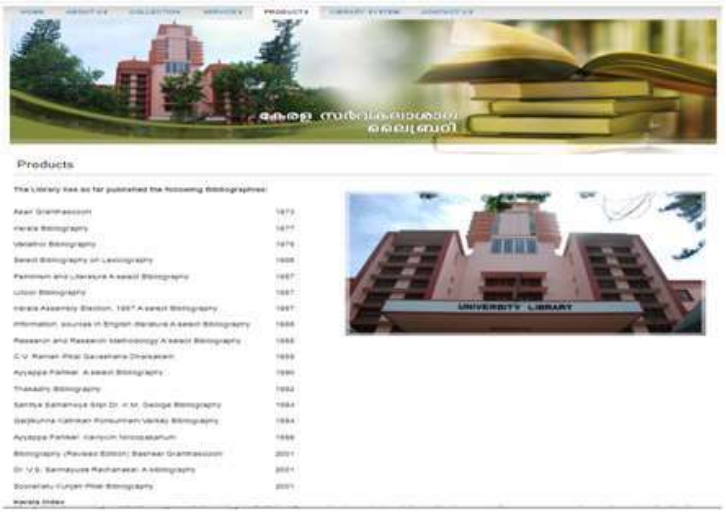
The 'Products' page displays the list of Biographies published by the library.

Asan Granthasoochi	1973
Kerala Bibliography	1977
Vallathol Bibliography	1978
Select Bibliography on Lexicography	1986
Feminism and Literature A select Bibliography	1987
Ulloor Bibliography	1987
Kerala Assembly Election, 1987 A select Bibliography	1987
Information sources in English literature A select Bibliography	1988
Research and Research Methodology A select Bibliography	1988
C.V. Raman Pillai Gaveshana Dharsakam	1989
Ayyappa Paniker A select Bibliography	1990
Thakazhy Bibliography	1992
Sahitya Samanwya Silpi Dr. K.M. George Bibliography	1994

Garjikunna Kathikan Ponkunnam Varkey Bibliography	1994
Ayyappa Paniker: Kaviyum Niroopakanum	1999
Bibliography (Revised Edition) Basheer Granthasoochi	2001
Dr. V.S. Sarmayude Rachanakal: A bibliography	2001
Sooranatu Kunjan Pillai Bibliography	2001

Kerala Index

'Kerala Index' a quarterly publication which contains an index of articles of research value on topics relating to Kerala prepared from newspapers and magazines subscribed by the library.



f. Library System

The 'Library system' page gives the information about the library and its branches. The University library is spread across three branches.

Campus library

The Campus Library at Kariavattom campus was started in 1976 to extend the facilities to the campus community. It now rests on a two storey building with an area of 1238 sq. M. It has a collection of more than 7000 books and 60 periodicals subscriptions. The campus library came to being as a reference section stocking important reference books for the various courses and also materials for research scholars. The library provides other services such as reprographic, internet and UGC-Infonet E-Journal services.

Department Libraries

The University library also has department libraries for all the 43 teaching departments. The department libraries are spread across the 2 major campuses of the University, the Campus at Kariavattom (34), and the Senate House campus (6). The remaining ones at the Department of Music, Govt. Women's college campus, Vazhuthacaud (1), Department of Education, Thycadu (1).

Study Centre Libraries

The University study centres at Alappuzha, Kollam and Pandalam also have their own separate libraries catering to the reference needs of PG Students, Research Scholars, SDE students, UITs, B.Ed Centres, IMK extension centre etc and Faculty members under it in the respective districts.

g. Contact Us

The 'Contact Us' page gives the Address, Phone numbers and email id of the library

Links to e-resources

The Homepage of the library website provides links to various other e-resources.

UGC-Infonet E-Journals

The link gives member access to databases and e-journals from a variety of sources

Bibliographic Database

American Mathematical Society (Mathscinet)

BIOSIS (Biological Abstracts)

Web of Science

Royal Society of Chemistry

Analytical Abstracts

Catalysts & Catalysed Reactions

Chemical Hazards in Industry

Laboratory Hazards Bulletin

Methods in Organic Synthesis

Natural Products Update

Electronic Journal Platforms

American Chemical Society

American Physical Society

Blackwell

Emerald (LIS Collection)

Institute of Physics

MEDICAL JOURNALS (1380 free journals)

Oxford University Press

Project Muse

Science Direct (Cell Press)

Springer Online

American Institute of Physics

Annual Reviews

Cambridge University Press

Euclid

J-STOR

Nature

Portland Press

Royal Society of Chemistry

Society for Indl. & Appl.Maths. (SIAM)

Taylor & Francis Online Journals

Gateway Portals

Knimbus

Ingenta

J-Gate Plus

JCCC

Open Access Journals

General List of Open access eprints

PubMed Central (PMC)

Networked Computer Science Technical Reference Library

Citebase

BioMed Central

BBS Prints Interactive Archive

Cognitive Science

Public Library of Science

arXiv

CogPrints

CERN Document Server (CDS)

The Economics network (RePEc)

HighWire Press Free

Citeseer

Eprints.org archives

Directory of Open Access Journals

Library Guide Book

The Library guide book gives a brief description of the library along with a brief history, It also provides a downloadable book in pdf format containing detailed information about the library, library system followed, the organisation of the library, the library procedures and what the library offers.

Library rules

The 'Library rules' link takes you to the rules to be followed by members. It also provides a downloadable pdf for later reference.

Route map.

The 'Route map' link gives the location map of the library and the Palayam locality.

Library brochure

The 'Library brochure' link takes you to the downloadable brochure about the library.

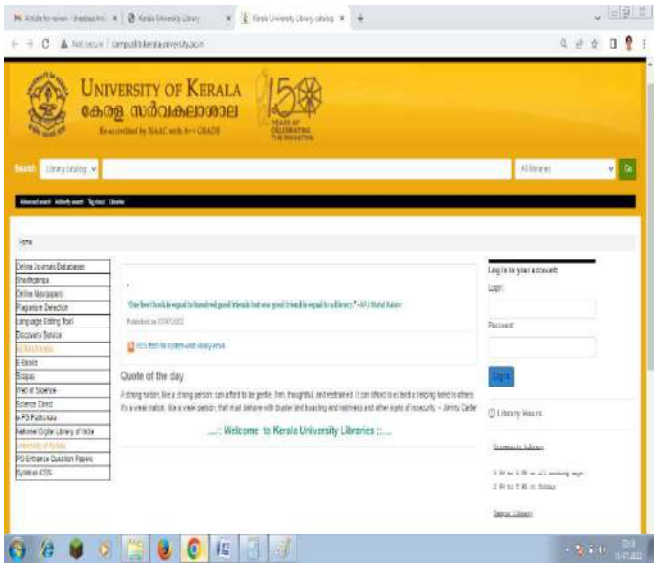
Library Staff

This link gives the Staff directory as to the who's who at the library.

Other important links

Other important links placed in the homepage are;

'Online Catalogue' which gives access to the WebOPAC.



'Search bar' to search through the list of resources. The search facility permits search of ebooks, articles, Publications, Theses and audio & video, though keyword search.

'Ph.D Theses'link gives access to the Shodhganga reservoir of Indian theses

'**Plagiarism Check Service**' link provides the downloadable Instructions for Plagiarism check.

'**Question Papers**' link directs the user to the Google Drive storage of question papers of previous years.

'**Remote access of Library e-resources**' provides off campus access to faculty members to the subscribed electronic resources through e-ShodhSindhu and other publishers

List of subscribed e-resources by University of Kerala:

American Chemical Society (ACS)

American Institute of Physics

American Physical Society (APS)

Annual Reviews

Emerald

EBSCO Discovery Services and EBSCO host Research Database

EPWRF (E P W Research Foundation)

IEEE Xplore

Indian Journals

IOP

J-gate Plus

JSTOR

Nature

NotNul :Hindi Database

Oxford University Press

Project Muse

Royal Society of Chemistry

SAGE

Scopus

Springer

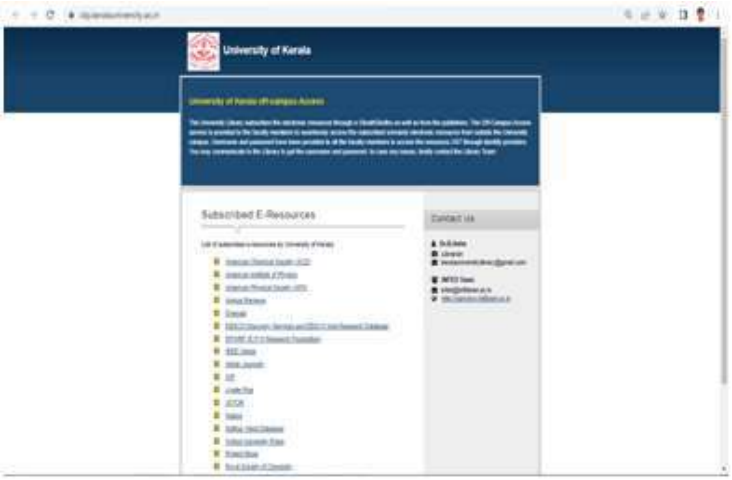
Science Direct

Taylor and Francis

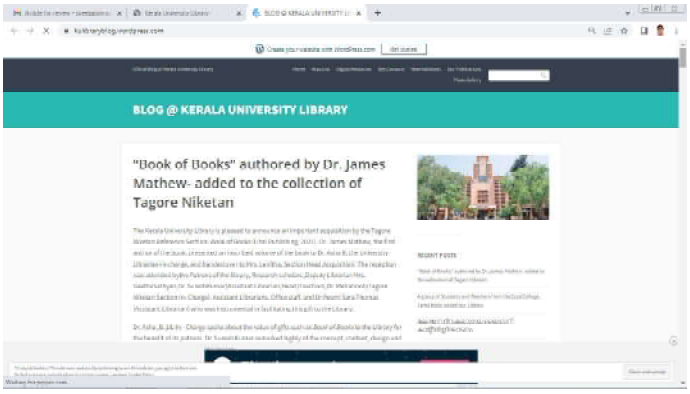
Web of Science

Wiley

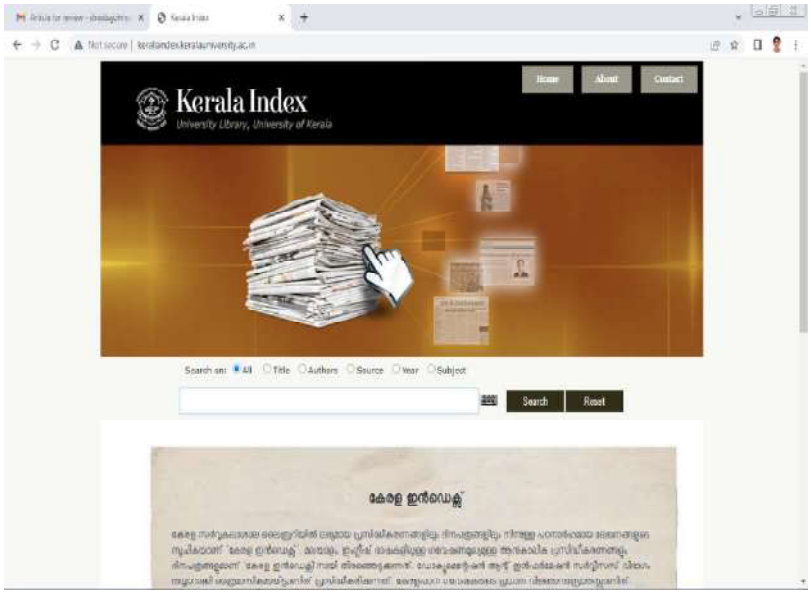
Library subscribes the electronic resources through e-ShodhSindhu as well as from the publishers. The Off-Campus Access service is provided to the faculty members to seamlessly



'**Blog**' link provides access to the library blog, 'Blog@keralauniversity', with the site address, https://kulibraryblog.wordpress.com/, powered by Wordpress.



'**Kerala Index**' link directs the user to lookup library articles from Kerala. It provides a Search facility within.



'**e-books**' link directs the user to the E-Books subscribed in Kerala University Library. The page gives access to 329 of the e-books subscribed by the University.

'**Latest@KULIB**' provides a scrolling view of the latest news of the library.

Every page displays the authority of design and maintenance of the website and the copyright statement.

In March 2022, Higher Education Minister launched University's library network that brings together all the resources of the libraries under the University under one network.

The 'One University, One Library' network links nearly 10 lakh books, rare documents, theses, government publications, journals and others that have been stocked in the 56 libraries including the Kerala University library in Palayam, the campus library in Kariavattom, the libraries in 44 teaching departments, 7 inter university centres and the study centers in Kollam, Pandalam and Alappuzha. Users can also reserve the books and renew membership from home. In a recent study, 'Attitude of Users Towards E-Resources: A Study based on Kerala University Library', conducted by AbdullaA. , Amrutha Madhu V.V. , Anju S. Nair, Assistant Professors, Department of Library and Information Science, University of Kerala, it was found that 94.17%) of the respondents sought the needed information from online sources. They observed that out of 120 respondents, 81.67% sought information from 'e-journal', followed by, 74.17% using 'e-book' for seeking information. 64.17% respondents used E- Newspapers' and 22.50% 'E-Thesis and Dissertations. 5.83% 'online databases' for finding information.

The study also revealed that 52.50% respondents were satisfied with the available e-resources, followed by 45.00% fully satisfied. Only 1.67% were less satisfied and 0.83% dissatisfied with the e-resources.

Conclusion

Just as NAAC accreditation is becoming an unavoidable part of every institution, the grading of institutional libraries also a relevant part for accreditation. And in this era of ever changing world of information technology, library websites being a mirror of the library are growing to become more than what the physical library can cater to. The larger chunk of the user community look to this online medium for their information requirements and so it is in fact a duty of the library management to ensure that the library website is well equipped to meet what the information seeker seeks from the library. The Library of the University of Kerala has adapted to the growing technology and has used all possible means available to meet the user needs.

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Today & Tomorrow's Printers and Publishers, New Delhi - 110 002

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Shodh-Chakra — Researcher Perspective

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****Assistant Professor Department of Information Technology, Sree Srawathi Thyagaraja College, Pollachi*

Shodh-Chakra

Shodh-Chakra is an effort of the Information and Library Network (INFLIBNET) Centre, guided by the University Grants Commission (UGC), to assist the academic community throughout the research life cycle. Shodh-Chakra offers a one-of-a-kind environment for the researcher, guide/ supervisor, and university to manage a research scholar's research lifecycle. This will function as a digital workplace for researchers to collect, store, organise, and cite their research findings. The process of using the portal begins with the signing of an agreement between the University and the INFLIBNET Centre. Furthermore, researchers can log into the system and use the Shodh-Chakra functions.

Researchers Manual

Registration

Fig :Researcher Registration Page

Researchers must first register by inputting basic information such as their First Name, Last Name, Email Address, Mobile Number, University, Department, and so on. Enter the Captcha text and press the Register button.

Fig :Sign in Page

After entering these details, you will receive an email with a username and one-time password that will allow you to log in and reset your password by clicking on the change password option. There are two sorts of credentials: those issued by the university and those self-registered

by the research scholar; in the case of self-registration, the involved university will authorize and validate your registration. You will be able to access the site once it has been verified by the institution.

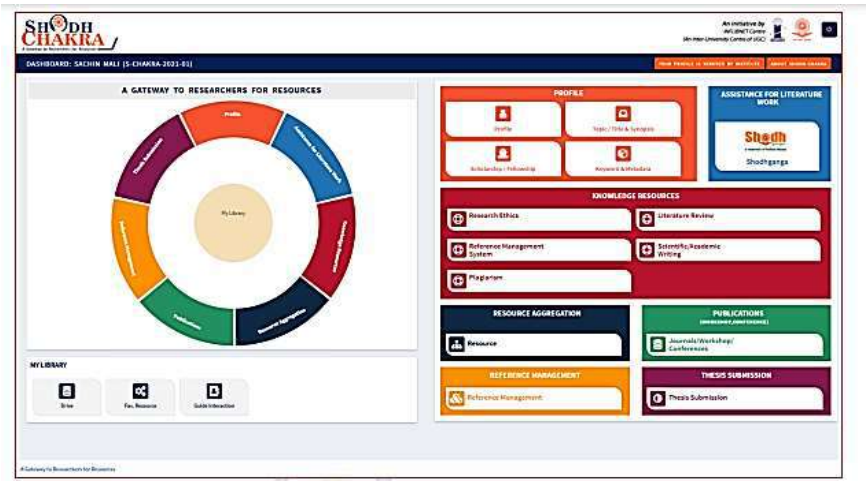

Fig : Researcher's Dashboard

The Figure shows the researcher's dashboard after successfully logging into the portal. The dashboard will assist researchers in creating their research profile by allowing them to enter the research topic, synopsis, scholarship, keywords, and so on. The dashboard displays the complete research procedure, from literature gathering through thesis submission. Researchers can use Shodhganga, Crossref, and other open access resources incorporated with the Shodh-Chakra to search for literature.

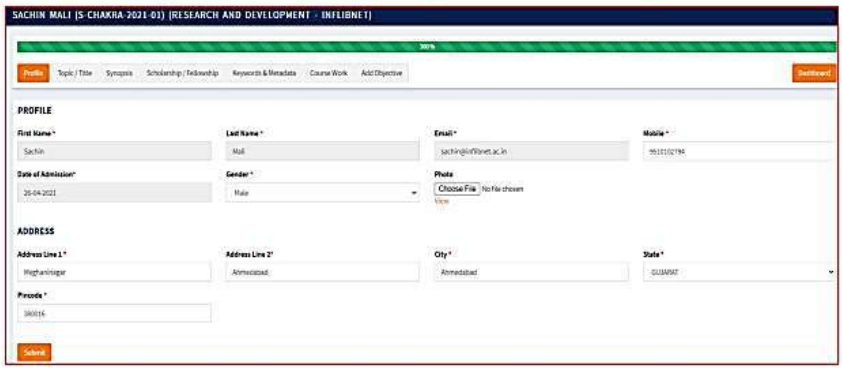

Fig :Profile Creation

The goal of creating profiles for researchers is to retain research-related information and make recommendations on literature searches and

related areas of research. After selecting the profile, the researcher must provide the following information: first name, last name, email address, mobile number, date of admission, gender, upload photo, insert address and click the submit button to store the data.

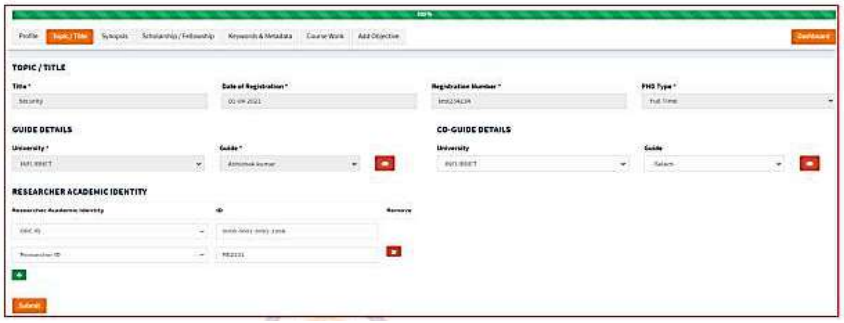

Fig:Information about Research Topic/Title

The researcher will be able to select/enter the title/topic of the research as well as co-guide details. In the profile section, the research scholar will also be able to store his or her ORCID ID and Researcher ID.

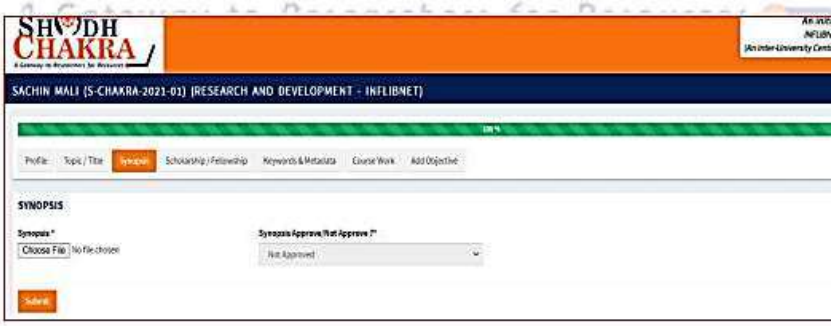

Fig. Synopsis of Research

Research synopsis uploaded by the researcher may be accepted or rejected.

Fig :Information about Scholarship/Fellowship

The research scholar can keep track of the fellowship/scholarship received for the research project. Because these details are verified by the university, it will be locked after submission and can only be edited by the university administrator. The system displays YES and NO options; if the researcher chooses yes, a few more fields will be displayed. Once these details are entered, click the submit button.

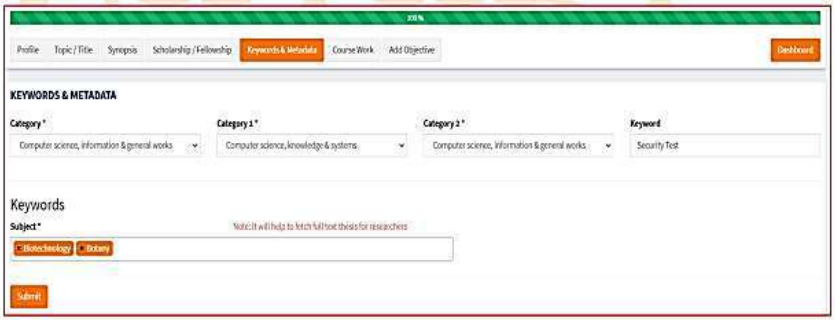

Fig :Keywords and Metadata

The Keywords and metadata tab will assist researchers in selecting the appropriate subject category and keywords for their research work. The system will retrieve relevant literature from various resources integrated into the portal and prompt the user on the dashboard.

Fig :Coursework Related

Under the profile section, the coursework tab will assist research scholars and universities to track of coursework-related information.

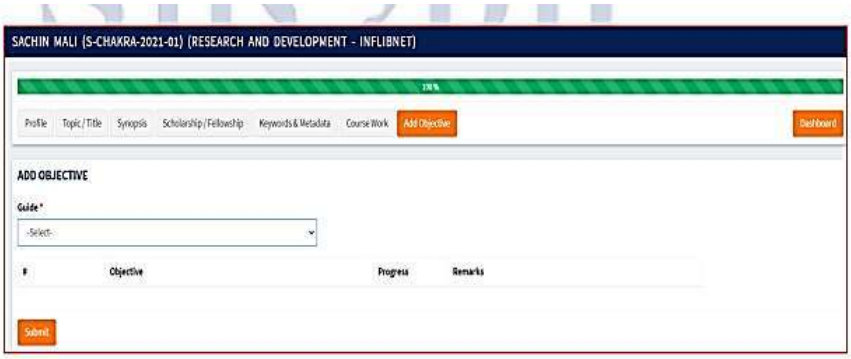

Fig :Research Objectives

The objective section of the profile management section will assist researchers and guides to track of the completion of research work and establishing the research work's target. The researcher can choose the name of the guide, and the progress of the objective..

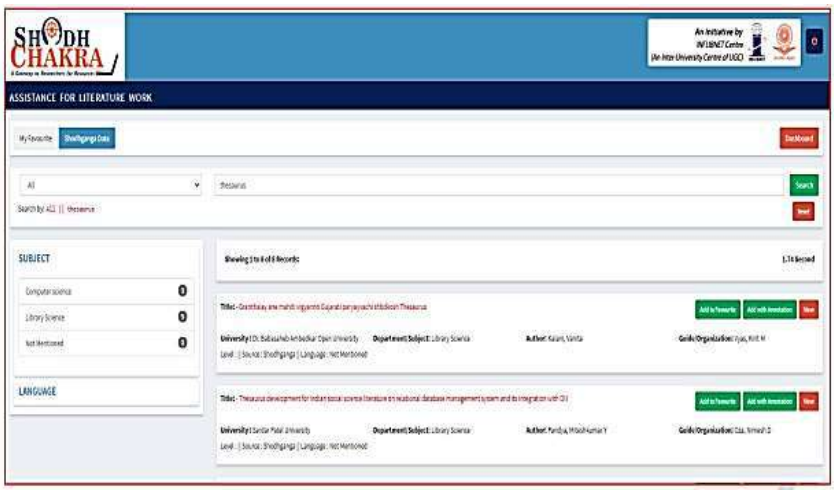

Fig :Related Thesis from Shodhganga

As shown in Figure, the system will communicate with the live Shodhganga database, and the results will be displayed on the screen. Select the relevant one and click the 'Add to Favorite' button to save it in the resource under 'My Library.' Researchers can read the full text of a selected thesis by clicking on the 'View' button. Researchers can annotate directly from the result page by clicking the 'Add with Annotation' button. This feature will assist researchers in creating annotations on the fly for future use.

Fig :Knowledge Resources-Research Ethics

'Research Ethics' is the first tab in the knowledge resources. The screen displays e-text and videos related to research ethics, and researchers can read and watch all of the modules listed on the left side of the screen, as shown in figure.

Fig :Knowledge Resources- Literature Review

The second tab under knowledge resources is 'Literature Review,' which will assist researchers in conducting effective and efficient literature searches on specific research topics, as illustrated in figure..

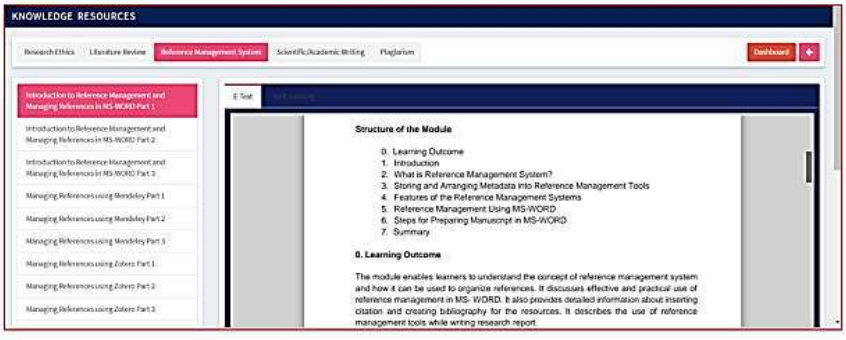

Fig :Knowledge Resources-Reference Management

The third tab in the knowledge Resources is titled 'Reference Management System.' This will assist scholars in understanding the tools and procedures for using various reference management software such as Mendeley and Zotero. The modules under reference management would also be useful in mentioning while composing the research paper and thesis chapters.

Fig :Knowledge Resources- Scientific / Academic Writing

Scientific/academic literature is the fourth tab. Academic writing is an art, and the modules in the scientific/academic writings category cover significant areas of academic writing.

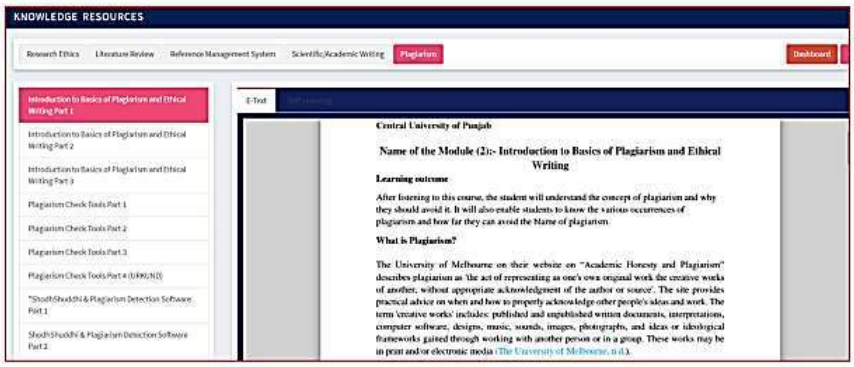

Fig :Knowledge Resources-Plagiarism

'Plagiarism' is the fifth and final tab in the knowledge resources. Plagiarism is one of the most important topics for a researcher to comprehend before beginning any research activity. Expert-recorded films provide an in-depth understanding of how to avoid infringement in research activities.

Resource Aggregation

The resource aggregation area makes it easier for researchers to identify relevant resources from many categories and save them in 'My Favorite' for future use and reference. This tool will assist academics in locating published papers from several databases, including Google Scholar, Scopus, and Open Access sites.

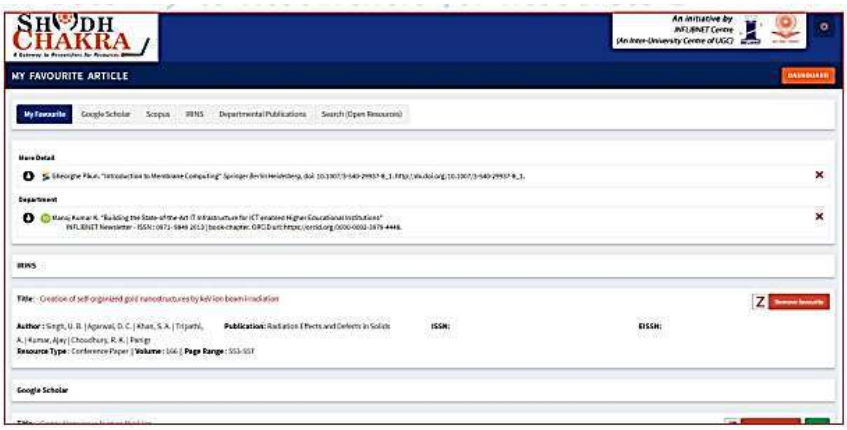

Fig :My Library – Favourite Resources

'My Favorite' is the first tab in the resource aggregation section. This tab will hold all of the resources that have been marked as Favorite. Figure depicts the information of the saved resources under my preferred tab.

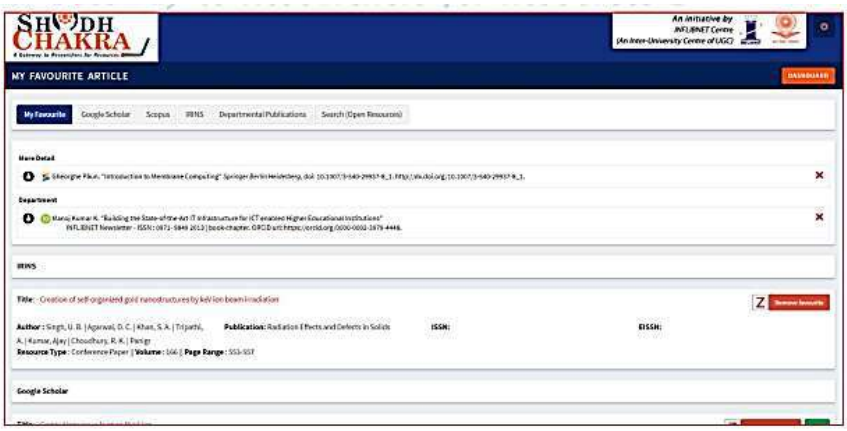

Fig :Favourite Resources – Google Scholar

'Google Scholar' is the second tab under resource aggregation. Google Scholar is connected with the resource aggregate tab via API. It

will provide a straightforward search window with three fields: Google Scholar ID, Title, Author, and Keywords. Researchers can enter an acceptable word and choose a field in which to conduct the search. The system will get the results, which can then be added to favorites by pressing the "Add to Favorites" button, as illustrated in figure.

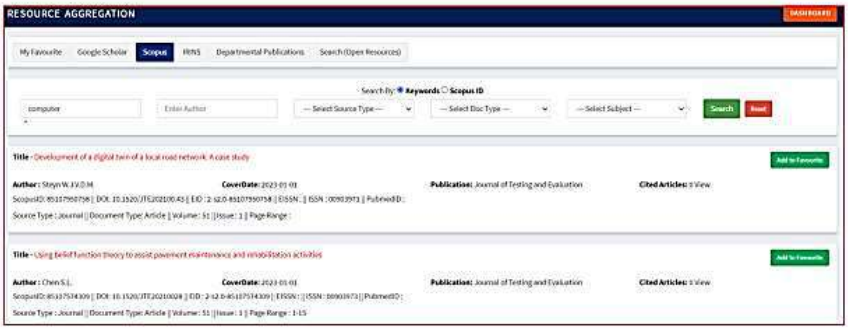

Fig :Favourite Resources – Scopus

'Scopus' is the third tab under resource aggregation. Scopus is a database that indexes and abstracts millions of publications and assigns citation scores to each research work. The Shodh-Chakra retrieves and displays bibliographic information for the searched terms on the screen. In order to use the article later, researchers can choose whether it is relevant and mark it as a favorite.

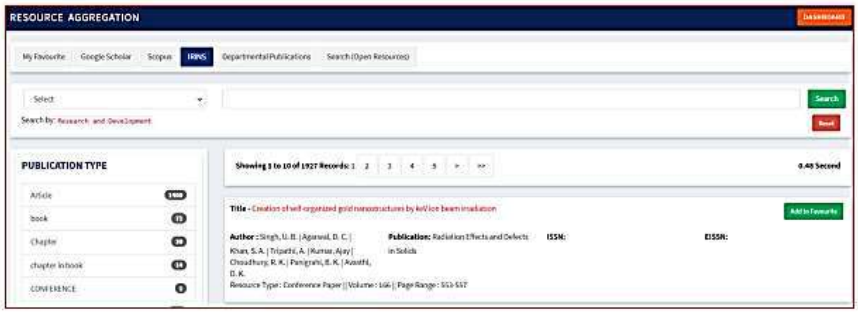

Fig :Favorite Resources – Indian Articles

'IRINS' is the fourth tab. On the IRINS portal, research profiles of faculty members from the majority of Indian academic institutions have been generated. IRINS has been connected with Shodh- Chakra to allow researchers to conduct searches in the IRINS and save the results as a favorite for future use.

Fig :Favorite resources – Department Resources

All materials published by peers from the same department of the native institute of researchers will be listed in the departmental publications. A researcher can save a favorite in my library area for future reference.

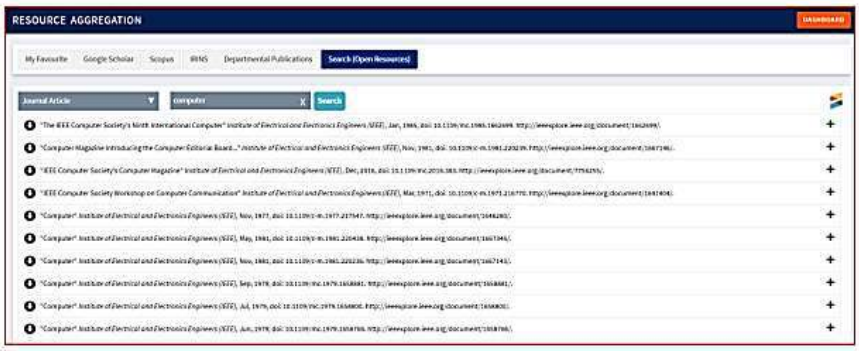

Fig :Favorite Resources – Open Resources

The fifth tab assists scholars in locating bibliographic information for open access works. Shodh-Chakra will populate the metadata of the resources, and the entire text of an individual article can be retrieved using the DOI.

Publications (Journal/Workshop/Conference)

'According to current UGC standards, a research researcher must publish publications in journals, conferences, and seminars/workshops. Researchers are unaware of the number of journals that are published; conferences are being planned. The publication section would assist researchers in searching for and adding to their preferred journals, conferences, and workshops/seminars where they may submit their research papers for publication and presentation.

Fig : My Favourite Journal

'My Favorite Journal' displays a list of all journals that have been designated as favourites. A researcher can save his or her preferred/required journal.

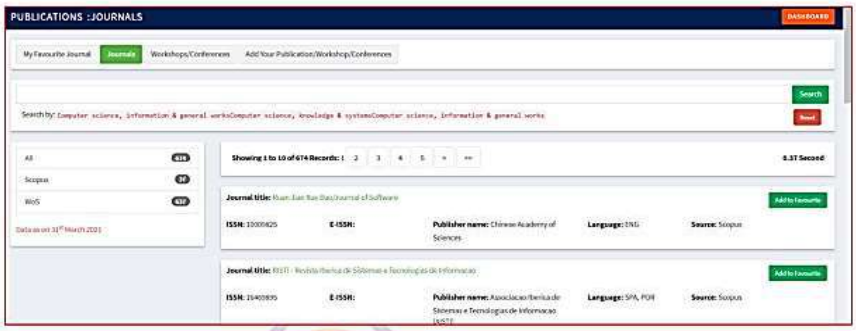

Fig :Search Journal

The journal tab allows the researcher to search for journals based on title and keywords. The UGC Care List, Scopus, and Web of Science will be used to retrieve the results. Figure 24 shows how a researcher might choose a relevant article and mark it as a favorite.

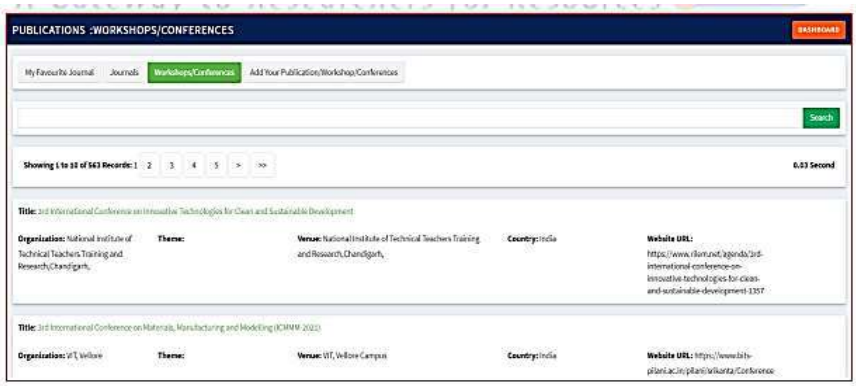

Fig :Workshops & Conference

According to current UGC standards, the researcher must deliver at least one research paper at the conference. It can be tough to find future conferences on various subjects. The Shodh-Chakra collects information about upcoming conferences from academic institutions and compiles it under the workshop and conference page. The researcher can save it as a favorite for future reference.

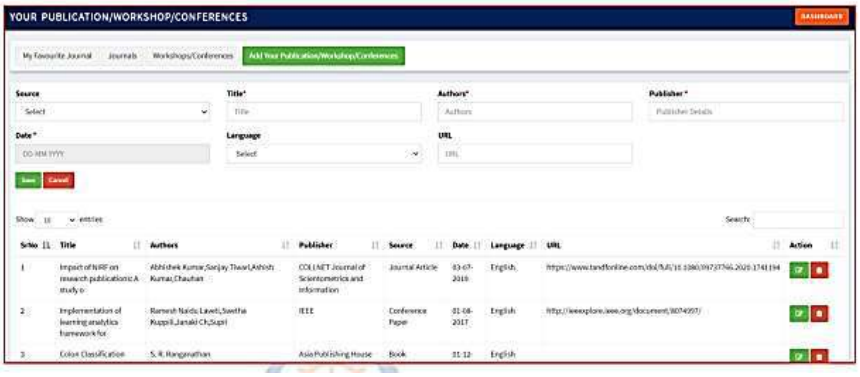

Fig :Adding Research Publications/Conference Papers

Researchers can save a list of articles from journals and conference proceedings. This function allows the researcher to keep track of all personal publications in one spot.

A. Reference Management

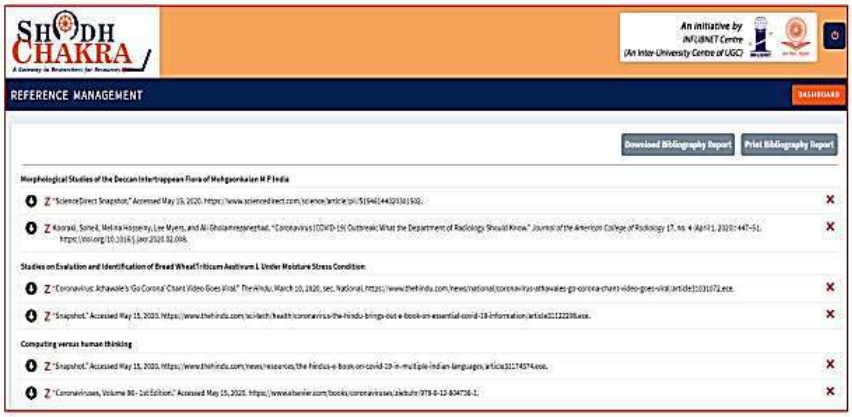

Fig :Adding References

The handling of references for the collected/referred material is a critical task. All documents referred to for an ongoing research project must be cited. The Shodh-Chakra contains an integrated Zotero Reference Management tool for managing all research resources.

Thesis Submission

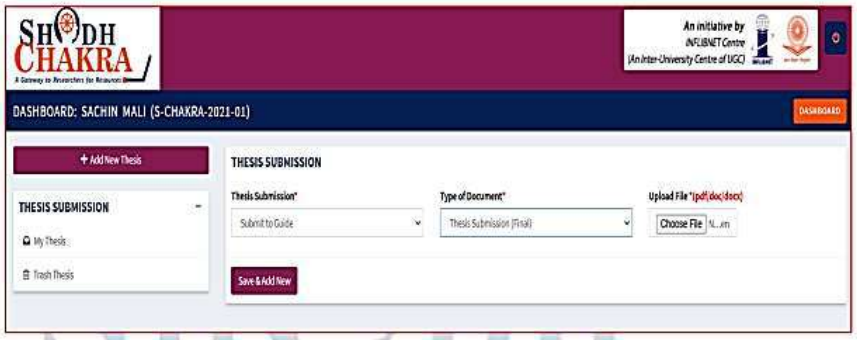

Fig :Thesis Submission

The submission of a thesis to the university for the award of a degree is the final stage in a research scholar's research journey. Through Shodh-Chakra, the research scholar will be able to submit all documents, including the registration receipt, pre-submission report, course work completion certificate, plagiarism report, and finally the thesis. The researcher can only submit documents to the Guide and the University.

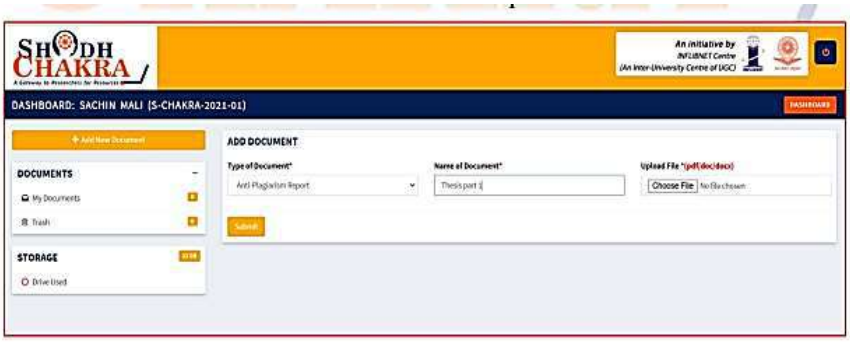

Fig :Submission related Documents

Researchers can save full-text documents in the 'Drive' section of 'My Library.' These documents may be distributed to the research supervisor.

Full Text Thesis

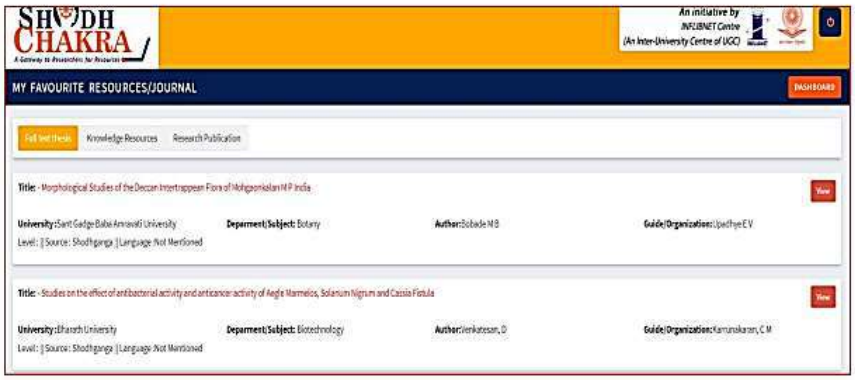

Fig :My Favourite Full-text Thesis

The 'My Library' section provides all of the resources that have been recognised as favourites by various categories. Full-text thesis marked as a favourite from Shodhganga will be presented on the full-text Thesis tab.

Fig :My Favourite – Knowledge Resources

Under the 'My Library' 'Knowledge Materials' tab, the resources marked as favorites under knowledge resource are displayed.

Fig :My Favourite – Creating Notes

Researchers can make remarks in the 'Note' section of 'Guide Interaction.' This will allow research scholars and guides to debate research-related issues on the portal. Both the researcher and the guide can make and share notes with one another.

Fig :My Favourite – Shared Notes

The notes shared by Guide can be accessed by selecting the Shared Notes option in the Interaction with Guide area, as shown in figure.

Conclusion

The Shodh Chakra platform has been designed to aid and assist reach scholars and mentors in managing their whole research schedule and work cycle, from literature evaluation through research submission. Researchers will be able to collect, organize, save, and cite their study work, thanks to the platform. The Shodh Chakra platform is accessible online. Universities and institutes will be required to submit information about their research scholars in order to have access to the platform via the official website.

ABOUT THE BOOK

This edited volume provides various perspectives on various technological applications in academic libraries. This volume focuses on the viewpoints of researchers, librarians, information professionals, publishers, and library users in India. This volume provides an excellent overview of innovative librarianship especially in academic libraries and its helps readers find, retrieve, read and use the research they need. At the same time, it allows authors to enlarge their audience and amplify their impact. Innovation and creativity are universal as every person or organization has the desire for innovation and creativity in varying degrees. Both are included in creative process. Creativity means bringing something into existence whereas innovation means to bring something into use. In these circumstances the editors were collected 39 papers from Library and Information Science Professionals from the National level and titled on **Ingenious Librarianship: Enriching Self-Reliance**. Contents are edited suitably in order to appreciate the professionals. This edited volume consists of 39 papers from Library and Information Science Professionals under four themes such as, i) Enriching the Self Reliance in Libraries, ii) Open Educational Resources in Libraries, iii) Innovative Technology and Digital Libraries and iv) Web based Sources and Services in Libraries.

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9

Digital Deep Reading Strategies and Comprehension:The Stavanger Declaration Concerning the Future of Reading

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Introduction

Reading helps the individual to gain knowledge, Information and data. The type of reading ranges from leisure reading to Intensive reading. Depending on the purpose and method of reading,the reader gains in-depth knowledge or procures just a small data to satisfy the time-bound requirement.Intensive reading also known as deep reading or critical reading is always preferred to gain mastery over the content being read.Intensive/ Deep Reading is done mostly by Researchers, Scholars and Experts. The process of Intensive reading requires high focus and good grasping capacities forpro longed duration.The ICT has bestowed the boon of digital Intensive reading with easy and open access to large chunk of E-Resources and databases in every field of knowledge.The Digital Reading is the order of the Day and the Researchers focus on its pros and cons ,recommending future research on certain unexplored aspects of Reading in digital and Paper format.

Evolution of Reading:Sheet-based to Screen-based

The advantage of Online reading over Paper based is the access to plenty of E-Resources,whichare open and mostly free to use,with copyright and licensing validity, paving ways for intense research and reading through multiple kinds of affordable gadgets.This trend has helped the Learners andresearchers to access the relevant materials profusely, doubling the digital reading compared to the paper reading.The digital or the Online Reading is done as followed in paper based material but the strategies differ from offline reading to online reading.

There are several highly acclaimed and validated Reading strategies for precise comprehension of the text read in paper.The digital reading is a sudden upsurge and has only a few strategies,lacking or lagging in validated methods of reading.This lead to the research on the digital reading by the European Group of Researchers:COST funded by European funding bodies.

European COST:Open Call for Research

COST (Cooperation inScience and Technology) is anEU funded Inter-Governmentalframework with more than 40 members for Research Innovation networks.The Research Initiatives or Actions of COST help in stimulating Research and connecting the researches done across Europe and beyond.The COST Actions are bottom-up network with the duration of four years that boost research. The prime objective is to support the 'Open call' for the COST.The decision- making body is the General Assembly members, committee of Senior Officials and the Legal bodies of the Executive board.

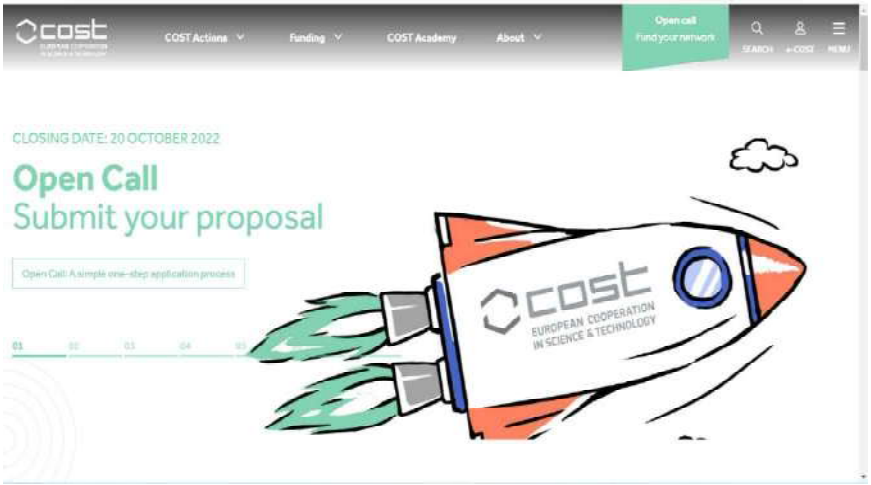

Fig. 1: The Home page of "COST"

Evolution of reading in the age of digitisation (E-READ)

Fig -2 : Logo of E-READ

Evolution of Reading in the Age of Digitisation (E-READ)

A European research initiative funded by European- COST, connecting almost 200 scholars and scientists of reading, publishing, and literacy from across Europe, in a single platform, a joint effort to research the impact of digitization on reading practices.

The research has focused on how readers, and very particularly children and young adults, comprehend or remember written text when using print or digital materials.

The goal of the COST Action was to improve scientific understanding of the implications of digitization, thereby helping the individuals, disciplines, societies and sectors across Europe to cope optimally with the effects.Based on a multidimensional, integrative model of reading, and blending paradigms from experimental sciences along with perspectives (e.g., diachronic) from the humanities.

There are four Working Groups which focused its Research on different Aspects of Reading

Working Group -1: Continuing/skilled reading

Working Group -2: Developmental aspects of reading

Working Group -3: - The Aura study, An Empirical study on Shakespeare Sonnet Reading.The Cognitive and Emotional Aspects of Literary Prose Reading.

Working Group – 4: - A Database on Book and Reading Eco system,Educational Publishing and Trade Publishing

The Stavanger DeclarationConcerning the Future of Reading:-

The relevant stakeholders and members of the E-READ, met on 3–4 October 2018, in Stavanger University,Stavanger, Norway.The main findings of four years of empirical research and debates (2014 – 2018) were presented. The Stavanger Declaration Concerning the Future of Reading has three parts.

1. Key Findings 2. Recommendations 3. Questions of Future Research.

Key Findings of the Research

- ✓ Individual differences in skills, abilities, and predispositions form distinct learning profiles that affect children's ability to use and learn from digital versus print sources.
- ✓ Digital text offers excellent opportunities to tailor text presentation to an individual's preferences and needs. Benefits for comprehension and motivation have been demonstrated where the digital reading environment was carefully designed with the reader in mind.
- ✓ Digital environments also pose challenges. Readers are more likely to be overconfident about their comprehension abilities when reading digitally than when reading print, in particular when under time pressure, leading to more skimming and less concentration on reading matter.
- ✓ A meta-study of 54 studies with more than 170.000 participants demonstrates that comprehension of long-form informational text is stronger when reading on paper than on screens, particularly when the reader is under time pressure. No differences were observed on narrative texts.
- ✓ Contrary to expectations about the behavior of 'digital natives', such screen inferiority effects compared to paper have increased rather than decreased over time, regardless of age group and of prior experience with digital environments;

- ✓ Our embodied cognition (i.e. that how and what we learn, know, and can do depends on features of the entire physical body) may contribute to differences between reading on paper and on screen in terms of comprehension and retention. This factor is underestimated by readers, educators and even researchers. These findings are consistent with those conducted in countries outside of Europe.

Recommendations:

- Systematic and careful empirical investigation into the conditions under which learning and comprehension is enhanced – and of the circumstances under which they are hindered – in both print and digital environments needs to be conducted.
- Students should be taught strategies they can use to master deep reading and higher-level reading processes on digital devices. In addition, it remains important that schools and school libraries continue to motivate students to read paper books, and to set time apart for it in the curriculum.
- Teachers and other educators must be made aware that rapid and indiscriminate swaps of print, paper, and pencils for digital technologies in primary education are not neutral. Unless accompanied by carefully developed digital learning tools and strategies, they may cause a setback in the development of children's reading comprehension and emerging critical thinking skills.
- Appropriate action is needed to develop better guidelines for the implementation of digital technologies, especially in education, but also in media environments more generally. With respect to education this pertains, for example, to the development of empirically validated instruction in digital literacy skills (selecting, navigating, evaluating, and integrating information encountered digitally). Such digital skills will be applicable in many contexts, for example in dealing with government communication and other public information.
- Educators, reading experts, psychologists, and technologists should partner to develop digital tools (and related software) that incorporate insights from research about the processing of digital and printed formats, including the role of embodied cognition, for reading practices.

- Further research into digital learning materials should involve increased cooperation among technology developers and humanities and social science researchers to help facilitate unbiased and evidence-based public debates on the digital transformation.

Questions for future research

- As the use of digital materials for both education and personal reading grows, important questions about the future of reading, the pedagogy of literacy, and the long-standing importance of textual communication arise: In what reading contexts and for what readers can the use of digital text be most fruitful?
- Conversely, in which domains of learning and literary writing should the medium of paper be encouraged and championed?
- Is the tendency for screen reading to be more fragmented, less concentrated, and to involve more shallow processing turning skimming into the default reading mode that is carried over to paper reading habits?
- Is our susceptibility to fake news, biases and prejudices amplified by overconfidence in our digital reading skills?
- What can be done to encourage deeper processing of texts in general and, in particular, of texts read on screen?

Conclusion

The Research on paper based and Online based Reading strategies are highly focused due to its high relevance.Though most of reading are in digital format, paper-based reading is till preferred by the senior citizens for the emotional bonding they carry for the printed books. The future research,based on the recommendations and directions of the Stavanger Declaration may give clear cut strategies and methodologies to reap the benefit of both the modes of reading.The digital divide gap may be bridged by the innovations of the future.

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Ingenious Library Services for Digital Era Users

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INTRODUCTION

Libraries arethe center of learning and have been imparting knowledge to community since a very long time. With the digital revolution and increased access to digital devices, information is readily available at the fingertip for everyone. Libraries are no longer limited to physical spaces and a whole library can be carried in a pocket-sized device. To remain relevant in today's world, libraries are transforming both in terms of architecture and services. Traditional library services like classification, cataloguing, circulation etc. are still pertinent to users and are being redesigned to cater to the needs of new age users. Libraries are also providing many new innovative services to attract more users and to remain an integral part of the society. Some of such services which can be introduced in modern libraries are discussed in this paper.The sudden strike of pandemic and closure of libraries had inspired many libraries to launch several digital services to meet the expectations of modern users. As these services are highly beneficial to users, librarians can launch creative services based on the type of institution and users' requirements. There are several constraints involved in offering new services but it can be subdued with proper planning and creative ideas.

TRADITIONAL LIBRARY SERVICES

According to Gavit (2019) "library services are defined as the facilities provided by a library for the use and dissemination of library material like books, journals, theses, dissertations, etc. in order to meet the users' requirement" (p.2).Earlier libraries had more print collection and users would directly visit the library. So, services were mostly designed to serve such a clientele. Some of the traditional library services offered were classification, cataloguing, circulation, interlibrary loan, document delivery service, reference service, current awareness service, selective dissemination of information, newspaper clipping service etc. With the advent of computers and learning management software, many of the manual services became automated. Nowadays, the libraries have hybrid collection with both print and e resources and large part of the clientele are online users, so libraries are offering web-based services along with traditional services.

NEED FOR REDESIGNING LIBRARY SERVICES

With the introduction of web 2.0, a new and significant term named library 2.0 has also emerged and brought a revolution of digital library(Tiwari, 2016). Today's libraries have a virtual presence with digital collection and online users and there is a need to redesign the traditional services to serve the virtual users as well. The digital natives and even the digital immigrants are preferring to work in online environments and they expect digital information services to be offered to them by libraries. There is also a change in the information- seeking behaviour of the users. Thus, it is advisable for the libraries to transform as per the expectations and demands of the user population in order to retain their existing clientele and attract new ones. If the libraries do not transform to provide modern services, they are at the risk of extinction. Offering innovative services have become a necessity to maintain the position of libraries as centres of knowledge and learning. ("Modern library", n.d.).

INNOVATIVE LIBRARY SERVICES

Innovative services can either be a modified version of a traditional service to suit the requirements of the new age users or a completely new service designed for the changing world. Services can be specially designed for physical library users and also online users. A few innovative services which can be introduced for physical library users are as follows:

Self Check In/Check Out Kiosks

As technology is evolving rapidly, future libraries will have less

staff based and more technology enabled services. Many libraries have already implemented Radio-Frequency Identification (RFID) to books and automated circulation services. Such self checkin and check-out machines have been of great use during the time of pandemic as social distancing and less physical interaction was recommended. This service is greatly useful for users especially in big libraries as they can issue, return, renew or reserve books in a hassle free and quick manner. By providing this facility, circulation service in libraries can be extended to longer hours and users can visit libraries to issue or return books at their convenient time.

Digital Device Lending Service

Traditionally libraries were lending resources such as books, journals, CDs etc. to users. With the digital revolution, libraries started procuring more e resources and started providing computer facility to access such resources. E reading has become very popular these days and using computers for longer hours can be inconvenient, so handy devices are more preferred by users. As every user may not own such devices, libraries can purchase few laptops, tablets, kindle etc. and lend it to users who prefer to read e resources. It can be either lent to use within libraries or may be issued to users for a particular time period.

Literary Events and Training Programs

Modern libraries have huge scope to serve its users in various ways by utilizing the expertise of library staff and technology available. Even though we live in a digital world, not all are technologically competent. Patrons often experience several issues such as inability to use OPAC, locate appropriate resources, determine the quality of online information etc. So, libraries can play an important role in imparting technology training to users to teach them about internet and various digital devices. Workshops and hands on training programs can also be conducted on various topics like information literacy, digital content creation, open access educational resources etc. to benefit library users and ensure maximum utilization of resources. Libraries can also host literary programmes like meet the author, readers forum, book exhibition etc. to promote reading related activities. All these programs can be conducted in a physical space or as virtual events such as webinars.

Innovative Library Spaces

Today's libraries are no longer just a learning space but have become a hub of edutainment and social meeting. Libraries can redesign its architecture and provide space for unconventional library activities like group

discussions, brainstorming, social gathering, relaxation etc. Innovative spaces like maker space, discussion rooms, exhibition space, cafe etc. are inevitable for futuristic libraries. Libraries can also offer free internet and Wi-Fi facilities, digital wall, QR code scanning for fine payment, digital studio, content creation facilities etc. Apart from these spaces, new age libraries can also provide special services and facilities such as help desk, special rooms, interactive books, information resources in alternate formats, lifts, ramps etc. for differently abled users and make the library barrier free and accessible to all.

Some of the web based library services for digital era users are as follows.

Remote Access

As many users of today's generation prefer to access information resources online, library can provide remote access services to them. Libraries can digitize question papers, journal back volumes, print books which do not have copyright restrictions etc. and upload them in library website or institutional repositories. Users can be given login credentials for remote access to the resources and in this way,they can browse and access the library resources at their convenient place and time.

Library Website and Library App

Libraries can create a website to act as the information base for users regarding library's vision, mission, services, resources, operational hours, staff etc. It also provides a gateway to digital collection, online databases and other electronic resources subscribed by the library. It provides updates on library events, new arrivals, staff publications etc. (Emezie, 2018). Several web based services can be provided through library website, such as web OPAC to browse through library collection, list of frequently asked questions (FAQ), library tour video, demo videos on information searching etc. Digital reference service is another useful service which can be provided through 'Ask a Librarian' option in the website. It helps users to get answers to reference queries quickly and conveniently.

Libraries can also create mobile application to serve its clientele in a better way. Most of the website services can be given through the app. In addition, users can use the library app to pay fines, renew or reserve books, book discussion rooms, get notifications regarding due dates, new arrivals etc. Thus, library website and app can be the main platform for library to communicate and connect with online users on a regular basis and render services to them.

Social Media Presence

Majority of people today spend a lot of time in various social media platforms.Libraries can also create official accounts in various social media likeFacebook, Instagram, Twitter etc.to create a virtual presence and connect with its users. Social media has a lot of potential to offer several services like reference service, online document delivery service, making announcements about new arrivals and events organized by libraries etc. It can also help in the promotion of library collection and services offered.

BENEFITS OF PROVIDING INNOVATIVE SERVICES

Offering innovative services have several advantages for both library and users. It enables users to access the resources and avail the services of the libraryat the comfort of their home without a physical visit.Also, information requirements of users can be fulfilled instantly with minimal operating costs. Web based library services save the time of the users and a large number of users can be helped simultaneously by the staff. As technology and machines take up many of the routine services, libraries can function with lesser staff and and users have less dependency on the library staff for getting the required information(Gavit, 2019). It saves the time of library staff and they can do more productive works. Apart from the initial cost in implementation, such technology-based services can be economically beneficial for institutions in the long run and ensure smooth conduct of library activities. Libraries providing these innovative services can attract more users and ensure maximum utilization of resources. Such libraries can become a role model for other institutions and in turn help in the promotion and publicity of the library among the public.

CHALLENGES IN PROVIDING NEW SERVICES

The advantages of providing innovative services are manifold but there are several reasons which restrict libraries from offering such services to the users. The main issue is budget constraint. Many libraries do not get enough funds for collection and infrastructure development to serve its clientele effectively. As a lot of these innovative services involve high cost, their effective execution becomes challenging with limited budget allocated to libraries. Also lack of access to digital devices and internet related issues can cause hindrance in providing these services. Another issue is lack of technical expertise of library staff. Well qualified and technically sound staff are required to offer these technology and web-based services to the users. Also, users need to have knowledge about using special equipment, web-based services, copyright laws, licensing agreements etc.Many a times,

even digital natives do not turn out to be digital literate. Thus, proper education and training of users and library staff is necessary for ensuring smooth delivery of modern services. Above all, dedication of staff to serve the library users to their maximum capacity is very important for implementing these ingenious services.

CONCLUSION

Today's libraries are transforming to satisfy the changing needs of the modern user community. It's a task to bring users to the library in this Google era. So, libraries are providing more value-added services along with conventional services to stay relevant in today's information age. Traditional services are modified to suit the needs of modern clientele. Many new physical and web based innovative services are introduced by several libraries which can be implemented in other libraries as well. As these services are of great benefit, the library can attempt to overcome the constraints involved in its implementation. Library staff can creatively design new services based on the users' requirement and funds available to create futuristic libraries.

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What, Why and How of Hippocampus Videos?: The OER of Choice Among the Academia

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Introduction

HippoCampus.org is a free, core academic web site that delivers rich multimedia content—videos, animation, and simulations—on general education subjects to middle-school and high-school teachers and college professors, and their students, free of charge. Teachers project HippoCampus content during classroom learning and assign it for computer labs and homework. Students use the site in the evenings for study and exam prep. Users do not need to register or log in to use the site.

As an open resource for personalized learning, HippoCampus.org was designed as part of a worldwide effort to improve access to quality education for everyone. HippoCampus is powered by The NROC Project, a non-profit, member-driven project focused on new models of digital content development, distribution, and use. NROC makes editorial and digital engineering investments in the content to prepare it for distribution by HippoCampus.

Other noteworthy points

- Students are not required to log in to HippoCampus.org, so there is no way to track student use from the public site. However, institutions that are members of the National Repository of Online Courses (NROC) have access to HippoCampus content through

their school's learning management system, which can track use, assignments, and grades.

- HippoCampus is provided by the NROC Project for personal enrichment and individual instructor use only. The unlicensed use of this content by educational organizations or commercial vendors is prohibited.
- Unfortunately, there is no way to download the video from the website. As an individual user, however, you may create a custom HippoCampus page and then link to an individual topic. After you have created your custom page, there will be buttons in the upper right corner that allow you to view the text version (when available), bookmark, or link to the topic.
- All the content we provide at HippoCampus is created by other educational institutions and contributed to us to distribute as part of our non-profit mission.
- Use the "Comments and Questions" feature in the Media Window control bar. The icon looks like a small speech bubble, and allows you to send in a description of the error directly from the relevant piece of media. Or you can send an email to Help@Hippo Campus.org.

Browse the Video Collections @ HippoCampus

Go to Google and type Hippocampus videos. When the results are listed, click on the site ' www.hippocampus.org' and you will reach the below screen which is very simple and clear (Fig.1).

It has a top menu row with options to know more about Open Educational Resources, to get user guides from HelpCentre, to login to the hippocampus account by teachers and know about hippocampus, in general.

It has got three columns. The first column has the list of subjects, on which educational videos are available. The second row shows the relevant image and the third column has the list of available collections of videos.

Figure 1 :Home Page : https://www.hippocampus.org/

Browse 13 subjects

More than 7000 educational videos are categorized and grouped under 13 subject categories. These 13 categories are grouped under four major groups like Math, Natural Science, Social Science and Humanities (Fig.2).

Figure 2 :13 Subjects in 4 Groups

Suppose, if you want to browse / search for videos on Chemistry, click on 'Chemistry' available under Natural Science Group. You will land at Fig. No.3.

Fig.3 shows the video providers and the categorization of videos under each provider. For example, the videos on Chemistry are grouped under two broad types: Presentations and Simulations. Under presentations,

We have Khan Academy Collection and NASA Collection while the simulations section has The Concord Consortium Collection and PhET Collection.

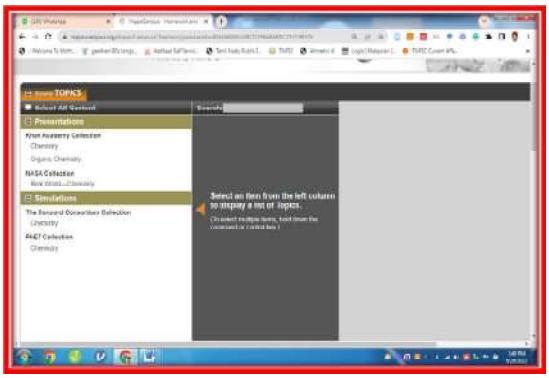

Figure 3 :Videos in Chemistry Subject

Click Organic Chemistry of Khan Academy and see the list of videos appear in the second column (Fig.4)

Choose and click the video you want to watch. The video will start playing in the third column (Fig.5).

If you want to search for videos matching specific keyword from all the collections, check the box ' Select All Content'. Then, all the videos of the collections will appear in the second column. Either you can sort them by sequence or name. We can even search for specific keywords also. For example, I typed the keyword 'atom' in the search interface (Fig.6). Only those videos that match the keyword will appear in the second columns as the results.

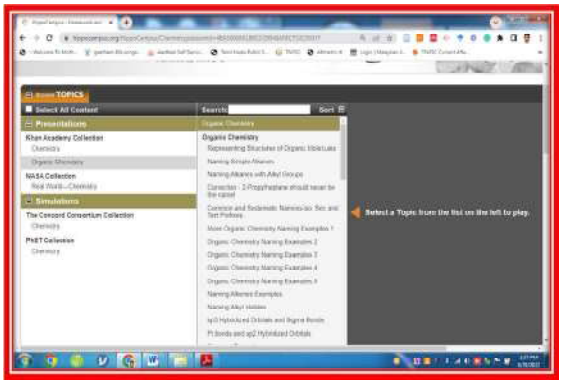

Figure 4 : List of videos in Organic Chemistry

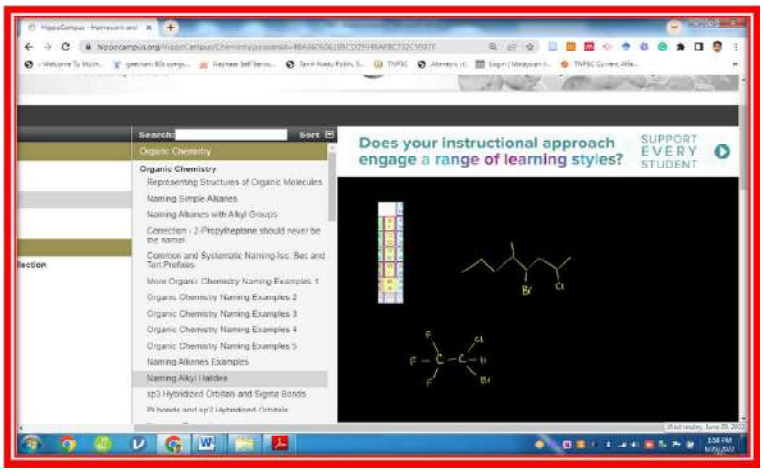

Figure 5 : Watching the Video in the third Column

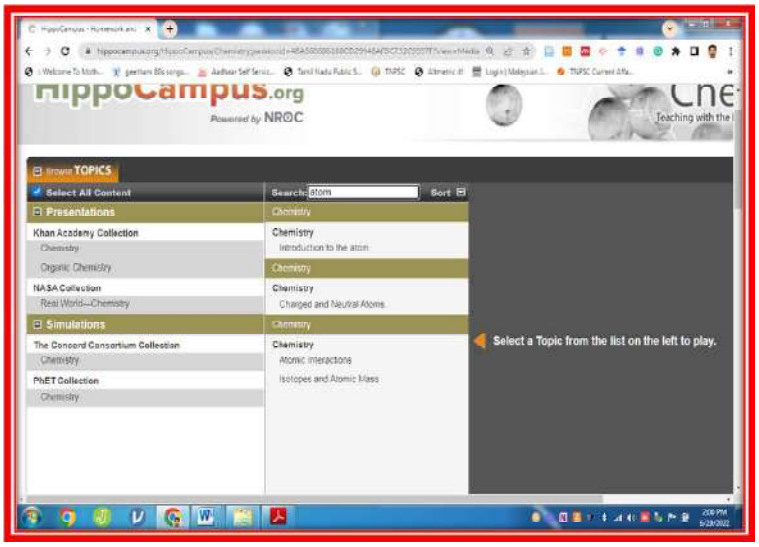

Figure 6 : Select All Content and Search Options

Browse Collections

The videos are grouped under more than 20 different collections based on the content providers. The NROC project, PhET, Khan Academy, Phoenix, MSJC, Learning Games Lab, OpenIntro, Biointeractive, The concord consortium, APES, Grammatically correct, Virginia Historical Society are some of the content providers you may find on the column ' Browse Collections' (Fig.7).

If we are interested to get videos on statistics, click the collection 'OpenIntro'. All the videos related to statistics will be listed (Fig.8).

At the same time, if you want to select the collections based on standards/grades according to certain international standards, that is also quite possible if you select and choose the relevant options by clicking the menu 'Standards Correlations'. Content Standard, Subject and Grade Level are the three filters that can be used to refine the results here (Fig.9).

Figure 7 : Collections

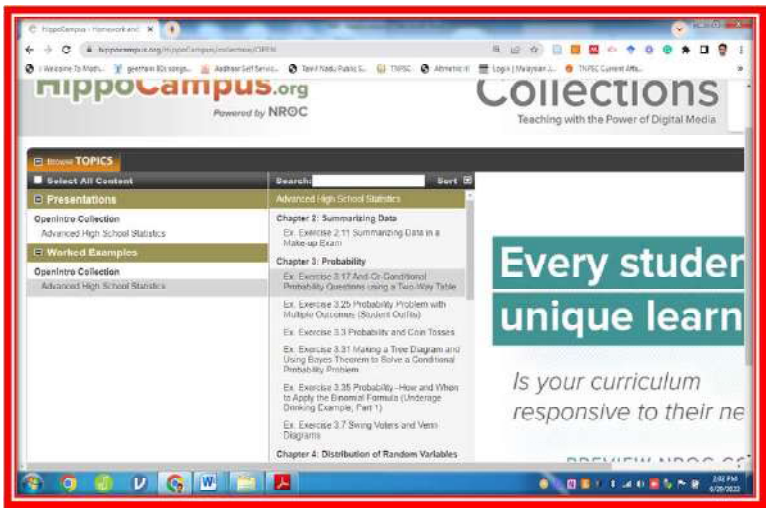

Figure 8 : Videos from OpenIntro

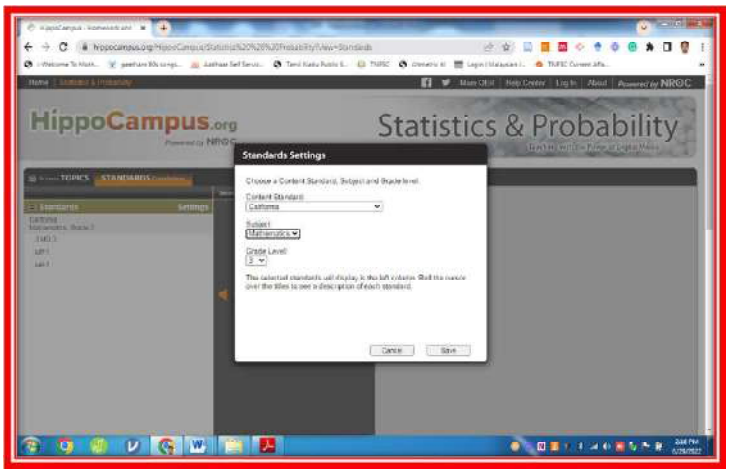

Figure 9 : Choosing Standards / Level of Content

Creating own playlists @ HippoCamps

As the librarian / teacher, we can create our own playlists in HippoCampus by clicking on the button 'Sign Up' available in the home page (Fig.10).

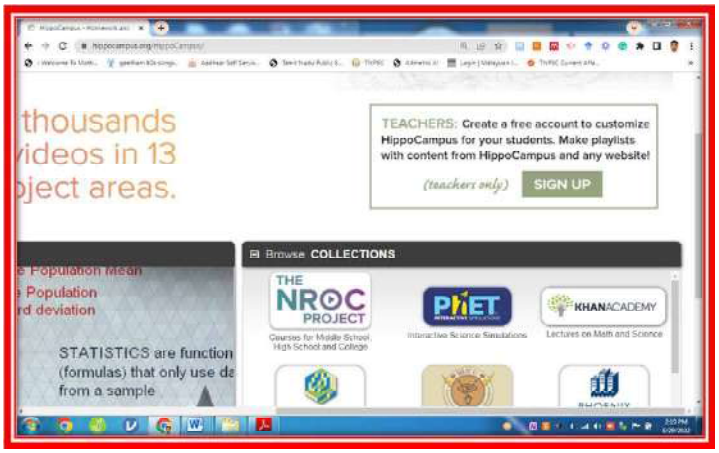

Figure 10: Sign up Option in the HomePage

When the get the following screen, fill the particulars asked for under the create account tab. Once the required details including username, password, email address, name, position, institution, state and country and subject of interest are filled properly, click Create my account (Fig. 11).

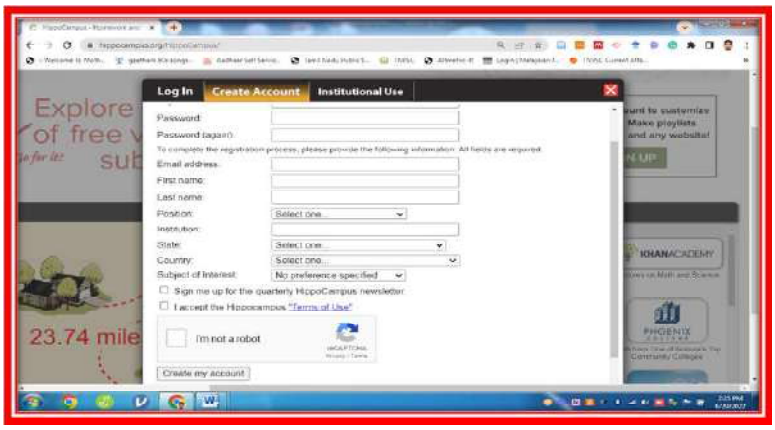

Figure 11 : Creation of New Account

You will be getting username and password along with required links to access your customized page in hippocampus. When you enter HippoCampus the next time, click 'Login' and enter your login and password. Your login screen will look like Fig.12.

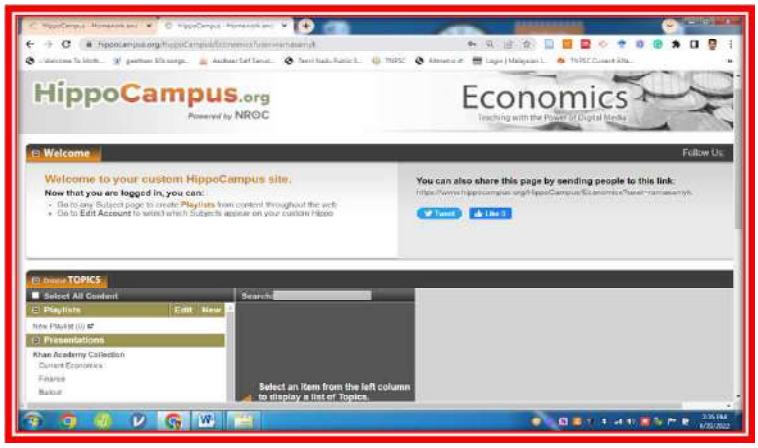

Figure 12 : Playlist Option

Now choose the subject area in which you want to create your own playlist. Now, a new button 'Playlist' appears in the screen with an option to edit, create a new playlist and add videos to the playlists. I have selected 'Economics' first, then chosen 'Banking/Finance' and got the related videos displayed in the second column. I have dragged two selected videos and dropped them in the playlist button. Now my playlist has two videos (Fig.13).

Now, click the playlist to enter the settings page (Fig.14). Here you

can give a new name for your playlist, add a new playlist, change the settings for each added video and you can even delete the video from the playlist.

Then, click on the 'Settings' button to give a small description about your playlist, copy the dedicated URL page and add any external URL (any website, google docs page etc.) in the Add URL option (Fig.15).

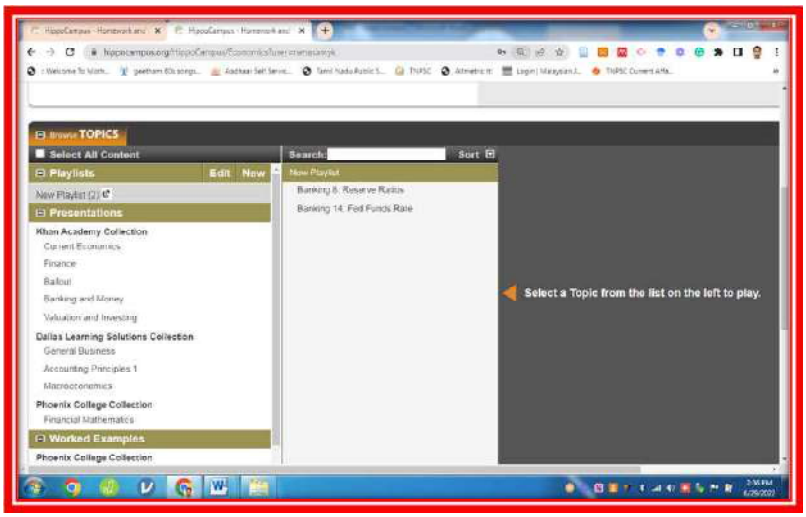

Figure 13 : New Playlist with 2 videos

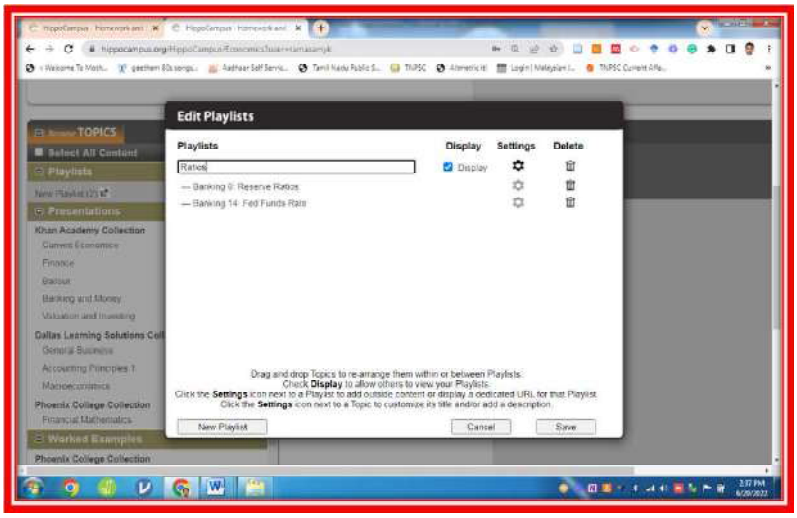

Figure 14 : Naming, Renaming and Settings

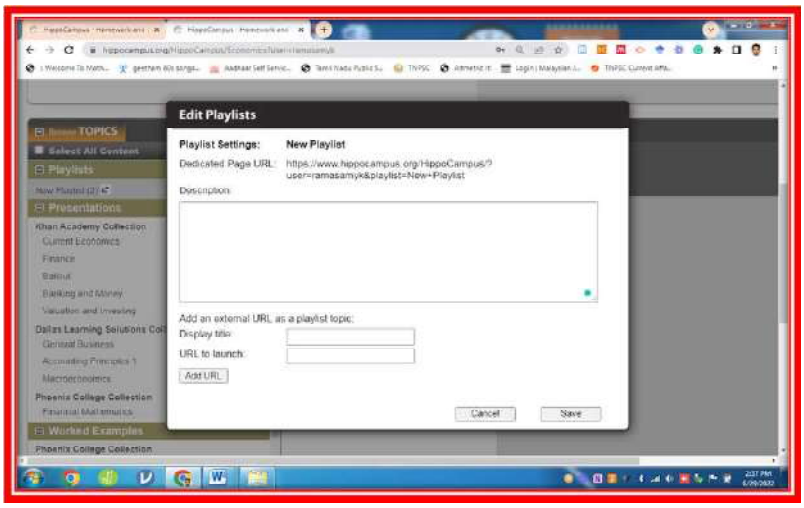

Figure 15 :Description, Adding URL and Copying Dedicated Page

Conclusion

Thus, Hippocampus is a viable option for the librarians to render reference service and current awareness service to the chosen clients by way of creating custom playlists based on the information requirements of the users. The playlists thus created may be updated now and them depending on the course of study of the users. The librarian needs to just send the dedicated custom playlist URL to the users. The users may just paste the URL in their web browser and will be able to see and watch the videos enlisted in the given playlist. The users need not open any account in HippoCampus. Though it has got a good number of videos for school library users, a sizeable number of videos are meant for college students also. The LIS professionals may find this video OER quite useful for rendering information services to their clientele.

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Contents of the Library Website of the NAAC A++ Re-accredited University of Kerala

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Introduction

The development of every nation is highly dependent on education. The education scenario has been growing with several abrupt developments and several Universities and institutions sprouting up by the day. High standard Universities and institutions as well as below standard ones. To check the quality of these Universities and institutions, several measures and agencies to check the quality of education provided has been setup by the government bodies.National Assessment and Accreditation Council (NAAC) was established by the UGC in September 1994 at Bangalore for evaluating the performance of the Universities and Colleges in the Country. NAAC's mandate includes the task of performance evaluation, assessment and accreditation of universities and colleges in the country. The philosophy of NAAC is based on objective and continuous improvement rather than being punitive or judgmental, so that all institutions of higher learning are empowered to maximize their resources, opportunities and capabilities.The National Education Policy (NEP) 2020 gives high emphasis on accreditation. It states that, "Through a suitable system of graded accreditation and graded autonomy, and in a phased manner over a period of 15 years, all Higher

Education Institutes in India will aim to become independent self-governing institutions pursuing innovation and excellence."

NAAC "evaluates the institutions on a range of parameters, including their structure of governance, infrastructure, financial soundness, teaching and learning, research, etc. And issues grades ranging from A++ to C based on these parameters. Institutions are graded under four categories, viz. A, B, C and D, denoting Very good, Good, Satisfactory and Unsatisfactory levels respectively. An institution with a grade Dmeans it is not accredited.

University of Kerala

Initially called University of Travancore, a public university run by the Kerala State.It was established in 1937 after an official declaration by Chithira Thirunal Balarama Varma, the Maharajah of Travancore, who also came to become the first Chancellor of the university. It was the first university in Kerala, and one of the first among 16 in the country. Currently, the university has more than 150 affiliated colleges (60 Arts and Science colleges, 2 Law colleges, 17 Engineering Colleges, 9 MBA/MCA Colleges, 37 Teacher Training Colleges, 4 Medical Colleges, 4 Ayurveda colleges, 2 Homeopathy Colleges, one Siddha Medical College, 3 Dental colleges, 10 Nursing Colleges, 4 Pharmacy Colleges, 2 Fine Arts Colleges, and a Music College.), sixteen faculties and 43 Departments of teaching and research in addition to study centres and other departmentsunder its umbrella. It also has a National College of Physical Education affiliated to it.

It was ranked 22nd in the NIRF 2019 ranking, followed by 23rd in 2020 and 27th in 2021.

First accredited by NAAC in 2003, with a B++ grading, it was without accreditation since 2008. The university received an A grade NAAC accreditation in 2015 with a CGPA of 3.03 on four point scale. And in June 2022, it received re-accreditation by NAAC with highest grade of A++ scoring 3.67 points out of 4, making it the first university in the State to receive the highest rank in NAAC assessment thus making it eligible to get projects worth up to Rs 800 crore from the UGC.

As the NAAC guidelines for Universities states, " Though it is institutional accreditation that the NAAC does, the assessment of a library, a vital sub-unit, is a key step that integrates itself with the overall evaluation. Library is the fulcrum of support for the entire range of academic activities on an educational campus. In today's high-tech learning environment, the

library as a learning resource is taking up increasingly more academic space and time in the life of a learner. In times ahead, this will be even more so. All this plays up the need for scientific evaluation of a library so that its role as the centrepiece of academic development is protected and enhanced. It is in this context that the NAAC has after wide consultations evolved a set of guidelines on quality indicators, to help academic libraries to be always in their best form.

In the process of institutional accreditation, libraries have a crucial role. The services of the libraries have been expanding as they contribute significantly to the learning process, particularly, the e-learning process.

In the accreditation process, evaluation of libraries is an essential component, where the collection, services and their outreaching capacity are monitored. In the recent past, significant developments have been reported in library and information services and the libraries are shouldering newer responsibilities in higher education. Hence the standards for assessing the quality of library services need to be updated. It is true that libraries largely support learning, teaching and research processes in institutions".

It is in this backdrop, that the NAAC has developed a set of objective indicators to facilitate assessment of the Library and Information Services of academic institutions.

A. MANAGEMENT OF LIBRARY AND INFORMATION SERVICES

a. Number of days the Library is kept open

b. Working hours

c. Library Advisory Committee

d. Manpower development

e. Infrastructure of the Library

f. ICT Infrastructure and Know-how

g. Overall policy of the institution on library

h. Budget

B. COLLECTION AND SERVICES PROVIDED TO USERS

(i). Collection

(ii). Services

C. EXTENT OF THE USE OF SERVICES

D. BEST PRACTICES FOR UNIVERSITY/AUTONOMOUS COLLEGE LIBRARIES

The Kerala University Library

The University of Kerala has its Main Library near its city campus and caters to all students, staff and public. It was established in 1942 and is the biggest and oldest university library in the State.The library stocks a collection of over 350,000 books with 5000 titles being added annually every year. The library also subscribes to around 500 journals/ magazines / magazines; 43 foreign Journals, more than 400 Indian periodicals, 35 magazines and 20 Newspapers.The library also stocks bound volumes of more than 1000 journal titles. UGC Infonet Digital information services is also provided. It stocks a unique set of Kerala Studies in its special collection among others such as General Biographies, Women' Studies, UN and World Bank Publications, Government publications and bound volumes of rare books and newspapers and journals. The rare books collection is in the process of digitizing.The Manuscript Library of the University has over 65,000 works mainly palm leaf manuscripts. Also in its Manuscripts collection are paper manuscripts, copper plates, writings on birch bark, bark of Amyris agallocha and textiles.The library is managed using Koha open source library management system.

The library has its own exclusive website www.kulib.in. The website is very detailed and advanced and meets the requirements of its members. The library website is available only in English. The navigation bar is provided on every page of the website. The navigation bar provides the following links to the other pages of the websites.

Home

About Us

Collection

Services

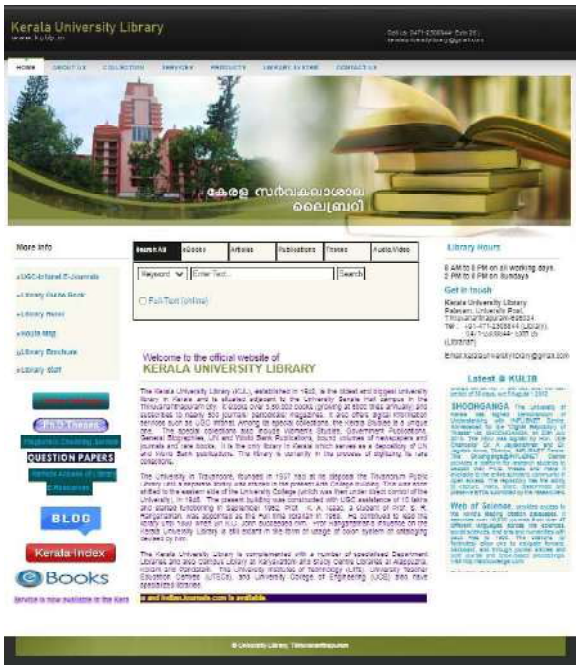
Products

Library System

Contact Us

a. Home (Homepage)

The Homepage of the website gives a brief description and history of the library. It provides links to all other pages of the website and links to the library e-resources for easy navigation. The Homepage also displays links to the WebOPAC, Ph.D Theses, Plagiarism Checking Service, Shodhganga member ID, Previous Question Papers, Remote access to library e-resources, Blog service, Kerala Index, link to e-books, basic information such as Library hours, Contact details of the Library, Latest News and a Search facility of its resources.The Homepage also provides access to UGC Infonet e-journals, Library guide book, Library rules, Route map, Library Brochure and Library Staff directory.



b. About Us

The 'About Us' page gives a brief description of the Library, its history, timeline, and organisation of the library into 11 sections of the library, viz.

Sections

Circulation Section

Acquisition section

Technical section

Reference section

Periodical section

Documentation and Information Services section

Information Technology section

Kerala Studies Section

UN & World Bank Section

Research Section and

Maintenance Section (Stack Room).

c. Collection

The 'Collection' page gives information about the collection of books, Journals, maps, microfilms, CDs, Theses, Dissertations, etc. It also provides information about the kinds of reference sources available at the library such as Encyclopedias, Dictionaries, Biographies, handbooks, etc. It also briefs about the category of special collection available at the library.

Special Collections

Kerala Studies

Women studies

Government publications

General Biographies

Bound volumes of Newspapers

UN & World Bank Publications

Theses

Bound volumes of periodicals (Science& Social Science)

Closed Reference (Rare Books)

d. Services

The 'Services' page lists the services provided by the library.

Bibliographic services

CD-ROM search

Current awareness service

Current Content services

E- Journal services

Extension services

Indexing services

Inter library loan services

Internet services

Lending of Books

OPAC search

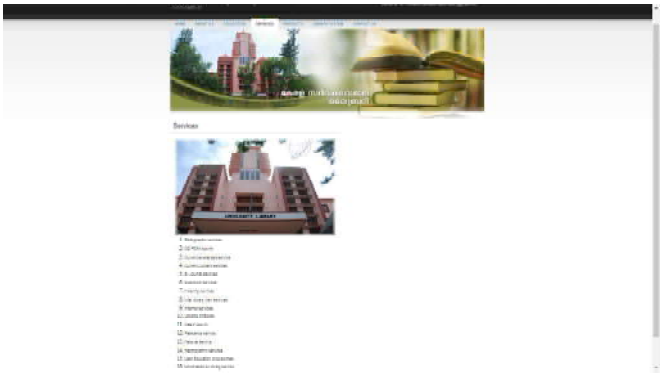
Reference service

Referral service

Reprographic services

User Education programmes

World Bank e-library service



e. Products

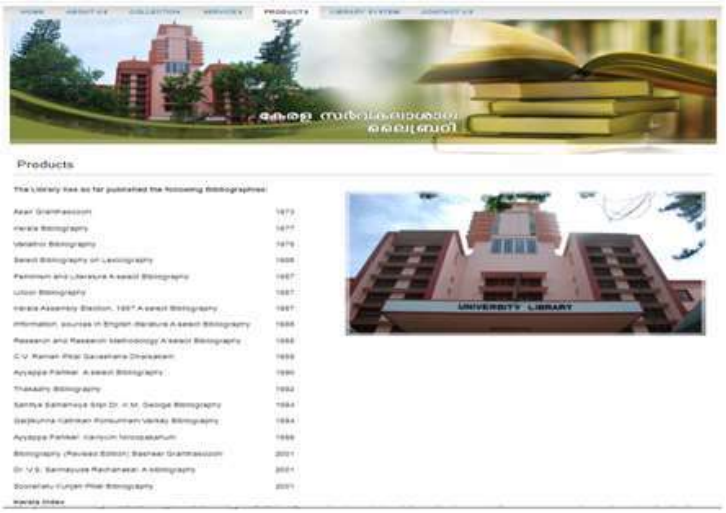
The 'Products' page displays the list of Biographies published by the library.

Asan Granthasoochi	1973
Kerala Bibliography	1977
Vallathol Bibliography	1978
Select Bibliography on Lexicography	1986
Feminism and Literature A select Bibliography	1987
Ulloor Bibliography	1987
Kerala Assembly Election, 1987 A select Bibliography	1987
Information sources in English literature A select Bibliography	1988
Research and Research Methodology A select Bibliography	1988
C.V. Raman Pillai Gaveshana Dharsakam	1989
Ayyappa Paniker A select Bibliography	1990
Thakazhy Bibliography	1992
Sahitya Samanwya Silpi Dr. K.M. George Bibliography	1994

Garjikunna Kathikan Ponkunnam Varkey Bibliography	1994
Ayyappa Paniker: Kaviyum Niroopakanum	1999
Bibliography (Revised Edition) Basheer Granthasoochi	2001
Dr. V.S. Sarmayude Rachanakal: A bibliography	2001
Sooranatu Kunjan Pillai Bibliography	2001

Kerala Index

'Kerala Index' a quarterly publication which contains an index of articles of research value on topics relating to Kerala prepared from newspapers and magazines subscribed by the library.



f. Library System

The 'Library system' page gives the information about the library and its branches. The University library is spread across three branches.

Campus library

The Campus Library at Kariavattom campus was started in 1976 to extend the facilities to the campus community. It now rests on a two storey building with an area of 1238 sq. M. It has a collection of more than 7000 books and 60 periodicals subscriptions. The campus library came to being as a reference section stocking important reference books for the various courses and also materials for research scholars. The library provides other services such as reprographic, internet and UGC-Infonet E-Journal services.

Department Libraries

The University library also has department libraries for all the 43 teaching departments. The department libraries are spread across the 2 major campuses of the University, the Campus at Kariavattom (34), and the Senate House campus (6). The remaining ones at the Department of Music, Govt. Women's college campus, Vazhuthacaud (1), Department of Education, Thycadu (1).

Study Centre Libraries

The University study centres at Alappuzha, Kollam and Pandalam also have their own separate libraries catering to the reference needs of PG Students, Research Scholars, SDE students, UITs, B.Ed Centres, IMK extension centre etc and Faculty members under it in the respective districts.

g. Contact Us

The 'Contact Us' page gives the Address, Phone numbers and email id of the library

Links to e-resources

The Homepage of the library website provides links to various other e-resources.

UGC-Infonet E-Journals

The link gives member access to databases and e-journals from a variety of sources

Bibliographic Database

American Mathematical Society (Mathscinet)

BIOSIS (Biological Abstracts)

Web of Science

Royal Society of Chemistry

Analytical Abstracts

Catalysts & Catalysed Reactions

Chemical Hazards in Industry

Laboratory Hazards Bulletin

Methods in Organic Synthesis

Natural Products Update

Electronic Journal Platforms

American Chemical Society

American Physical Society

Blackwell

Emerald (LIS Collection)

Institute of Physics

MEDICAL JOURNALS (1380 free journals)

Oxford University Press

Project Muse

Science Direct (Cell Press)

Springer Online

American Institute of Physics

Annual Reviews

Cambridge University Press

Euclid

J-STOR

Nature

Portland Press

Royal Society of Chemistry

Society for Indl. & Appl.Maths. (SIAM)

Taylor & Francis Online Journals

Gateway Portals

Knimbus

Ingenta

J-Gate Plus

JCCC

Open Access Journals

General List of Open access eprints

PubMed Central (PMC)

Networked Computer Science Technical Reference Library

Citebase

BioMed Central

BBS Prints Interactive Archive

Cognitive Science

Public Library of Science

arXiv

CogPrints

CERN Document Server (CDS)

The Economics network (RePEc)

HighWire Press Free

Citeseer

Eprints.org archives

Directory of Open Access Journals

Library Guide Book

The Library guide book gives a brief description of the library along with a brief history, It also provides a downloadable book in pdf format containing detailed information about the library, library system followed, the organisation of the library, the library procedures and what the library offers.

Library rules

The 'Library rules' link takes you to the rules to be followed by members. It also provides a downloadable pdf for later reference.

Route map.

The 'Route map' link gives the location map of the library and the Palayam locality.

Library brochure

The 'Library brochure' link takes you to the downloadable brochure about the library.

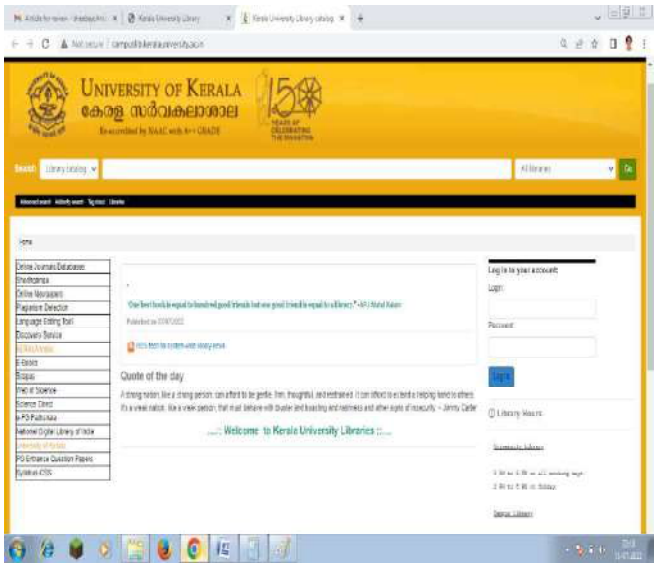
Library Staff

This link gives the Staff directory as to the who's who at the library.

Other important links

Other important links placed in the homepage are;

'Online Catalogue' which gives access to the WebOPAC.



'Search bar' to search through the list of resources. The search facility permits search of ebooks, articles, Publications, Theses and audio & video, though keyword search.

'Ph.D Theses'link gives access to the Shodhganga reservoir of Indian theses

'**Plagiarism Check Service**' link provides the downloadable Instructions for Plagiarism check.

'**Question Papers**' link directs the user to the Google Drive storage of question papers of previous years.

'**Remote access of Library e-resources**' provides off campus access to faculty members to the subscribed electronic resources through e-ShodhSindhu and other publishers

List of subscribed e-resources by University of Kerala:

American Chemical Society (ACS)

American Institute of Physics

American Physical Society (APS)

Annual Reviews

Emerald

EBSCO Discovery Services and EBSCO host Research Database

EPWRF (E P W Research Foundation)

IEEE Xplore

Indian Journals

IOP

J-gate Plus

JSTOR

Nature

NotNul :Hindi Database

Oxford University Press

Project Muse

Royal Society of Chemistry

SAGE

Scopus

Springer

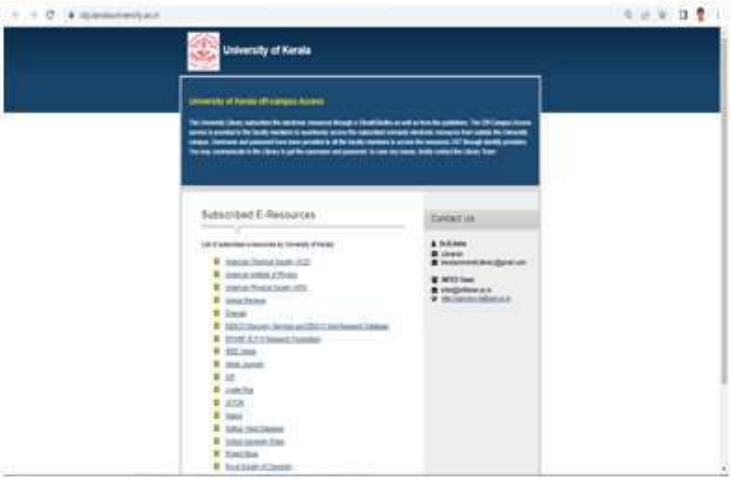
Science Direct

Taylor and Francis

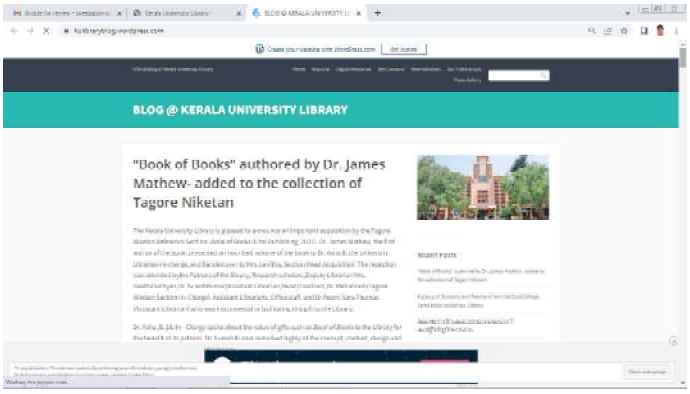
Web of Science

Wiley

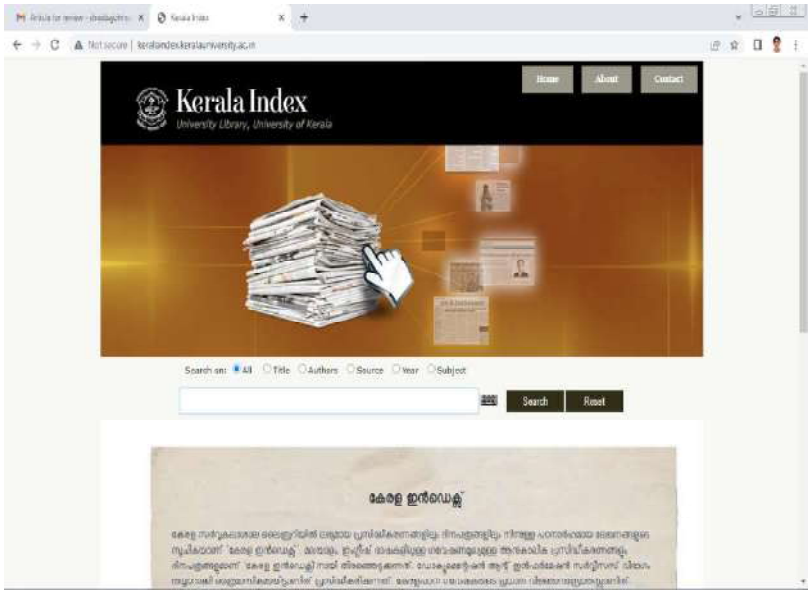
Library subscribes the electronic resources through e-ShodhSindhu as well as from the publishers. The Off-Campus Access service is provided to the faculty members to seamlessly



'**Blog**' link provides access to the library blog, 'Blog@keralauniversity', with the site address, https://kulibraryblog.wordpress.com/, powered by Wordpress.



'**Kerala Index**' link directs the user to lookup library articles from Kerala. It provides a Search facility within.



'**e-books**' link directs the user to the E-Books subscribed in Kerala University Library. The page gives access to 329 of the e-books subscribed by the University.

'**Latest@KULIB**' provides a scrolling view of the latest news of the library.

Every page displays the authority of design and maintenance of the website and the copyright statement.

In March 2022, Higher Education Minister launched University's library network that brings together all the resources of the libraries under the University under one network.

The 'One University, One Library' network links nearly 10 lakh books, rare documents, theses, government publications, journals and others that have been stocked in the 56 libraries including the Kerala University library in Palayam, the campus library in Kariavattom, the libraries in 44 teaching departments, 7 inter university centres and the study centers in Kollam, Pandalam and Alappuzha. Users can also reserve the books and renew membership from home. In a recent study, 'Attitude of Users Towards E-Resources: A Study based on Kerala University Library', conducted by AbdullaA. , Amrutha Madhu V.V. , Anju S. Nair, Assistant Professors, Department of Library and Information Science, University of Kerala, it was found that 94.17%) of the respondents sought the needed information from online sources. They observed that out of 120 respondents, 81.67% sought information from 'e-journal', followed by, 74.17% using 'e-book' for seeking information. 64.17% respondents used E- Newspapers' and 22.50% 'E-Thesis and Dissertations. 5.83% 'online databases' for finding information.

The study also revealed that 52.50% respondents were satisfied with the available e-resources, followed by 45.00% fully satisfied. Only 1.67% were less satisfied and 0.83% dissatisfied with the e-resources.

Conclusion

Just as NAAC accreditation is becoming an unavoidable part of every institution, the grading of institutional libraries also a relevant part for accreditation. And in this era of ever changing world of information technology, library websites being a mirror of the library are growing to become more than what the physical library can cater to. The larger chunk of the user community look to this online medium for their information requirements and so it is in fact a duty of the library management to ensure that the library website is well equipped to meet what the information seeker seeks from the library. The Library of the University of Kerala has adapted to the growing technology and has used all possible means available to meet the user needs.

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Shodh-Chakra — Researcher Perspective

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Shodh-Chakra

Shodh-Chakra is an effort of the Information and Library Network (INFLIBNET) Centre, guided by the University Grants Commission (UGC), to assist the academic community throughout the research life cycle. Shodh-Chakra offers a one-of-a-kind environment for the researcher, guide/ supervisor, and university to manage a research scholar's research lifecycle. This will function as a digital workplace for researchers to collect, store, organise, and cite their research findings. The process of using the portal begins with the signing of an agreement between the University and the INFLIBNET Centre. Furthermore, researchers can log into the system and use the Shodh-Chakra functions.

Researchers Manual

Registration

Fig :Researcher Registration Page

Researchers must first register by inputting basic information such as their First Name, Last Name, Email Address, Mobile Number, University, Department, and so on. Enter the Captcha text and press the Register button.

Fig :Sign in Page

After entering these details, you will receive an email with a username and one-time password that will allow you to log in and reset your password by clicking on the change password option. There are two sorts of credentials: those issued by the university and those self-registered

by the research scholar; in the case of self-registration, the involved university will authorize and validate your registration. You will be able to access the site once it has been verified by the institution.

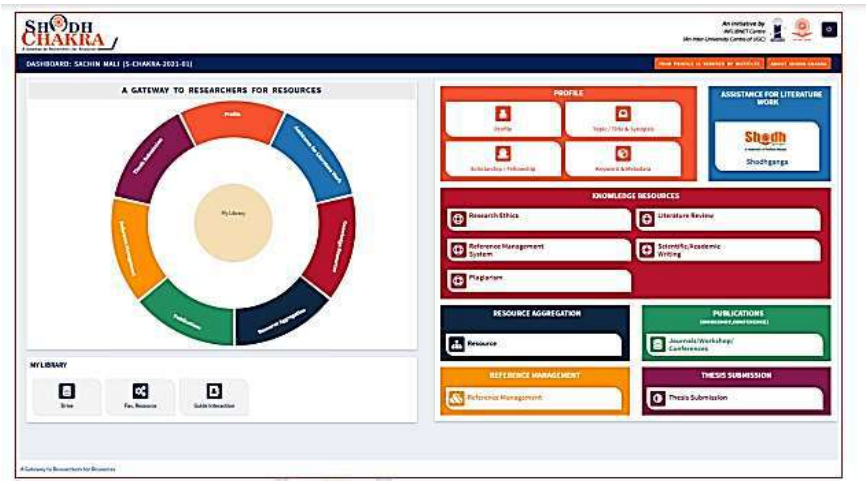

Fig : Researcher's Dashboard

The Figure shows the researcher's dashboard after successfully logging into the portal. The dashboard will assist researchers in creating their research profile by allowing them to enter the research topic, synopsis, scholarship, keywords, and so on. The dashboard displays the complete research procedure, from literature gathering through thesis submission. Researchers can use Shodhganga, Crossref, and other open access resources incorporated with the Shodh-Chakra to search for literature.

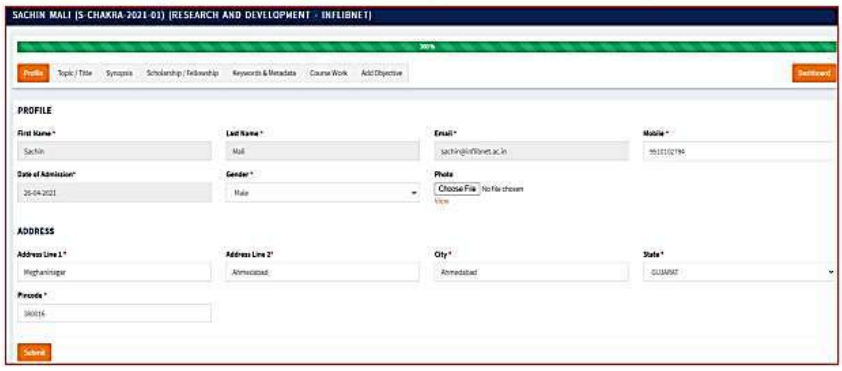

Fig :Profile Creation

The goal of creating profiles for researchers is to retain research-related information and make recommendations on literature searches and

related areas of research. After selecting the profile, the researcher must provide the following information: first name, last name, email address, mobile number, date of admission, gender, upload photo, insert address and click the submit button to store the data.

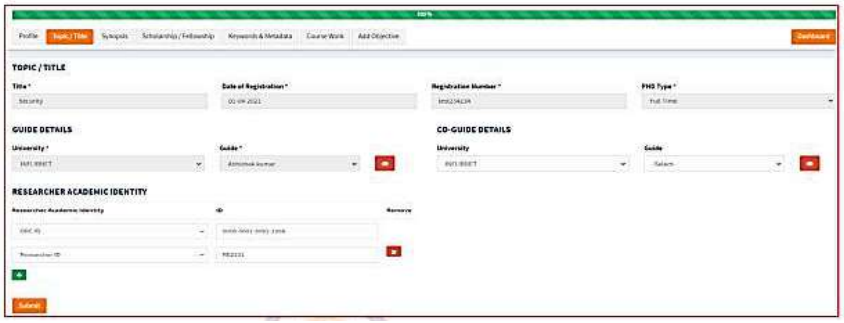

Fig:Information about Research Topic/Title

The researcher will be able to select/enter the title/topic of the research as well as co-guide details. In the profile section, the research scholar will also be able to store his or her ORCID ID and Researcher ID.

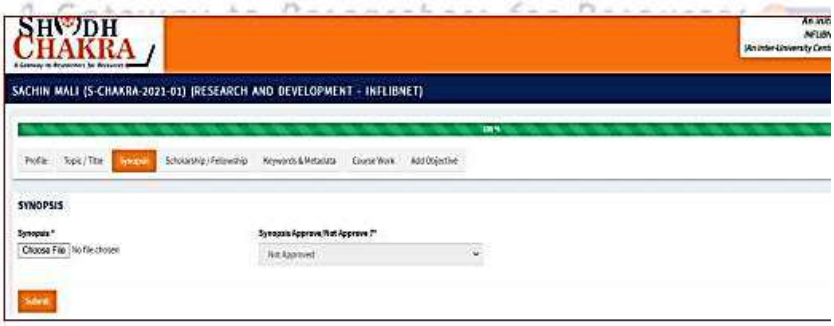

Fig. Synopsis of Research

Research synopsis uploaded by the researcher may be accepted or rejected.

Fig :Information about Scholarship/Fellowship

The research scholar can keep track of the fellowship/scholarship received for the research project. Because these details are verified by the university, it will be locked after submission and can only be edited by the university administrator. The system displays YES and NO options; if the researcher chooses yes, a few more fields will be displayed. Once these details are entered, click the submit button.

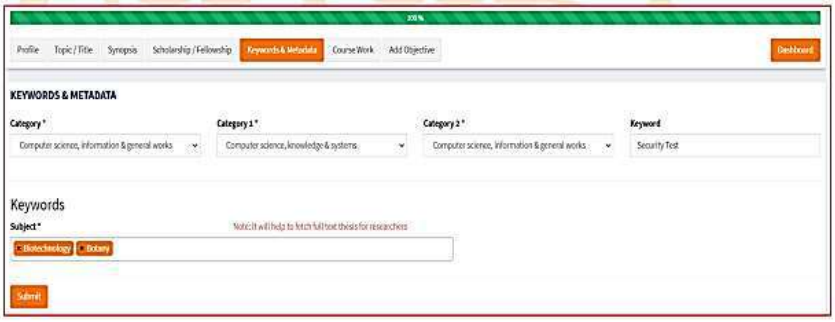

Fig :Keywords and Metadata

The Keywords and metadata tab will assist researchers in selecting the appropriate subject category and keywords for their research work. The system will retrieve relevant literature from various resources integrated into the portal and prompt the user on the dashboard.

Fig :Coursework Related

Under the profile section, the coursework tab will assist research scholars and universities to track of coursework-related information.

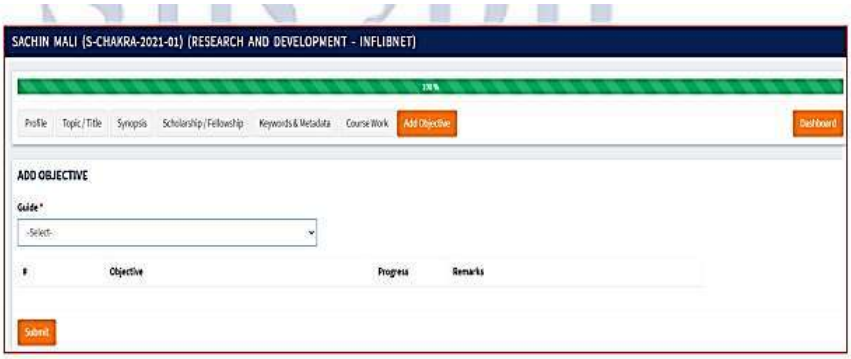

Fig :Research Objectives

The objective section of the profile management section will assist researchers and guides to track of the completion of research work and establishing the research work's target. The researcher can choose the name of the guide, and the progress of the objective..

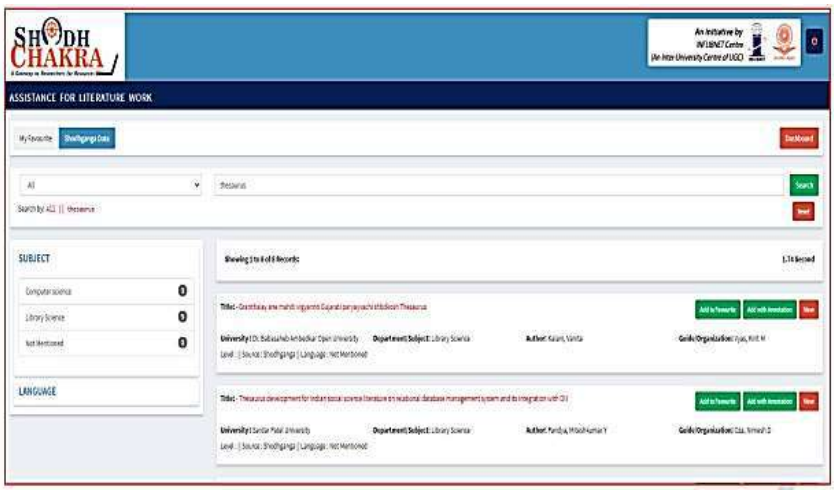

Fig :Related Thesis from Shodhganga

As shown in Figure, the system will communicate with the live Shodhganga database, and the results will be displayed on the screen. Select the relevant one and click the 'Add to Favorite' button to save it in the resource under 'My Library.' Researchers can read the full text of a selected thesis by clicking on the 'View' button. Researchers can annotate directly from the result page by clicking the 'Add with Annotation' button. This feature will assist researchers in creating annotations on the fly for future use.

Fig :Knowledge Resources-Research Ethics

'Research Ethics' is the first tab in the knowledge resources. The screen displays e-text and videos related to research ethics, and researchers can read and watch all of the modules listed on the left side of the screen, as shown in figure.

Fig :Knowledge Resources- Literature Review

The second tab under knowledge resources is 'Literature Review,' which will assist researchers in conducting effective and efficient literature searches on specific research topics, as illustrated in figure..

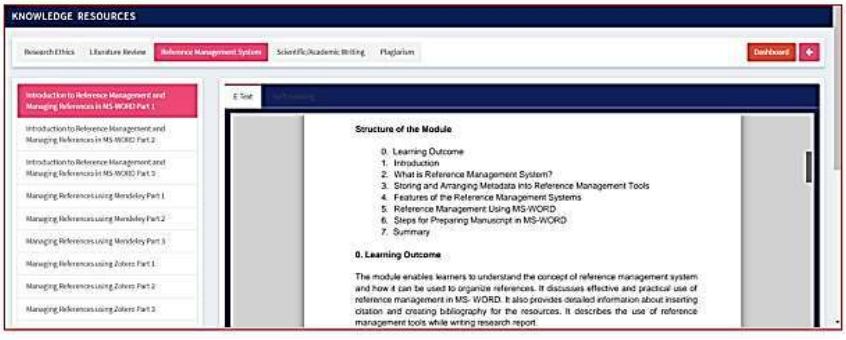

Fig :Knowledge Resources-Reference Management

The third tab in the knowledge Resources is titled 'Reference Management System.' This will assist scholars in understanding the tools and procedures for using various reference management software such as Mendeley and Zotero. The modules under reference management would also be useful in mentioning while composing the research paper and thesis chapters.

Fig :Knowledge Resources- Scientific / Academic Writing

Scientific/academic literature is the fourth tab. Academic writing is an art, and the modules in the scientific/academic writings category cover significant areas of academic writing.

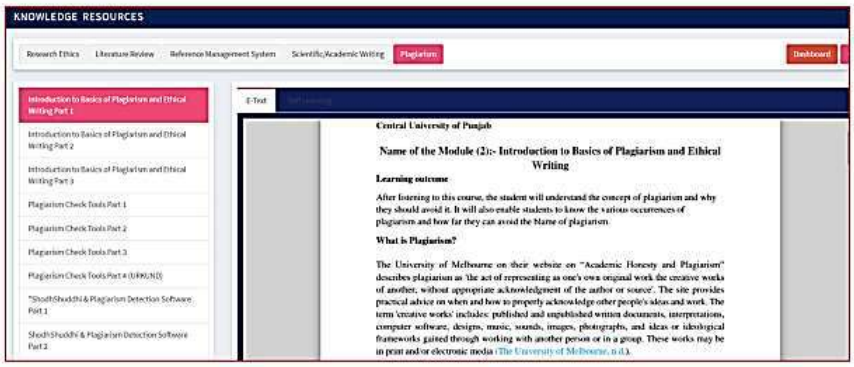

Fig :Knowledge Resources-Plagiarism

'Plagiarism' is the fifth and final tab in the knowledge resources. Plagiarism is one of the most important topics for a researcher to comprehend before beginning any research activity. Expert-recorded films provide an in-depth understanding of how to avoid infringement in research activities.

Resource Aggregation

The resource aggregation area makes it easier for researchers to identify relevant resources from many categories and save them in 'My Favorite' for future use and reference. This tool will assist academics in locating published papers from several databases, including Google Scholar, Scopus, and Open Access sites.

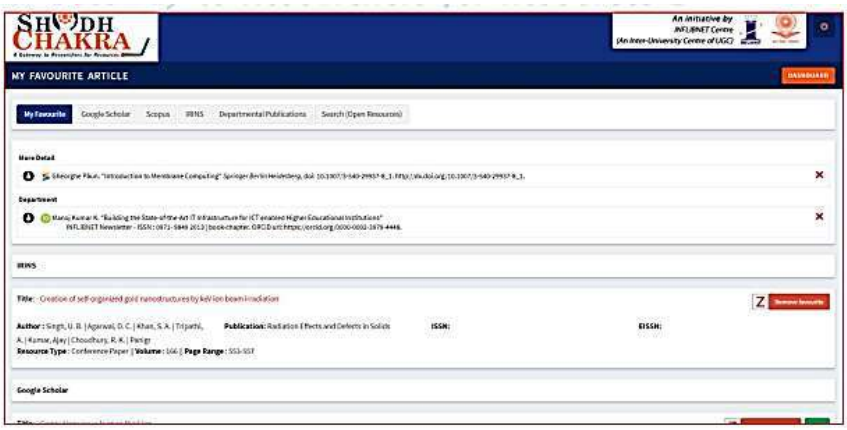

Fig :My Library – Favourite Resources

'My Favorite' is the first tab in the resource aggregation section. This tab will hold all of the resources that have been marked as Favorite. Figure depicts the information of the saved resources under my preferred tab.

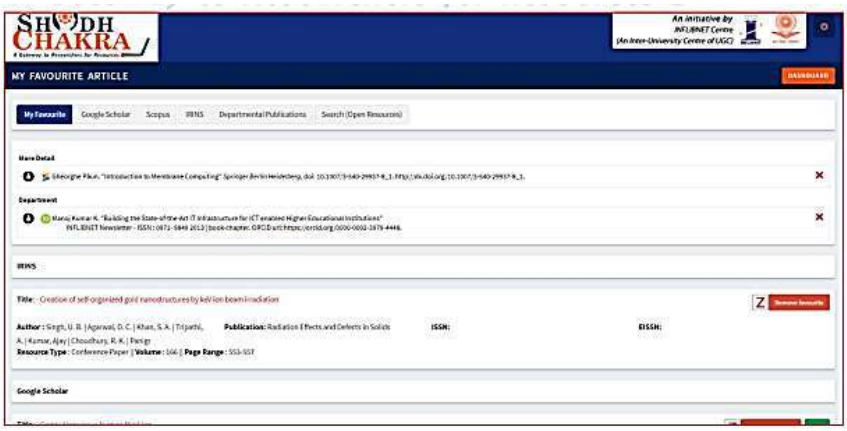

Fig :Favourite Resources – Google Scholar

'Google Scholar' is the second tab under resource aggregation. Google Scholar is connected with the resource aggregate tab via API. It

will provide a straightforward search window with three fields: Google Scholar ID, Title, Author, and Keywords. Researchers can enter an acceptable word and choose a field in which to conduct the search. The system will get the results, which can then be added to favorites by pressing the "Add to Favorites" button, as illustrated in figure.

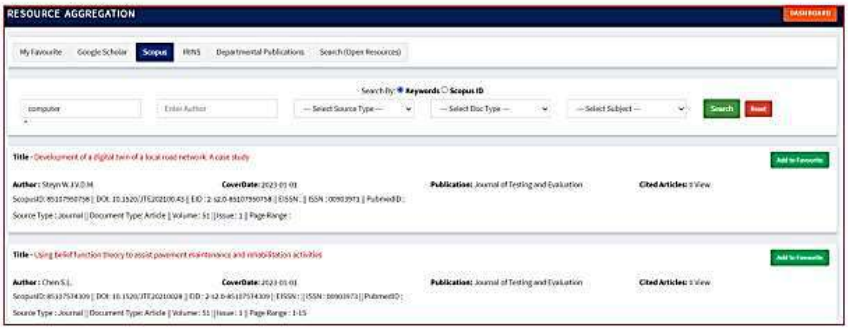

Fig :Favourite Resources – Scopus

'Scopus' is the third tab under resource aggregation. Scopus is a database that indexes and abstracts millions of publications and assigns citation scores to each research work. The Shodh-Chakra retrieves and displays bibliographic information for the searched terms on the screen. In order to use the article later, researchers can choose whether it is relevant and mark it as a favorite.

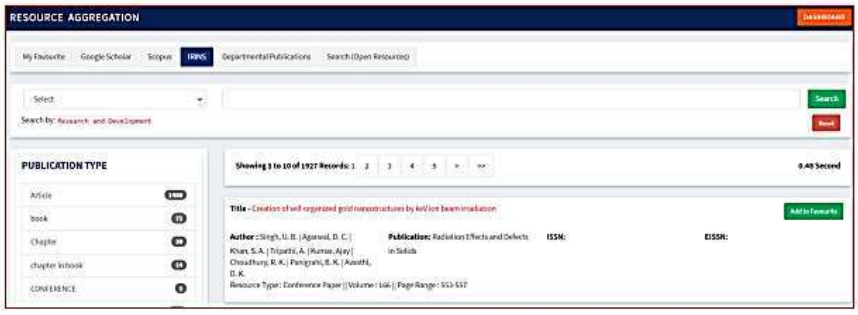

Fig :Favorite Resources – Indian Articles

'IRINS' is the fourth tab. On the IRINS portal, research profiles of faculty members from the majority of Indian academic institutions have been generated. IRINS has been connected with Shodh- Chakra to allow researchers to conduct searches in the IRINS and save the results as a favorite for future use.

Fig :Favorite resources – Department Resources

All materials published by peers from the same department of the native institute of researchers will be listed in the departmental publications. A researcher can save a favorite in my library area for future reference.

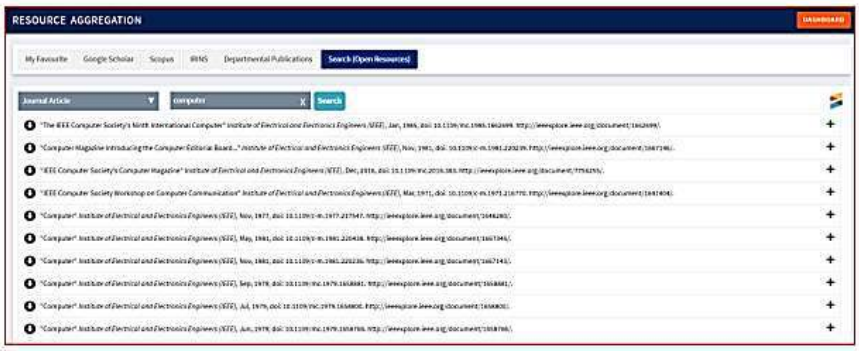

Fig :Favorite Resources – Open Resources

The fifth tab assists scholars in locating bibliographic information for open access works. Shodh-Chakra will populate the metadata of the resources, and the entire text of an individual article can be retrieved using the DOI.

Publications (Journal/Workshop/Conference)

'According to current UGC standards, a research researcher must publish publications in journals, conferences, and seminars/workshops. Researchers are unaware of the number of journals that are published; conferences are being planned. The publication section would assist researchers in searching for and adding to their preferred journals, conferences, and workshops/seminars where they may submit their research papers for publication and presentation.

Fig : My Favourite Journal

'My Favorite Journal' displays a list of all journals that have been designated as favourites. A researcher can save his or her preferred/required journal.

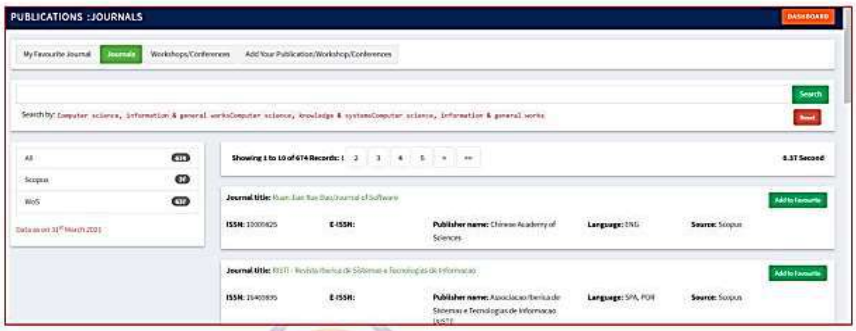

Fig :Search Journal

The journal tab allows the researcher to search for journals based on title and keywords. The UGC Care List, Scopus, and Web of Science will be used to retrieve the results. Figure 24 shows how a researcher might choose a relevant article and mark it as a favorite.

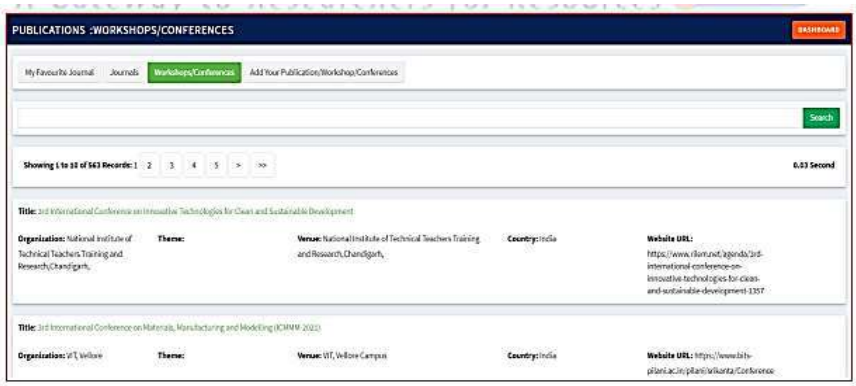

Fig :Workshops & Conference

According to current UGC standards, the researcher must deliver at least one research paper at the conference. It can be tough to find future conferences on various subjects. The Shodh-Chakra collects information about upcoming conferences from academic institutions and compiles it under the workshop and conference page. The researcher can save it as a favorite for future reference.

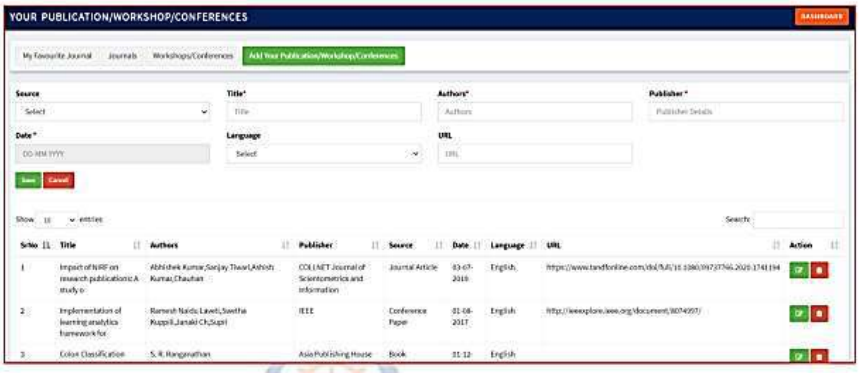

Fig :Adding Research Publications/Conference Papers

Researchers can save a list of articles from journals and conference proceedings. This function allows the researcher to keep track of all personal publications in one spot.

A. Reference Management

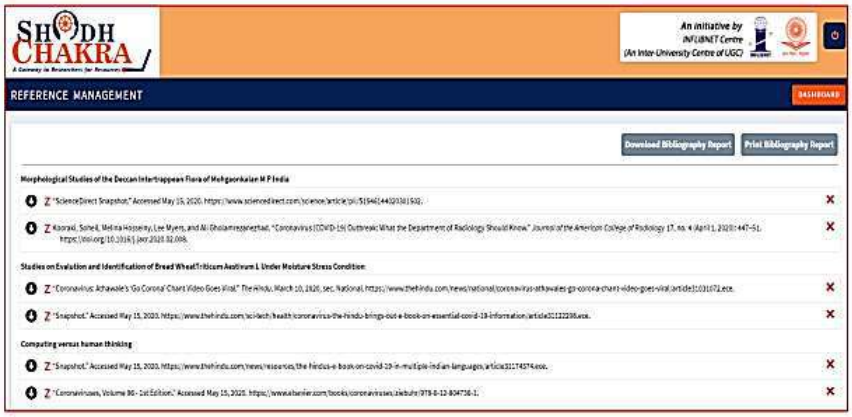

Fig :Adding References

The handling of references for the collected/referred material is a critical task. All documents referred to for an ongoing research project must be cited. The Shodh-Chakra contains an integrated Zotero Reference Management tool for managing all research resources.

Thesis Submission

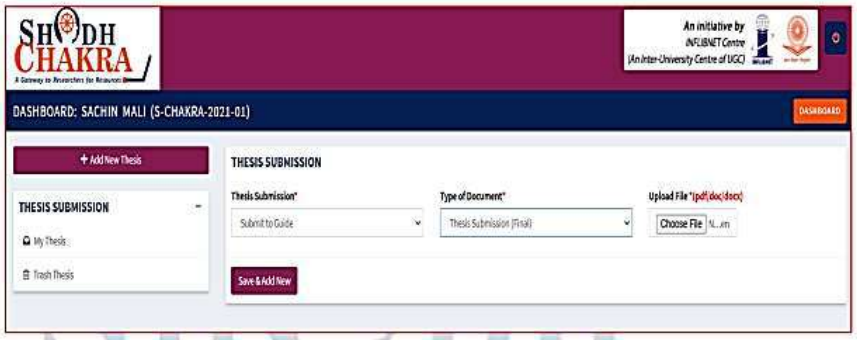

Fig :Thesis Submission

The submission of a thesis to the university for the award of a degree is the final stage in a research scholar's research journey. Through Shodh-Chakra, the research scholar will be able to submit all documents, including the registration receipt, pre-submission report, course work completion certificate, plagiarism report, and finally the thesis. The researcher can only submit documents to the Guide and the University.

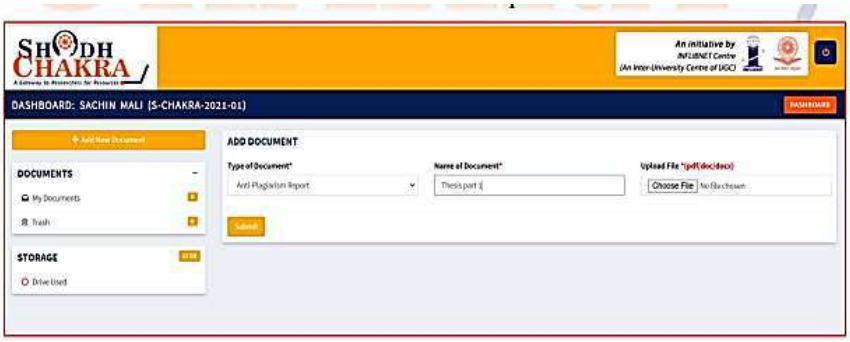

Fig :Submission related Documents

Researchers can save full-text documents in the 'Drive' section of 'My Library.' These documents may be distributed to the research supervisor.

Full Text Thesis

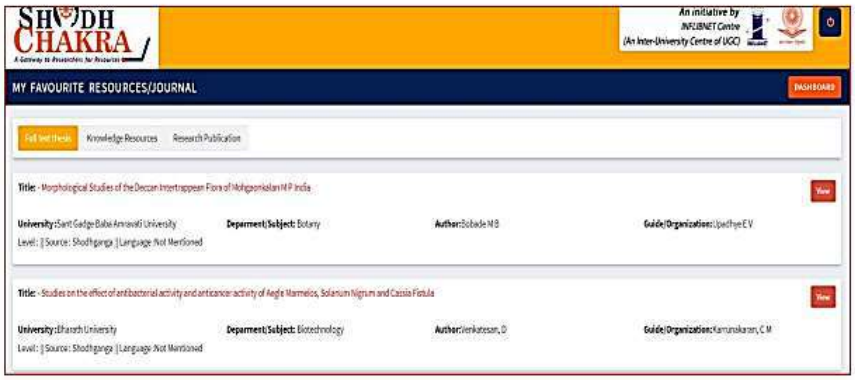

Fig :My Favourite Full-text Thesis

The 'My Library' section provides all of the resources that have been recognised as favourites by various categories. Full-text thesis marked as a favourite from Shodhganga will be presented on the full-text Thesis tab.

Fig :My Favourite – Knowledge Resources

Under the 'My Library' 'Knowledge Materials' tab, the resources marked as favorites under knowledge resource are displayed.

Fig :My Favourite – Creating Notes

Researchers can make remarks in the 'Note' section of 'Guide Interaction.' This will allow research scholars and guides to debate research-related issues on the portal. Both the researcher and the guide can make and share notes with one another.

Fig :My Favourite – Shared Notes

The notes shared by Guide can be accessed by selecting the Shared Notes option in the Interaction with Guide area, as shown in figure.

Conclusion

The Shodh Chakra platform has been designed to aid and assist reach scholars and mentors in managing their whole research schedule and work cycle, from literature evaluation through research submission. Researchers will be able to collect, organize, save, and cite their study work, thanks to the platform. The Shodh Chakra platform is accessible online. Universities and institutes will be required to submit information about their research scholars in order to have access to the platform via the official website.

PROFILE MANAGEMENT SYSTEMS

For Researchers and Academicians

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PROFILE MANAGEMENT SYSTEMS
For Researchers and Academicians

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4

Grow with 'KUDOS' : The Best Way to Maintain Your Online Profile and Enhance Your Research Visibility

Dr. K. Ramasamy
College Librarian, M V Muthiah Government Arts College for Women, Dindigul, Tamilnadu, India

INTRODUCTION

A researcher decides upon a hot-button issue in the chosen domain of research, conceive the idea, conduct a thorough review of literature, carry out a sincere data collection process, conduct a wonderful statistical analysis, present logical discussion and interpretation of data and choose a journal with high impact factor, before publishing a paper. Then, post-publication promotional activities have to be undertaken. These measures are carried out with the aid of various tools with the intention of increasing their research visibility. They include: open access publications, institutional repositories, own blogs, social media tools, social networking sites and online profile management systems like Google Scholar, ORCID, Publons, Vidwan, Academia and Research Gate. Apart from these tools we have new tools like Impactstory that helps the researchers to count their altmetric scores and Kudos that helps the researchers to enhance their research visibility.

Kudos is a free service (as of now, with limited features) that enables the researchers to create online profile for them with their personal information and their publications. With kudos, we can search, upload or import our publications and check for their both citation scores and altmetric scores. We can provide the title in plain language, we can write why their paper is important, what is unique in their paper, offer a layman summary of their paper, pen on their own perspectives about the paper, annex images suitable to the theme of the paper, add links to a variety external related resources, share links in various social media and decide upon the audience boundary. We can create and connect to various social media accounts in Kudos.

KUDOS : THE NEW TOOL

The new tool is run by Kudos Innovtions Ltd., London.

Kudos was developed to help researchers ensure their publications get found, read and cited in a world of information overload. Founded in 2013 by three publishing and technology professionals, Kudos has gone from strength to strength, winning major industry prizes for innovation. Today, Kudos is used by researchers all over the world to build global readership and attention for their work.

Kudos works with publishers, universities, corporations, funders, metrics-providers and other intermediaries to help aggregate efforts around researchers to build impact for their work. By doing so we help strengthen partnerships between researchers and their affiliated organizations and other service-providers.

Kudos is the only platform dedicated to dissemination across the multiple networks and channels available to researchers for sharing information about their work. We are also the only platform that aggregates all the most relevant metrics about that work in one place, and maps outreach activities against those metrics. A recent *study* has shown that

explaining and sharing via Kudos takes on average 10 minutes and leads to 23% higher growth in full-text downloads (*https://www.growkudos.com/about*).

Kudos helps us to

- Tell the story of your research
- Showcase your research, build a global audience across multiple sites and track readership and engagement – all from one powerful platform.
- Kudos helps the research community communicate for impact, to ensure that knowledge is found, understood and applied by a broad audience.

OBJECTIVE

To demonstrate how to create your profile in KUDOS and what can be done in Kudos to enhance your research visibility

METHODOLOGY

The Kudos website was used by the researchers to create a profile. A self-experimental model was adopted by the researcher.

CREATING PROFILE AT KUDOS

Figure 1 : Go to *https://www.growkudos.com/* - the home page of Kudos platform

Figure 2 : Click ' Get Started for free' . The option is available in the home page of the platform.

Figure 3 : If you are a registered user, type your email and password and click 'Sign In'. You may even sign in using your facebook, twitter or linkedin account also.

Figure 4 : If new to Kudos, click ' Register for free'. Type your first name, last name, mail id, pass word and click ' Create my account'.

Figure 5: You receive a message on your successful

joining of Kudos. Enter you institutional affiliation details. If you don't want, you can skip this.

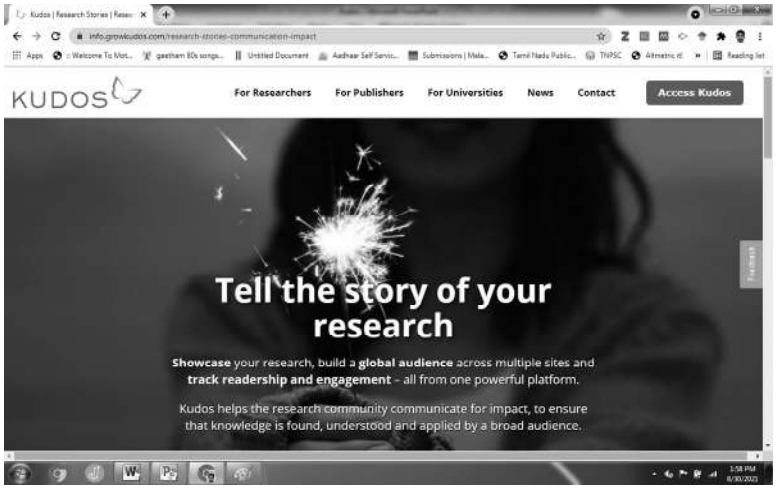


Fig. 1

Fig. 2

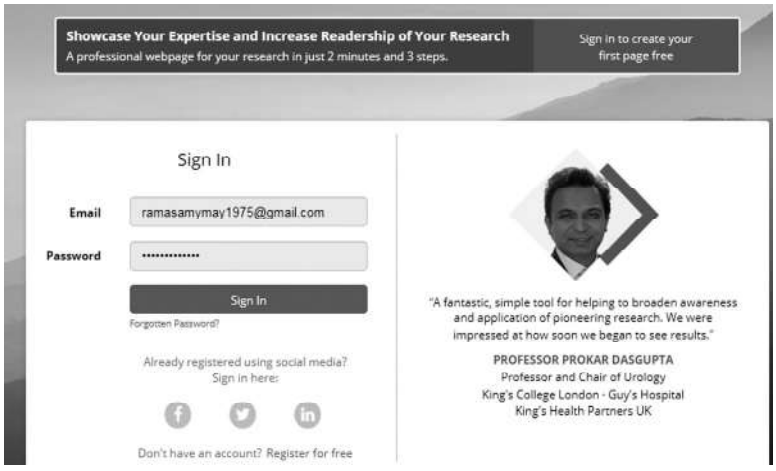


Fig. 3

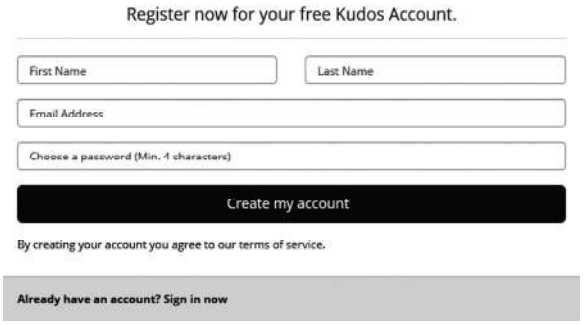


Fig. 4

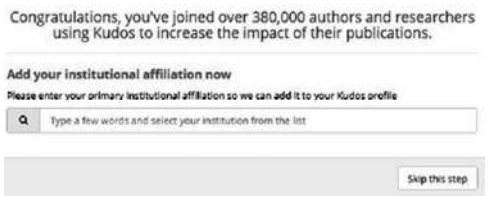


Fig. 5

Fig. 6

Figure 6 : Activation link is sent to your given mail id. Open your mail id and click the activation link to enter into Kudos platform.

Figure 7 : This is the dashboard of your profile page. Here you can add publications, enter your details and have settings for your pages.

Figure 8 : Four options are available in the dashboard. A) Publications B) Projects Pro C) Profile and D) Settings. Out of these four items, Projects Pro is meant for the premium users. Free users may use other three options.

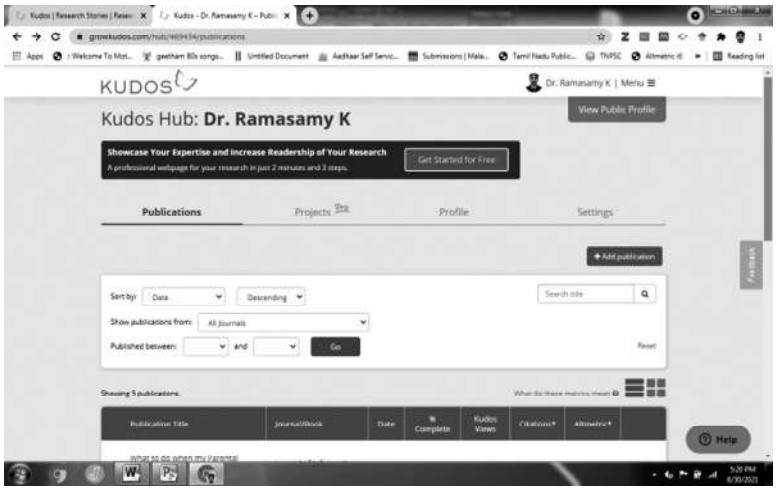


Fig. 7

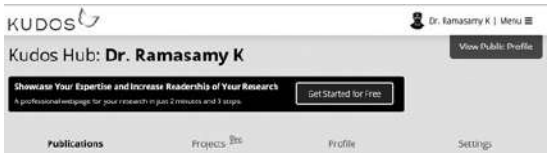


Fig. 8

Fig. 9

Figure 9: You can add such information as Title (Mr., Ms., Dr.), First name, middle name, last name, subject area (select from the drop drown menu) and country (select from the drop drown menu).

Figure 10 : Select the role from the drop down menu (research fellow, reader, professor, lecturer, professor, govt. employee, graduate student etc.). Then, click save.

Fig. 10

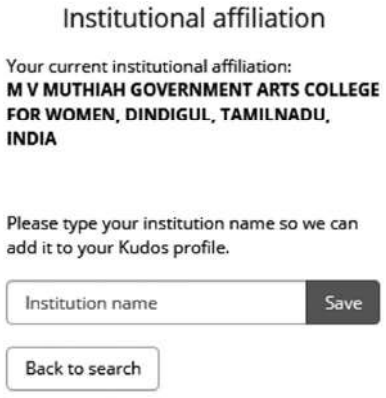


Fig. 11

Figure 11 : Once the basic data is filled, we can search for our institution. When you type the first few letters of your institution, it appears, If not, the platform prompts you to type the name of the institution. If you type the name of the institution and click 'Save', then the institutional name will be added to the Kudos profile.

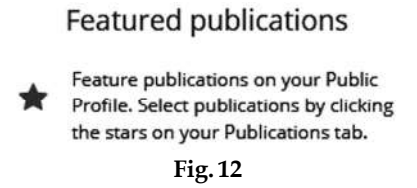


Fig. 12

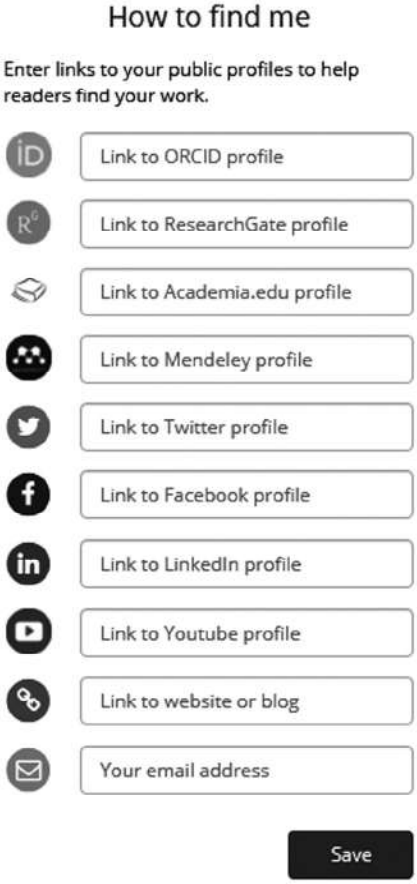


Fig. 13

Figure 12 : This shows whether you have selected publications by clicking the stars on your publications tab in the dashboard. The featured publications will be shown as separate entities than other items.

Figure13: We can enter links to our public profiles to help readers find your work. ORCID profile, researchgate profile, academia profile, mendeley profile, twitter profile, facebook profile, linkedin profile, youtube profile, our website or blog and email address are the public profiles that can be linked to your Kudos profile.

Figure14: Then, click on 'Settings' menu available on the top portion of the webpage you are currently working. Setting page has five items. The first item is social media accounts. Click and get connected with twitter, facebook and linkedin so that any publication added in kudos profile will be automatically shared in these social accounts.

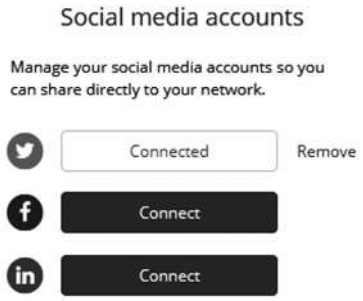


Fig. 14

Figure 15: You may change your email address by entering the new email id and clicking the option 'Change Address'. If you want to change the password of your kudos profile account, you may do so my entering your current password and new password and clicking on the option 'Save'.

Figure16: You can connect your Kudos profile with your ORCID account. If you want to disconnect your kudos profile from ORCID account, that also can be done here by clicking the option ' Disconnect ORCID'. If you want to get email updates

on your performance in kudos, guidance to improve your visibility and general news about Kudos, you can check the relevant boxes and click ' Save'.

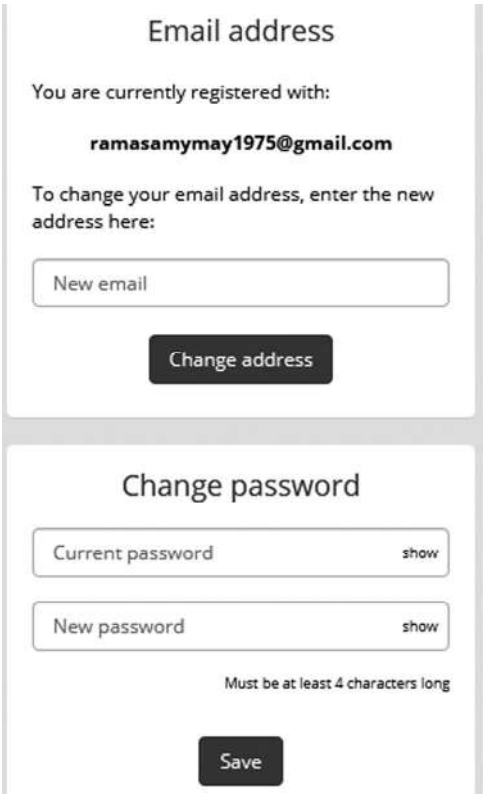
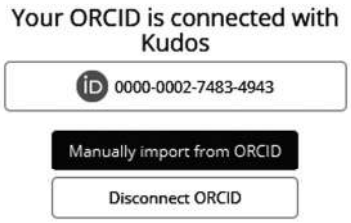


Fig. 15



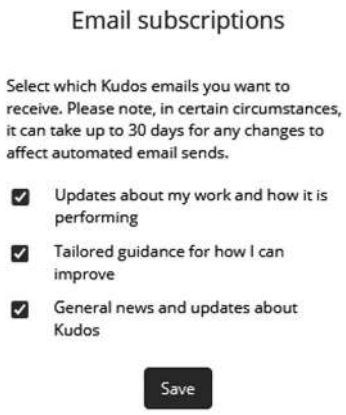


Fig. 16

Figure 17 : Click 'Publications' menu and you will land here. Here, your publications can be added. Your added publications can be searched. The added publications can be sorted by publication title, journal, date, % complete, kudos views, citations and altmetric scores. You can select publications from all journals or from selected journal to be shown in the publication page. You can select to show publications published between any two periods (years).

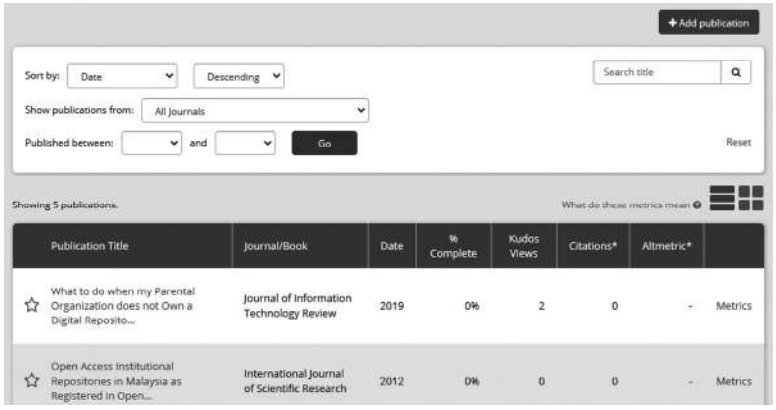


Fig. 17

Publication Title : title of your paper ; Journal/book – name of the journal or book ; Date – year of publications of the

item ; % complete – if all the steps are completed in your profile creation for that particular article, then this becomes 100 % ; kudos views – numbers of times your kudos profile page (that particular publication) is viewed by the people ; citations – citations received and altmetric – altmetric scores for the publication.

ADDING PUBLICATIONS

Click 'Add Publication' button available on the top right corner of the current page.

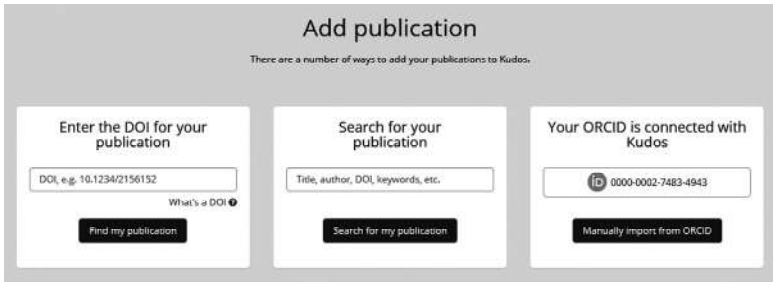


Fig. 18

Figure 18 : There are three ways by which your publications can be added to Kudos : a) By entering the DOI of our research articles b) By searching and fetching your publications by typing the title, names of authors, DOI and keywords and c) By importing publications directly from your ORCID ID.

Figure 19: Enter the DOI of your publication and click 'Find my publication'.

Fig. 19

Fig. 20

Figure 20 : The concerned paper appears. If that is your publication, click ' Yes, claim this publication'. If that is not your publications, click ' No, go back'.

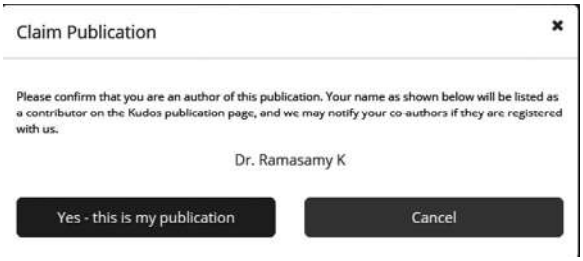


Fig. 21

Fig. 22

Figure 21 : If you clicked 'Yes', confirm it again by clicking ' Yes-this is my publication'.

Figure 22: This is the second method of searching for and adding your publications to Kudos profile. After typing the names of authors, click ' Search for my publication'.

Figure 23 : The publications that match the names you typed appear. If you want to include them into your profile, click ' claim'. If you want to remove any item from your kudos profile (mistaking added previously), click ' Unclaim'. The

papers with the option ' Unclaim' are the ones that were already added in your kudos profile.

Fig. 23

Figure 24 : All the added publications are now available in your dashboard. Click any one publication.

Figure 25 : You will land here with a message to showcase your work to help reach broader audience.

Fig. 24

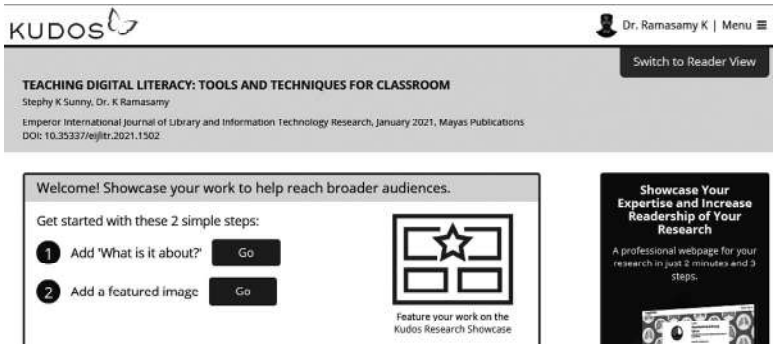


Fig. 25

HOW TO SHOWCASE YOUR WORK?

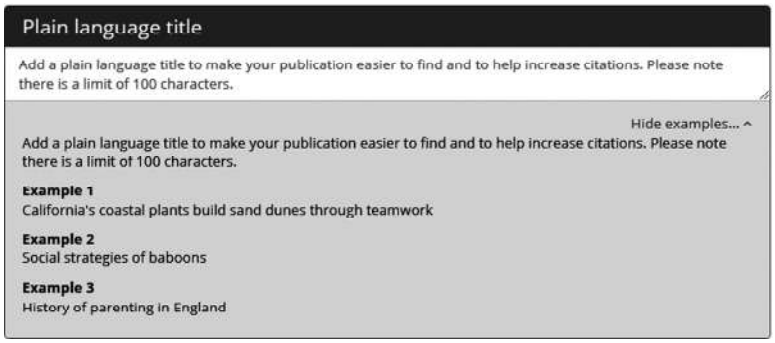


Fig. 26

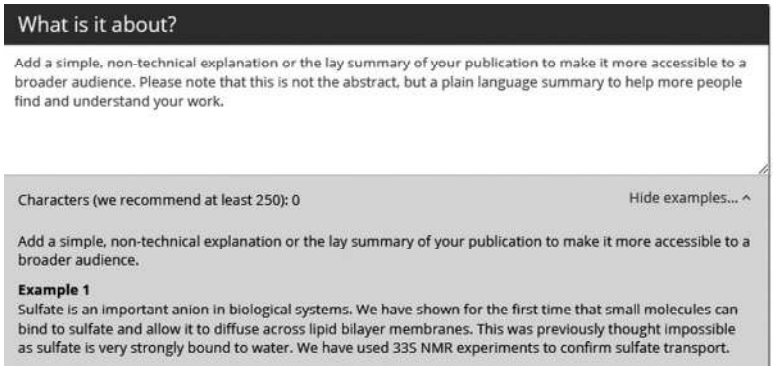


Fig. 27

Figure 26 : Give a plain language title so that the readers will be able to understand it without any problem. The actual

title may be complex or technical. But, here we can present our title in a very simple language.

Figure 27 : Provide an explanation or simple summary of your paper to make it reach a wider audience. You are not supposed to present the abstract of your paper. You are just writing in layman language an explanation of your wok so that the readers are able to find and understand your publications.

Figure 28 : Write a couple of sentences on why your work is important. You can give the uniqueness of your work. You can attract the attention of the users on the special features of your work.

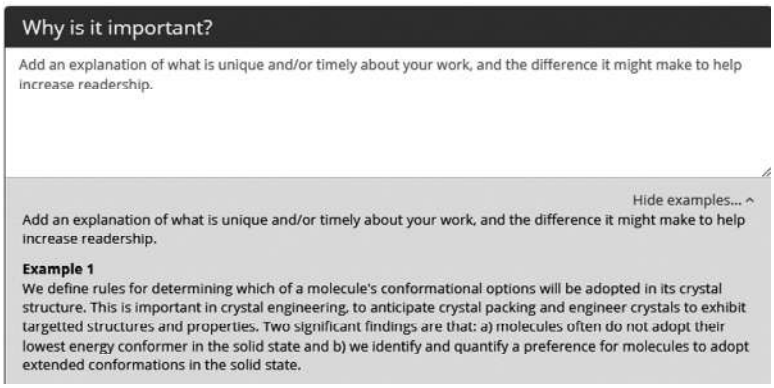


Fig. 28

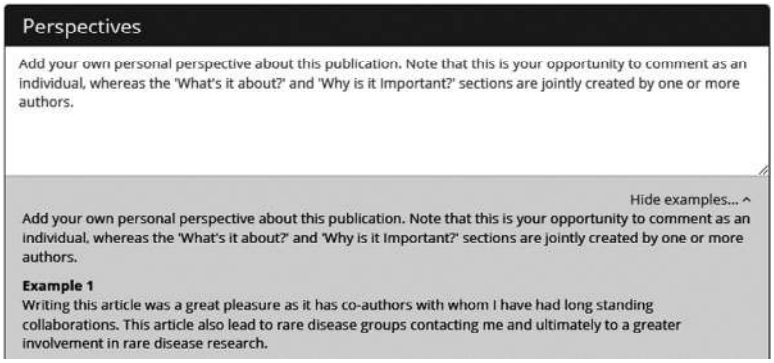


Fig. 29

Figure 29 : You write few lines explaining your perspective on the paper. This is so required especially when you have co-authored the papers with others. This is the place for you to record your own individual perspectives, rather than that of the combined vision of all the authors taken together.

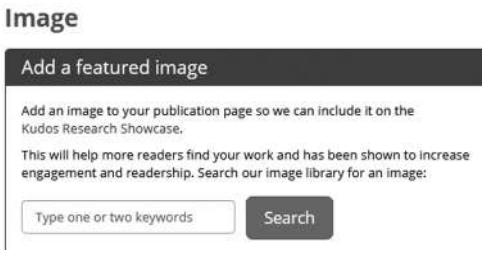


Fig. 30

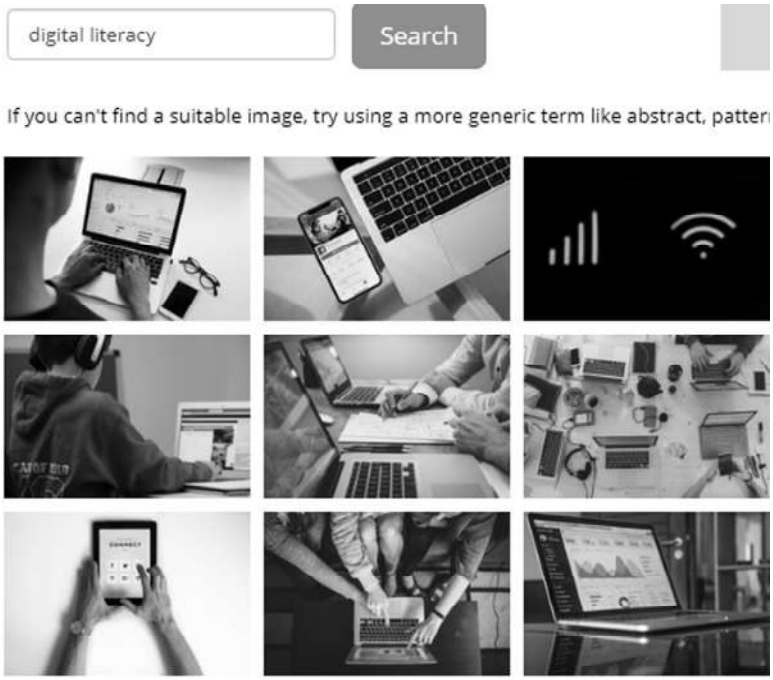


Fig. 31

Figure 30 : Add an image that suits and best depicts the content of your research paper. Type the keyword and click ' Search' to get an album of images to choose from.

Figure 31 : Choose the image you feel very opt to express your article theme / content.

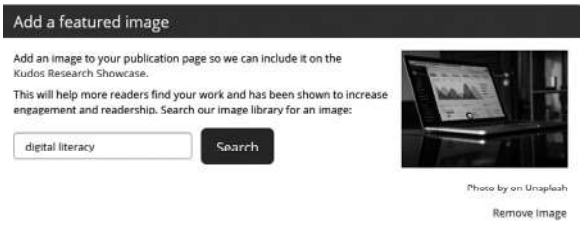


Fig. 32

Fig. 33

Figure 32 : Select an image, click save and then the chosen image appears to here with a provision to remove the image, if required.

Figure 33 : Share and post papers to multiple channels. We can share our links with twitter, linkedin, facebook, wechat etc. We can share a link of the paper with various social media tools. We can share labels too.

Figure 34 : Choose your audience - the geographical area from where you expect the people / researchers to read your paper. If you want the entire globe to read your paper, select all the continents or one or two continents of your choice.

Figure 35 : You may add links to online resources. If you want to add links to external resources such as presentations, videos, images, press release, interviews, project, URL, open access version, figures, data sets or related publications, you can do so.

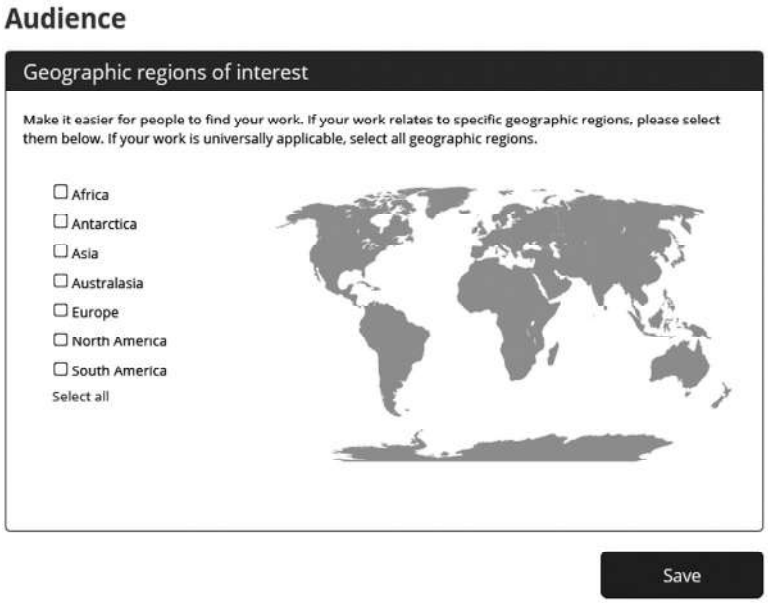

Audience
Geographic regions of interest
Make it easier for people to find your work. If your work relates to specific geographic regions, please select them below. If your work is universally applicable, select all geographic regions.
Africa
Antarctica
Asia
Australasia
Europe
North America
South America
Select all
Save

Fig. 34

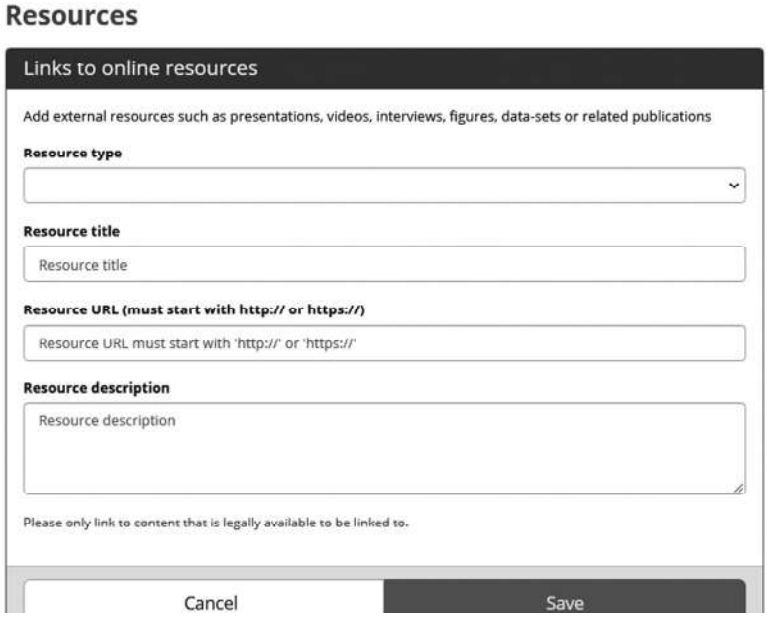

Resources
Links to online resources
Add external resources such as presentations, videos, interviews, figures, data-sets or related publications
Resource type
Resource title
Resource title
Resource URL (must start with http:// or https://)
Resource URL must start with 'http://' or 'https://'
Resource description
Resource description
Please only link to content that is legally available to be linked to.
Cancel
Save

Fig. 35

Choose the resource type (presentation, videos etc., from the dropdown menu), give a title for the resource, give the resource URL, and provide a description of the resource and click 'Save'.

VIEW PUBLIC PROFILE

Click the option 'View Public Profile'

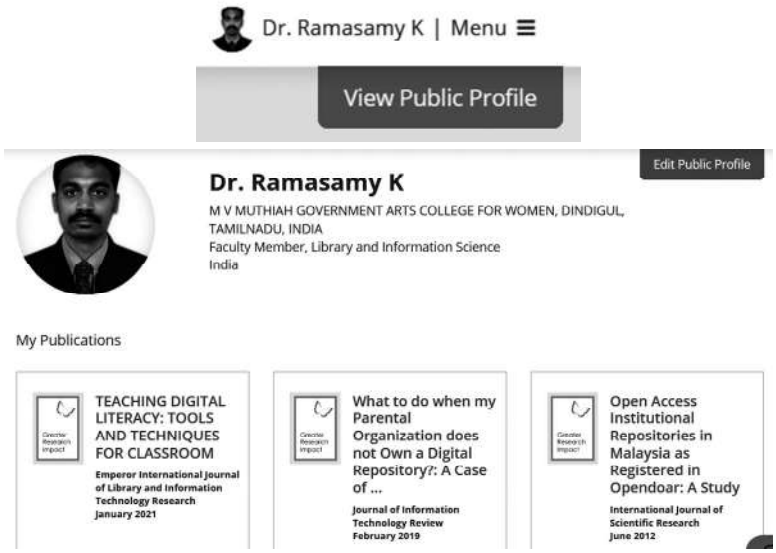


Fig. 36

Figure 36: My profile page is ready with all my added publications.

Figure 37 : Click a paper and you will land here. The selected image appears below the publication.

Figure 38 : The information you included for the publication (title in plain language, what is it about, why is it important, your perspective) appears under the image. If the reader is interested, they can click ' Read Publication' to get the full paper.

NIRI (National Institutional Repository of Iims) : A Proposal For an 'IIM-IR Library Consortium

Padma, P Padma, P, Ramasamy, K Ramasamy, K

Indian Journal Of Applied Research, October 2011, The Global Journals
DOI: 10.15373/2249555x/feb2014/77

Institutional Repository for IIMs

Fig. 37

What is it about?

Steps involved in creating an institutional repository for Indian institutes of managements

Why is it important?

this will act as a base for the faculty members and research scholars to share their knowledge, ideas, current projects and skills

Perspectives

Dr. Ramasamy K
M V MUTHIAH GOVERNMENT ARTS COLLEGE FOR WOMEN, DINDIGUL, TAMIL-NADU, INDIA

I think this is a good idea to have a repository for all the management institutes - a single-window approach for assimilating indigeneous knowledge

Read Publication

Fig. 38

PUBLICATION METRICS

'Metrics' button is available for each publication in your dashboard. Click 'Metrics' for above publication and you will get a lot of metrics from Kudos.

Figure 39 : The publication metrics such as number of shares, clicks on shares, views on kudos, clicks on Read publication button, altrmetric score and cross ref citations are given for the selected paper.

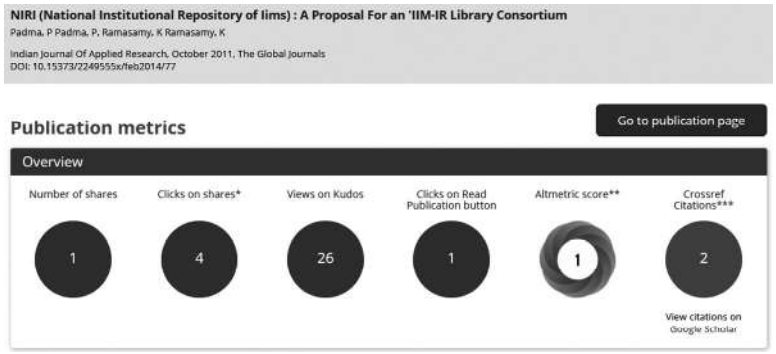


Fig. 39

Figure 40: The cumulative activity reports for the paper have data about full text downloads, abstract views, share referrals, kudos views, action taken by the authors and admin activity.

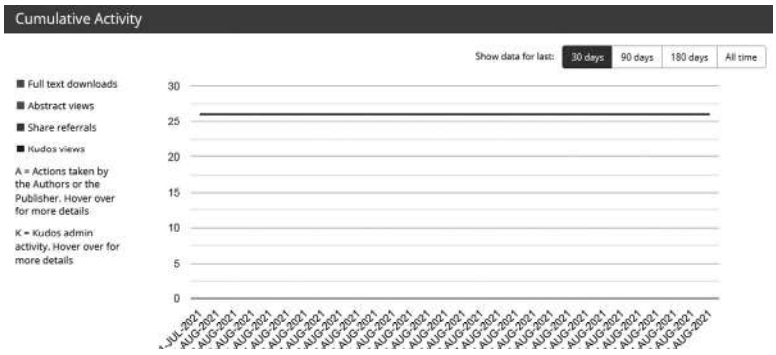


Fig. 40

Figure 41: This shows the altmetric scores for the selected paper. The present paper is tweeted once and has two readers on Mendeley. These scores can be seen for last 30 days, 90 days, 180 days or all time.

URL for public profile : https://growkudos.com/profile/ramasamy_k

URL for admin dashboard: https://growkudos.com/hub/469454/publications

Fig. 41

CONCLUSION

Online profile management systems have come into existence to help the researchers to showcase their research productivity to outside world. Kudos is a new, modern and innovative service that can be used by the researchers to add their publications, create links to various profile and social media tools and write a set of pieces of writing so as to enhance their research visibility. It is not just any other profile where you can add more of your personal details and list of all your research works. Kudos goes beyond that. Kudos has only little provisions for including your personal information. But we can add lot of new and interesting things about your research publications such as plain language title, uniqueness of our publications, our perspective of our papers, image, external resources etc., for each and every one of publications in Kudos. These descriptions will propel and motivate more readers to view, download, read, share, tweet and cite your research publications. Use Kudos to create and maintain online profiles for you and your publications and enhance your research visibility.

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https://growkudos.com/hub/469454/publications

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Ltd, K. I. (n.d.). *Kudos – About*. Retrieved July 8, 2022, from https://info.growkudos.com/about

Emerging Trends for Sustainable Development in Libraries

A Perspective of Self - Reliant Learning

Editors

- Rev. Dr. D. Thomas Alexander SJ
- Dr. T. Raja
- Dr. K. Ramasamy
- Dr. A. M. Venkatachalam

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(SALIS) Tirunelveli Chapter

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OPEN ACCESS ONLINE RESOURCES FOR SUSTAINED PROGRESS: A STUDY ON MHRD INITIATIVES AS A VIABLE MEANS OF SELF - RELIANT LEARNING

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bstract

The contribution of ICT for Library and Online Reading is overwhelming that "Libraries are e sustainingly growing Organisms" would have been the fifth Law of Library Science ifit happens to framed in this Era. The contemporary challenges of library is eased by the open Access Online sources. The technology aids in equal, open access for online resources, national or international arners. The Ministry of Human Resource Development of Government of India has thoughtfully signed Online Open Access Initiatives for the immense benefit of the Education and Research mmunity of the country.EPgPathshala, Shodhganga, SWAYAM, CEC and NDLI are some of the tiatives which can be used by any person, any time and through any device which helped the whole tion to cross the pandemic period efficiently. This paper analyses and compares the MHRD tiatives and its access in the past five years in India with the help of Google Search Trends. hrows light on the search patternwhich indicates improvedself-reliant learning

y words – MHRD Initiatives, Online Reading, Open Access Initiatives, and self -reliant Learning.

roduction

As every country's progress lies on the knowledge base and itsefficient and effective usage the citizens, the Ministry of Human Resource Development of Central Government started tegizingfor open access initiativessince 1984.TheConsortium for Educational Communication or C is the foremost initiative of UGC to provide educational and informational services through tronic media at its early phase and now through web. Each Initiative has been designed with ristic insight and gradually brought out for the public usewith the help of ICT tools.Therich urces in every initiative are open and free to all, irrespective of Age, Gender, Religion or cational Background. These initiatives collectively contribute to achieve the goal of any kind of ary thus the sustained development of Library is ensured.The search trends of these resources in country during the past five years is compared and analyzed. The access of the resources through gle search enginein Tamil Nādu is highlighted.

RD and its Initiatives: An Overview

The Ministry of Human Resources and Development focuses on the upgradation and illing of the citizens.The Ministry has always strived to reach the mass to provide information ices at its best.ICT opened new avenues to provide services in zero cost.As per the chronological r, UGC -CEC is the first ever initiative for Information/knowledge services.

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AVOIDING LINK ROT WITH PERMA.CC: A HEURISTIC APPROACH

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Abstract

Perma.cc is a web tool that can be used by the researchers and faculty members to preserve the web pages referred by them in their academic and research works by creating a permanent link to those web pages. The present study gives an introduction about the non-available web links (Link Rot) and illustrates a step by step procedure to create link for both individual web pages and group of web pages in Perma.cc with relevant screenshots. Self-exploration method was adopted by the researcher

Keywords : *Link rot ; Perma.cc ; Preserving Web Pages ; Broken Links*

Introduction

Whatever related literature was used by the researchers and faculty members in their research works are to be properly cited i.e. acknowledged in a given style both as in-text citation and as a reference. Researchers use a lot of web resources these days including web pages of prominent sites. The links of these webpages are added in the list of references. If these web pages are removed or migrated or broken or damaged, the readers will not be able to access those webpages referred by the researcher. So, different mechanisms are used by the researchers to ensure that the links to the select web pages are permanently available. Perma.cc is one such tool that can be effectively used by the research community to preserve the required webpages.

Link rot (and "reference rot") happens when you cite to an online source that later disappears or changes. It's a big problem, especially for academic scholarship and judicial opinions, which depend heavily on citations to stable sources that readers can access. For example, a study conducted by researchers at Harvard Law School found that more than 70% of the links in a sample of law journals and 50% of the links in Supreme Court opinions no longer work.

About Link Rot

Link rot is a slang term for hypertext links that are broken. Link rot is created when a Web page is moved, taken down or reorganized. Clicking on a rotten link usually results in a 404 error, which includes a message that the page cannot be found. Link rot, also spelled linkrot, is also referred to as link death or links to nowhere.

About Perma.cc

Perma.cc is a service that helps prevent link rot. We can use it to preserve the online sources we cite and to make those records accessible to our readers.

How does Perma.cc work?

We can give Perma.cc the URL of the page we want to preserve and cite. Perma.cc software visits that URL, preserves what's there, deposits it into their collection, and gives us a unique URL (e.g. "perma.cc/XYZA-9876") - a "Perma Link" - that points to the record in their collection.

We then can use that Perma Link in our citation to give readers access to a stable, accurate record of the source we referenced, even if the original disappears from the web.

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VISUAL LITERACY EMPOWERED LMS AND CMS FOR INFORMATION RETRIEVAL

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Abstract

The Learning Management System (LMS) is a software application that helps educators manage and deliver content and track student progress. The Content Management System (CMS) is a software application that helps organizations manage their digital content. One of the key features of these systems is their ability to support information retrieval and visual literacy. On the other hand, visual literacy refers to the ability to interpret and understand visual information. Visual literacy abilities could be learned, taught, and developed using the periodic table of visualization. The VL has the capability to read/ write, encode/ decode, to think/ interpret information visually

Keywords : Visual Literacy, LMS, CMS, Information retrieval

Introduction

The aptitude to read, write, and think critically regarding information is defined as information literacy. It is a vital skill that everyone requires in order to succeed in school, at work, and in life. The American Library Association produced the information literacy standards, which are utilized by educators across the country. Visual literacy abilities may be taught using the periodic table of visualization. Everyone may learn how to detect and evaluate visual information by looking at the various items in the table.

The Learning Management System (LMS) is a software application that helps educators manage and deliver content and track student progress. It is often used in online learning environments, but can also be used in face-to-face classrooms.The Content Management System (CMS) is a software application that helps organizations manage their digital content. It includes tools for creating, editing, organizing, and storing content. It can be used to manage website content, documents, and other digital assets.Both LMS and CMS have different features and functionality, but they share some commonalities. Both systems can be used to create, edit, and store digital content. With the advent of the internet and digital media, more and more people are turning to online sources for their information needs. This shift has had a major impact on libraries and the way they operate.

Review of Literature

"Avgerinou's research study (2001a & b, 1999) yielded 11 VL abilities, as follows: Visualization, Critical Viewing, Visual Reasoning, Visual Discrimination, Visual Thinking, Visual Association, Visual Reconstruction, Constructing Meaning, Re-Constructing Meaning, Knowledge of Visual Vocabulary & Definitions, and, Knowledge of Visual Conventions."

"In the Miller-Young and Bowman (2017) study, faculty members from diverse disciplines were interviewed and the transcriptions were qualitatively analyzed for common themes. These themes were collapsed into three main overarching categories: ways of thinking, ways of practicing, and ways of being (Miller-Young and Bowman 2017)."

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Rev. Dr. D. Thomas Alexander S.J Principal, SXCE

Rev.Dr. D.Thomas Alexander, currently working as Principal of St. Xavier's College of Education (Autonomous) has twenty two years of experience as teacher educator. Earlier he has served as the Director of Alumini Association of SXCE, Director of Fr.Utard Library and Director of Jesuit Council for Educational Research and Training before assuming the present position. He has also served as member of NAAC, University and Government inspection committees. He is instrumental in making SXCE as autonomous and the minority institution. He has published more than 50 articles / papers as author / Co-author and he has also edited monographs for 10 seminars. He was the Convener of many UGC sponsored Seminars and Workshops. He has been the most sought after Resource person for Seminars / Youth related Workshops / Camps / University Refresher Courses. His areas of interests are: Moulding the prospective youth / teachers in commitment, compassion and competence (as a different / unique teacher), personality development programme, soft skills and social analysis. He serves as the member of academic and governing bodies of many colleges and presently serves as managing editor of the UGC-CARE-Listed journal on Research and Reflection on Education (RRE) of the college.

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AI-Powered IoT in the Energy Industry

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Lr JKHpsK Geothermal energy is rather one of the oldest forms of renewable sources ever extracted by the human race. Plenty of techniques including dry steam systems, flashing power systems, and binary cycle systems are available to harness geothermal energy to meet the growing demands. Constant upgradation is needed in all these techniques to increase the productivity of the power plants. The advent of the modern computer and the Internet of Things (IoT) created a new era because of the ability of the machine to make smart decisions, and those technologies are effectively used to increase the productivity of geothermal power plants. AI powered IoT facilitates various stages of Geothermal power processing, starting from the identification of GT field for the installation of power plants, optimization of geothermal operations till the dumping of GT waste. Real-time thermodynamic modeling of the energy cycles can also be done using AI, thereby saving manpower, time, and money. Scientific reports show that AI-powered IoT technologies, that includes artificial intelligence (AI) and machine learning (ML), can even be used for GT fluid forecasting, which is crucial in determining the lifespan of a power plant.

c u DHJ Geothermal energy · Artificial intelligence · Machine learning · Internet of Things · Magma · Hot dry rock · Hydrothermal power system · Binary cycle power system · Flashing power system · Dry steam system

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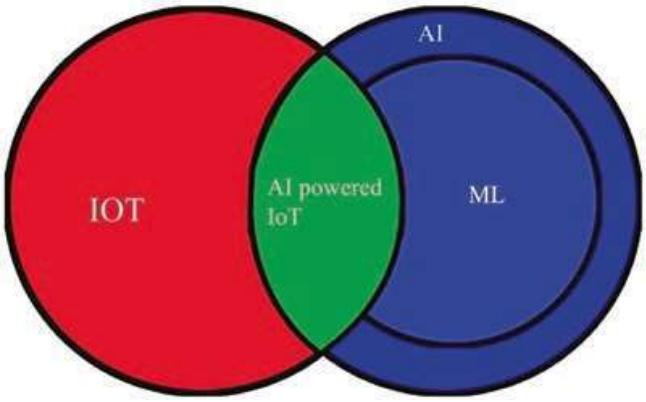
Starting from the massive galaxy to the tiny subatomic particles, everything in the universe possesses some form of energy. The continuous transformation of these energies from one form to another keeps the universe alive. The intrinsic traits of each and every species will help them in the identification of appropriate energy sources from nature, and almost all species use these energy sources either to survive or to reproduce. However, humans are a bit peculiar in the way that we explore and exploit the energy from nature not only to lead a sophisticated life but to investigate and understand the processes of nature itself. For example, the energy from renewable sources like solar energy is indeed used to power the city, and in addition, solar-powered satellites and rockets are used to probe the universe itself. As far as humans are concerned, exploration and exploitation of natural energy sources for pragmatic applications started even in the lower Paleolithic age. The accidental discovery of controlled usage of fire by the frictional forces of stone was a giant leap in the history of mankind. To date, humans make incessant efforts in search of alternate energy sources preferably renewable energy sources, in recent years in order to meet the growing demands owing to the population explosion. Some of the currently appreciated and operated renewable energy sources are solar, wind, biomass, tidal, and geothermal energy.

Among all the renewable energy sources, geothermal energy is the most promising as it is steadily available throughout the year once the source is located, unlike wind and solar energy, where the maximum availability range constantly fluctuates with respect to weather conditions. In geothermal (GT) energy, elevated ground temperatures from various parts of the earth are extracted and utilized for a wide range of applications like heat supply, power generation, etc. This is not at all a newer technique, and exploration of the applications of GT started 10,000 years ago as evident from archeological results. In early ages, people from extremely cold regions used hot springs for bathing, eating, and cleansing, and those were the first known applications of GT. In the 1800s, for the first time in history, efforts were made to harness GT energy for industrial usage from hot springs. Since then, a lot more analysis has been conducted to expand the applications of GT, and after the work of an Italian scientist Piero Ginori Conti, who demonstrated that the power generated using GT was capable of lighting bulbs in 1904, investigations on power generation using GT have been geared up [11, 19, 22, 30, 32, 35, 36, 38]. India has around seven prominent geothermal plants and umpteen numbers of geothermal springs. Almost all the research work conducted so far related to GT could be categorized under any one of the following crucial processes. They are:

- Identification of hotspots of GT
- Power generation using GT
- Extensive applications of GT
- GT reservoir management



Sy4,684 6 Connection between IoT, AI, and ML is depicted using a Venn diagram

All these processes involve enormous consumption of manpower, time, and money; however, the advent of coding languages, the internet, and programming techniques made the abovementioned processes effortless and simple. In this chapter, the roles of artificial intelligence (AI), machine learning (ML), and IoT (Internet of Things) in GT energy processing are discussed in detail.

It is a well-established fact that the very purpose of AI is to build machines that are capable of taking smart decisions. Machine learning is a branch of AI where the machine is made to take decisions based on the knowledge acquired from a known data pool, whereas IoT enables the transfer of data over a network of devices and machines without human-to-computer interaction (Fig. 13.1). AI-powered IoT is a boon to society, and usage of the same might help in the development of productive, efficient, and cost-effective renewable energy sources. Several scientists and researchers have been engaged in finding ways to reduce the complexity of energy extraction from the ground using AI and IoT, and myriads of algorithms and methods have been successfully reported and implemented as well. As far as GT is concerned, AI-powered IoT plays a crucial role, and the following block diagram (Fig. 13.2) illustrates the application of AI-powered IoT in various aspects of GT energy extraction. This chapter gives some insight into the basics of GT energy and the importance of AI-powered IoT in GT energy processing.

This chapter also includes the discussions and the role of AI-powered IoT in all the abovementioned stages of GT energy processing.

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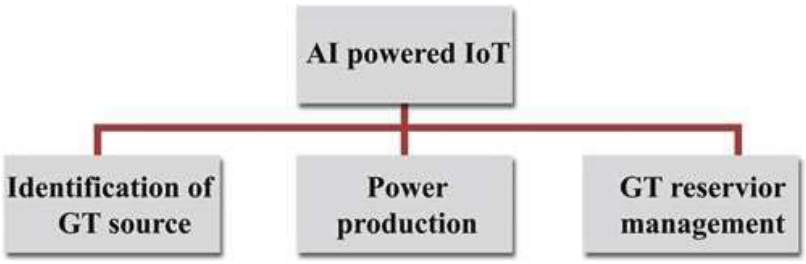
Since AI and IoT are much broader subjects, in this section, highlights of those topics are listed. The preliminary goal of AI is to create intelligent systems to perform complex tasks and to maximize the chances of success. AI's aim is to make programs that are smart enough to mimic the human mind. AI is classified into vertical AI and horizontal AI where in vertical AI, single task is performed with zero errors, whereas in horizontal AI, multitasks are performed using complex algorithms. Machine learning and deep learning are subsets of AI. The goal of ML is to teach



Syw4684 Role of AI-powered IoT in various stages of GT energy processing

the machines to learn automatically from the past data to give accurate output without programming explicitly. Unlike AI, ML performs specific tasks for which they are trained. Supervised learning, unsupervised learning, and reinforcement learning are the primary types of ML. In supervised learning algorithms, the training datasets with labels are analyzed to produce a solution from inferred function. In unsupervised learning, the machine has to identify the pattern in the unclustered data without providing an exact solution without any supervision. In reinforcement learning, machines are allowed to choose a method to solve a problem to increase the efficiency of the output [18].

Techniques combining AI and ML like genetic algorithms, convolutional neural networks (CNN), deep learning, artificial neural networks (ANN), and generative adversarial networks are used for electricity generation, drilling, and power conversion in GT energy extraction by geophysicists and geologists [24].

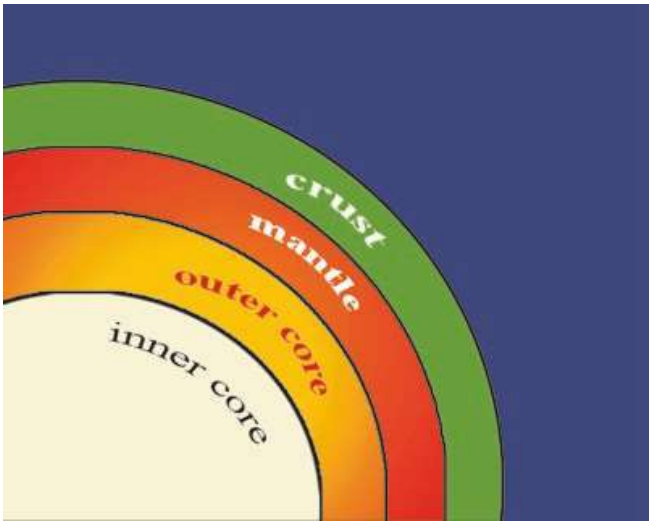
IoT uses embedded systems such as sensors and processors to acquire, communicate, and act on the data they acquire from their surroundings without requiring human-to-human or human-to-computer interaction. The IoT generates excess volumes of real-time data from millions of devices, and ML uses the data to build models. More precisely, IoT sensors can be used to monitor the temperature of GT fields, turbines, and generators in GT power plants to ensure manage production and transmission in real time [28, 31].

684B, g uH yu ,DvTl ,R. uHw

To get an idea of the nature of the heat energy obtained from the earth, knowledge of the structure of the earth is indeed crucial. There are four major parts of the earth (Fig. 13.3). They are (i) the inner core (7000–8000 °C), which is made up of solid iron and is as hot as the sun's surface, (ii) the outer core (4400–6000 °C) made up of molten rocks called magma, (iii) the mantle (800–4300 °C) which constitutes the magma and solid rocks, and (iv) the crust (0–700 °C) which forms the surface of the continents and the ocean.

Due to solar radiation, the ambient temperature of the earth's surface increases contributing to the shallow surface GT, and magnitude of the rise in the surface temperature of the earth depends on the content and the composition of the earth's

Syw4684 Layers of earth



atmosphere. However, the decay of naturally occurring radioisotopes of uranium, thorium, and potassium in the core of the earth is the primary contributor of the geothermal energy. The energy from the earth's core radiates through the surface in any of the following three ways.

- Volcanoes and fumaroles
- Hot springs
- Geysers

Some of the potential applications of GT like usage of hot water from springs demand the earth's surface temperature, while GT power plants require drilling deep into the earth. It is interesting to note that the temperature of the earth at a depth of 10 km would be above 250 °C and that energy would be sufficient enough to meet the needs of the entire human population for about a million years if properly harvested. However, shallow-depth geothermal resources are of great interest due to low-cost shallow drilling.

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As previously mentioned, direct usage of GT fluid for drinking, heating, and bathing purposes does not require deep drilling. However, the installation procedure of GT power plants for the generation of electricity on a large scale is hectic, and deeper drilling is required [21]. Generally, before the installation of a geothermal plant, the following parameters are taken into consideration:

- Availability of geothermal water sources
- Depth of geothermal water
- Temperature of geothermal water
- Water mineralization in fluid

While installation, flow forecasting of the GT fluid is very crucial as it decides the capacity and efficiency of the plant. But it is not quite easy to locate the GT energy source as it is unevenly distributed in the deeper part of the earth. The area that encircles the Pacific Ocean (Ring of Fire) and the boundaries of tectonic plates where earthquakes and volcanoes more frequently occur are the most preferable areas for the installation of GT power plants, and those areas are considered to have the most active geothermal areas in the world [9, 13].

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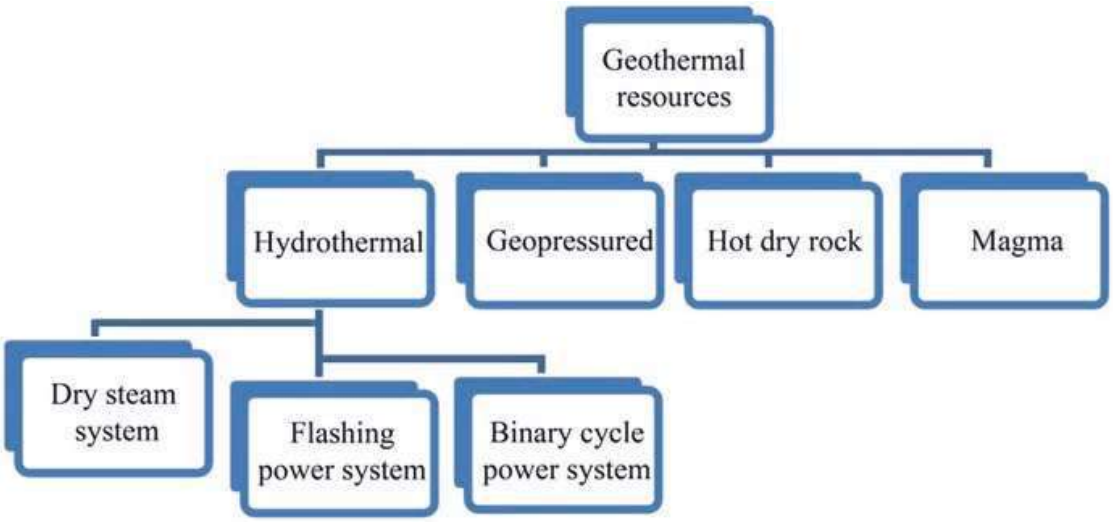
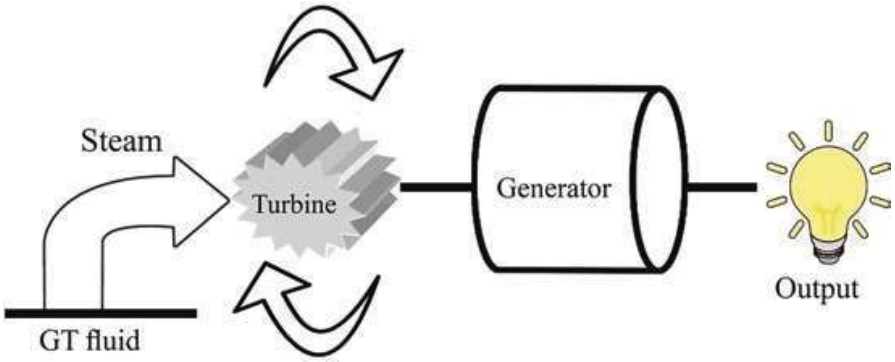
To meet the future demands, identification of the ways of energy extraction from various energy resources is important, and GT energy forms a great alternative. The temperature of the earth's surface is about 20 °C up to a depth of 10–20 m and is mainly influenced by solar radiation and heat conductivity of the soil. However, the shallow layer of the GT energy is not suitable for power production; instead, it can be used for direct application. For the generation of electricity, the temperature of GT fluid should be above 130 °C. Such a temperature can be achieved from any of the four (hydrothermal, geopressured, hot rock, and magma) geothermal resources mentioned in Fig. 13.4; however, hydrothermal resources are the ones that have been used widely. Energy extraction from the rest of the sources is still in the development stage. Hydrothermal reservoirs make use of the hot water or steam that is formed when the groundwater trapped in fractured or porous rocks in the earth's crust gets heated up due to the proximity of magma. Depending upon the depth of the hydrothermal resources and its temperature, application of GT sources gets varied. Low-temperature hydrothermal resources are used directly to heat public buildings and to warm pools. However, electricity is generated from the high-temperature hydrothermal resources. Electricity can be generated using any one of the following



Sw4684 Classification of geothermal resources



Sw4684 Illustration of dry steam system

three ways: direct steam system, flashing power system, and binary cycle power system. The dry steam system makes use of the vapor phase of GT fluid, whereas the flashing power system and binary cycle power system use the liquid phase [8, 37].

13.5.1 Dry (Direct) Steam System

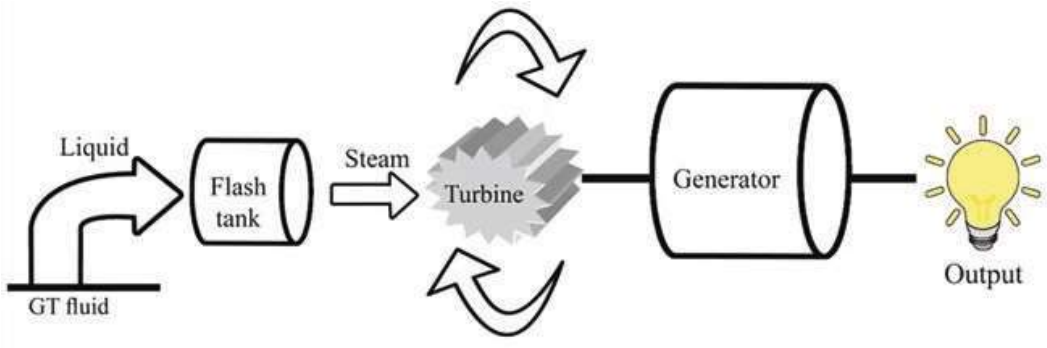
GT fluid that is in the vapor phase directly goes to the turbine and runs a generator to produce electricity. Normally, fossil fuels are burned to run the turbine; however, direct use of steam eliminates the usage of fossil fuel; therefore, direct steam plants do not excessively emit polluted gases [37] (Fig. 13.5).

13.5.2 Flashing Power System

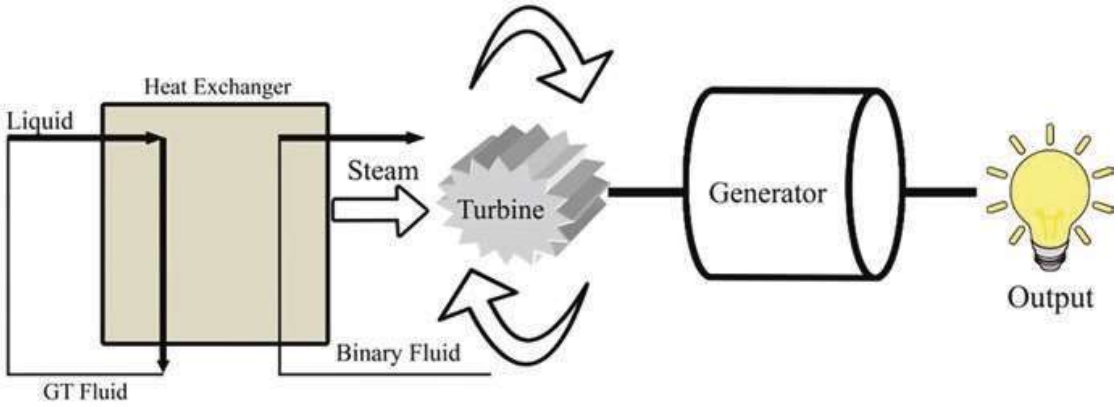
This is the widely operated method. In this method, liquid-phased GT at high temperature and pressure is pumped into the flash tank which is maintained at low pressure to cause rapid vaporization like a flash. Thus, formed steam is directed at a turbine which in turn drives the generator [37] (Fig. 13.6).

13.5.3 Binary Cycle System

This system is used when the temperature of the GT fluid is not high enough to get converted/flash into steam (Fig. 13.7). Instead, it uses secondary/binary fluid (e.g., Freon) that has a very low boiling point compared to water. GT fluid will never be in direct contact with the turbine unit but will pass through the heat exchanger. The temperature of the GT fluid will be utilized for heating the secondary fluid in the heat exchanger, and thus heated binary fluid will be flashed to steam while entering



Syw4684A Pictorial representation of flashing power system



Syw4684B Illustration of binary cycle system

into the low-pressure region. The steam will be utilized to run the turbine which in turn drives the generator to produce electricity. Depending upon the type of binary fluid, an organic Rankine cycle or Kalina cycle takes place in the heat exchange chamber [37, 39].

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13.6.1 Benefits of GT Energy

When the world was in search of sustainable renewable energy sources to meet the growing demands, GT energy came to the rescue. Some of the pros of GT energy are highlighted below:

- GT is considered as the clean energy source as it does not involve any combustion cycle for energy production.
- Once GT source is identified, energy can be extracted continuously irrespective of the weather conditions, thereby acting as an efficient sustainable energy source.
- It can be integrated with other renewable energy sources for efficient operation. It does not rely upon fossil fuels, and hence it has zero carbon footprints [11].

13.6.2 Drawbacks of GT Energy

Just like the two sides of the coin, GT energy also has some disadvantages; however, compared with the pros, cons are minuscule and can be taken care off with some more efforts.

- Installation cost is high, and identification of source points requires manpower and money.
- Due to deep drilling and imbalance in GT fluid, earthquakes might occur.
- There prevails difficulty in transporting the power generated using GT energy to the customer [11].

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After the successful identification and exploitation of energy from a GT reservoir for several decades, it has become vital to re-inject the fluid back to the reservoir to balance the overexploitation of the source. As per the standard definition of sustainable development (*a development should be able to meet the needs of the present and future generations*), management of resources has become crucial for our future generations to meet their needs. Sustainable means how a resource is maintained after long-term use. Overexploitation without proper monitoring may lead to depletion of the resource, and hence reservoir management becomes important. The common amortization time of a GT power plant is up to 30 years; however, proper monitoring has to be done to maintain or to extend this lifespan. Re-injection of GT fluid back into the well is a widely functional way of disposing of it. The following elements are very essential for reservoir management:

- To avoid overexploitation of the resource, monitoring and controlling the energy extraction is necessary.
- The response of the reservoir has to be recorded for long span production.
- Modeling and recording the response history of the reservoir is vital for predicting the future response.
- Responsible actions and decisions have to be taken while exploiting resources.

All the processes starting from the identification till the management of the resources became more productive, functional, and time saving after the advent of AI, machine learning, and IoT. The upcoming topics discuss the role of all these techniques in improving various stages of power production, reservoir management, etc. [31, 32].

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13.8.1 In the Identification of Hotspots

Umpteen numbers of factors have to be taken into consideration before the successful installment of geothermal plants. Some of the ways where AI-powered IoT facilitates the identification of potential hotspots for GT reservoirs are discussed in this section. In Fig. 13.8, some of the benefits of AI-powered IoT in the exploration of the GT field are highlighted.

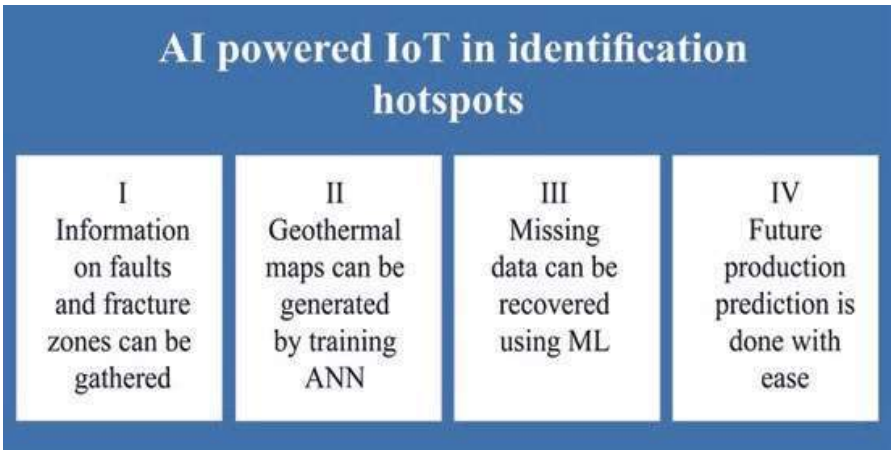
The key points given in Fig. 13.8 are discussed as follows:

The temperature of the geothermal reservoir has to be properly determined for the installation of geothermal plant [23]. In order to reduce project costs and increase efficiency, the information obtained during the exploration phase of a geothermal project has to be more accurate. Perez-zarate et al. [27] estimated reservoir temperature using an artificial neural network (ANN). Nowadays, even maps can be generated using AI to depict the temperature distribution for GT field identification.

Bist et al. [5] proposed that GT fluid flow rates can be forecasted at a more accurate level based on the current flow rate using AI. They designed a model, and the results eliminate dealing with uncertainties in the GT reservoirs when compared with conventional methods.

Machine learning identifies the pattern in a data and makes predictions about new data points. Haklidir and Haklidir [15] developed a deep learning model to predict the temperature of geothermal reservoir based on data from various sources. The model is effective in the sense that it can predict the temperature distribution even with some missing fields.

For the successful establishment of geothermal plants, information on faults and fractured zones has to be gathered. In the conventional double beam interference pattern (DBI), complete fracture structure is not obtained. Hence, researchers [41] trained neural networks, that is, used AI to convert complex valued patterns to discrete fracture networks (DFN) without disturbing the Fourier transform relation that



Sywj684C Highlights of AI-powered IoT in the identification of hotspots

exists between DBI and DFN. Hence, information on fracture orientation and the number of fracture sets was obtained at a more accurate level [12].

Recent work of Siler et al. [34] demonstrated that unsupervised machine learning can be used to identify the geological factors that influence the production in geothermal fields. For that case study, they chose a Brady geothermal field in Nevada.

Machine learning can even be used for analyzing and predicting the thermal and physical characteristics of the ground for the design of shallow geothermal heat exchangers. Bourhis et al. [6] showed that machine learning approach is effective in estimating the ground temperature, the ground effective thermal conductivity, and the borehole thermal resistance not only in local sites but also in regional areas.

In geothermal drilling operations, problems faced by conventional drilling can be reduced using LASER drilling technology. Desai and Shah [10] proposed IoT-based LASER drilling system for reliable measurement of various operations in the geothermal sector with on-field data evaluation, transfer, and storage. Through the IoT network, LASER operating parameters can be adjusted as per requirement without human intervention. IoT monitors the temperature variation in the geothermal hotspots with the help of temperature sensors that sense and report the change through networking.

Shibli and Mathew [33] even designed a geothermal heat pump and analyzed the controlling parameters of the design using AI, ML, and big data mining.

13.8.2 In Power Production

Some of the highlights of AI-powered IoT in the power production are listed in Fig. 13.9, and a brief discussion on few highlights is made in this section.

Various efforts have been made to improve the design and working of GT power plants, and the study of Acar [1] shows that ANN analysis was used to optimize the geothermal energy-powered Kalina cycle (GEP-KC). His model was composed of two stages. The data obtained from a single network was used to model a

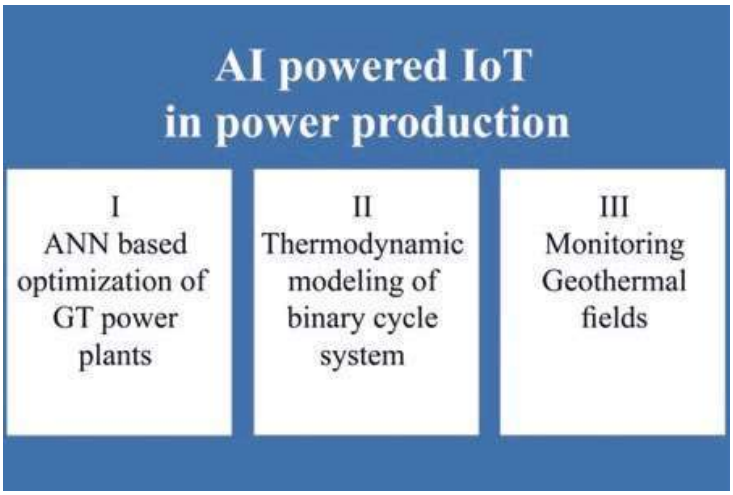


Fig. 13.9 Highlights of AI-powered IoT in the power production

multi-stage ANN structure. The values of turbine inlet pressure, geothermal water outlet temperature, condenser pressure, and ammonia mass fracture were optimized to increase the efficiency of the GT energy-powered Kalina cycle.

Report of Buster et al. [7] shows that the Geothermal Operational Optimization with Machine Learning (GOOML) technique is able to accurately model the real-world performance characteristics of as-built geothermal systems. GOOML is believed to maximize outputs and optimize processes and sustainable management of operation.

Increasing the lifetime of GT plant is a main challenge, and Khosravi et al. [20] used AI approach to provide the thermodynamic model of the geothermal organic Rankin cycle equipped with solar thermal unit. The hybrid geothermal/solar system is composed based on the design parameters such as preheated inlet pressure, surface area of the solar collector, turbine output pressure, solar radiation, well temperature, etc.

IoT combined with temperature sensors provides real-time monitoring of the geothermal field accurately which is essential in shallow geothermal resources [25, 26, 40].

13.8.3 In Reservoir Management

The field of waste management also benefits from AI, ML, and IoT, and the highlights are given in Fig. 13.10. To make this energy sustainable, the re-injection of GT fluid is quite essential. The fluid injection can perturb pore pressure which in turn can result in micro-earthquakes. Accurate prediction of induced seismicity is important for safe energy recovery as it is a major environmental concern in GT energy operation. Pu et al. [29] used AI to identify microseismic events. Deep learning models that were developed to identify seismic signals have also been applied to identify induced seismicity.

Re-injection of GT fluid is essential to increase the amount of energy that can be extracted from a GT reservoir. Akin et al. [3] used an inference method that

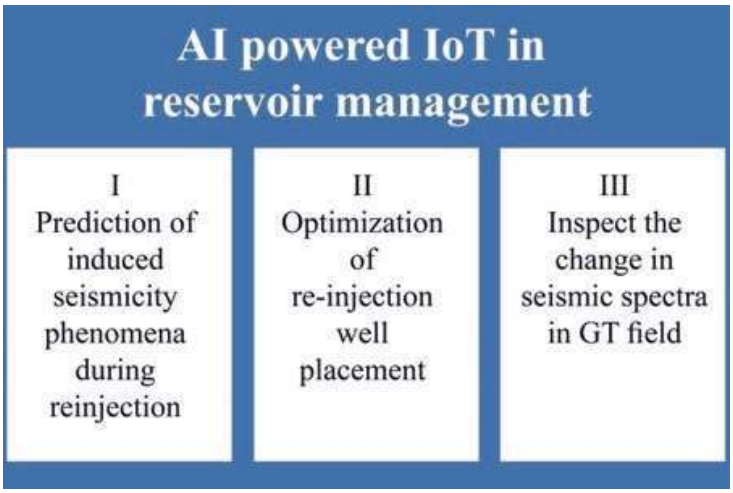


Fig. 13.10 Highlights of AI-powered IoT in the reservoir management

comprises ANN and a search algorithm to find the optimum location of an injection well.

The key points listed in Fig. 13.10 are discussed elaborately as follows:

He et al. [16] proposed a basic framework for using machine learning techniques that in order to overcome the induced seismic risks as the existing decision-making tool known as the traffic light system (initially proposed to manage seismic risks) is not potential enough. They optimized the traffic light system using a machine learning approach.

Holtzman et al. [17] demonstrated the potential of machine learning to identify patterns in the spectral properties of seismic signals and to notice variations in faulting processes. This study is believed to be helpful in analyzing the change in faulting processes during the re-injection of GT fluid to reduce induced seismic activity.

Identification of location for the re-injection well and finding the optimal injection rate are crucial to increasing the power production and to minimize induced seismic activity. Akin [2] proposed the use of neural networks and kriging proxies to find the combination of one or more rejection well locations. Thus, significant works have been carried out in dumping the waste yet not polluted to keep the energy sustainable [4, 14].

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The various environmental constraints prevailing in GT fields like high pressure, high temperature, and the existence of corrosive fluids make the measurements and predictions erroneous. As discussed in this chapter, AI sometimes powered by IoT effectively processes and predicts the information from even small datasets. However, the quality of input data has to be high in order to get accurate results. Due to advancements in sensor, the IoT finds a major role in GT power processing techniques. IoT exchange gathered information from multiple sensors to the surface monitoring systems thereby controls the operation of various systems when combined with AI. AI-powered IoT works without human intervention, and it is essential to minimize manpower as the GT fields have harsh physical environment. Researchers working on AI are in constant search for newer algorithms to minimize system errors and to overcome drawbacks in order to maximize production rates to meet the energy demands.

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VERTEX COLORING OF GRAPH USING INCIDENCE MATRIX

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Abstract

Graph coloring is one of the potential area of research in Graph theory. The vertex coloring problem is one of the fundamental problem on graphs which often appears in various scheduling problems like file transfer problem on computer networks. Various algorithms for vertex coloring, edge coloring, total coloring etc., are described by various researchers. In this paper, a simple approach is proposed to color all the vertices of a graph with the minimum number of colors. This approach help us to find chromatic number of a graph using incidence matrix.

Keywords: Vertex coloring, Chromatic number, Incidence matrix.

2010 AMS Subject Classification: 05C15

1. Introduction

A graph is an abstract structure which consists of vertices and edges, each edge joins two vertices called ends of the edge. It can be used to represent various combinatorial or topological structures that can be modelled as objects and connections between those objects. A graph structure is very suitable for representing relationships between objects in the abstract, and a large number of combinatorial problems can be modelled as problems on the graph structure [11].

In Graph theory, coloring is an important area which has been extensively studied. Coloring theory started with the problem of coloring the countries of a map in such a way that no two countries that have a common border receive the same color. If we denote the

countries by points in the plane and connect each pair of points that correspond to countries with a common border by a curve, we obtain a planar graph. The celebrated Four Color Problem asks if every planar graph can be colored with four colors. It seems to have been mentioned for the first time in writing in an 1852 letter from A. De Morgan to W.R. Hamilton. Nobody thought at that time that it was the beginning of a new theory. The first proof was given by Kempe in 1879 [12]. The fundamental parameter in the theory of graph coloring is the chromatic number $\chi(G)$ of a graph G which is defined to be the minimum number of colors required to color the vertices of G in such a way that no two adjacent vertices receive the same color. If $\chi(G) = k$, we say that G is k-chromatic. The edge-coloring problem is to color all edges of a given graph with the minimum number of colors so that no two adjacent edges are assigned the same color [10].

2. Preliminaries

Some basic definitions and their remarks are presented in this section to understand this approach in a better way.

2.1 Definition

Painting all the vertices of a graph with colors such that no two adjacent vertices have the same color is called the *proper coloring* or simply *coloring* of a graph.

A graph in which every vertex has been assigned a color according to a proper coloring is called a *proper colored graph*. A graph G that requires k different colors for its proper coloring, and no less, is called a *k – chromatic graph*, and the number k is called the *chromatic number* of G and is denoted by $\chi(G)$ [4].

2.2 Definition

Let G be a graph with n vertices and m edges. *The incidence matrix* A(G) is defined by $A(G) = [a_{ij}]$ where,

$[a_{ij}] = 1$, if v_i is incident with e_j,

$= 0$, if v_i is not incident with e_j

Note:

- A graph consisting of only isolated vertices is 1 – chromatic.
- A graph with one or more edges (not a self – loop) is at least 2 – chromatic.
- A complete graph of n vertices is n – chromatic.
- A graph consisting of simply one circuit with $n \geq 3$ vertices is 2 – chromatic if n is even and 3 – chromatic if n is odd.

2.3 A simple approach for graph coloring

Several authors developed algorithms for vertex coloring, edge coloring, total coloring etc., using different approaches. In this section a new algorithm for vertex coloring using incidence matrix is presented in detail.

Algorithm:

Step 1:

Construct an Incidence matrix for the given graph.

Step 2:

Find the sum of the elements in each row of the matrix. Select the row that has maximum value.

Step 3:

Case (a)

If the maximum value is unique, then go to step 4.

Case (b)

If there is a tie in the maximum value, select anyone arbitrarily and go to step 4.

Step 4:

Assign new color to the vertex corresponding to the row of the identified maximum value and delete the row then go to step 5.

Step 5:

Look for the columns with single ones in the reduced matrix and mark the row associated with single ones then strike off the columns.

Step 6:

Select the vertices associated with the unmarked rows in the reduced matrix obtained in step 5.

Case (a)

If there is no unmarked rows then go to step 2.

Case (b)

If there is only one unmarked row assign the same color to the vertex and delete the corresponding row and columns with single ones. If there is no column in the reduced matrix assign new color to the remaining vertices and stop the process. Otherwise go to step 2.

Case (c)

If there are more than one unmarked rows in the reduced matrix then check the degrees of the vertices associated with each unmarked row. Assign same color to the vertex which has maximum degree and delete the row then go to step 5. Repeat the process until all the vertices have been colored.

Illustration:1

Consider a graph with 6 vertices and 9 edges as shown in the figure 1. Find proper coloring of a graph using the above algorithm.

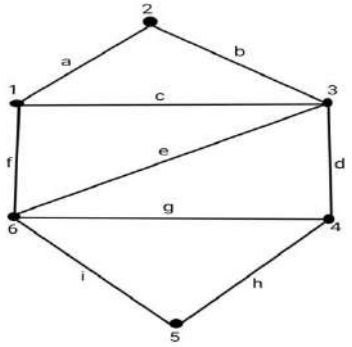

Figure:1 (6,9) graph

Solution:

As per the first and second step of the algorithm construct an incidence matrix and compute the sum of the elements in each row of the corresponding matrix is shown in the table 1.

Table 1: Incidence matrix of (6,9) graph

	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**deg**
1	1	0	1	0	0	1	0	0	0	**3**
2	1	1	0	0	0	0	0	0	0	**2**
3	0	1	1	1	1	0	0	0	0	**4**
4	0	0	0	1	0	0	1	1	0	**3**
5	0	0	0	0	0	0	0	1	1	**2**
6	0	0	0	0	1	1	1	0	1	**4**

Table 1 shows that the maximum value is 4. By case (b) of step 3, there is tie in the third and sixth rows and the associated vertices are 3 and 6 respectively. Select anyone arbitrarily. Let us choose third row and the corresponding vertex is 3. By step 4, assign new color (say Red) to the vertex 3 and delete that row. By step 5, the columns ‘b’, ‘c’, ‘d’and ‘e’ have single ones associated with the vertices 1,2,4 and 6. Strike off the columns and neglect the marked vertices. By step 6, select the unmarked vertex 5. By case (b) of step 6, there is only one unmarked row in the reduced matrix. Assign the same color (say Red) to the vertex 5, delete the corresponding row and columns with single ones say ‘h’ and ‘i’. Again by step 2, the reduced incidence matrix and the sum of the elements of each row of the uncolored vertices are given in table 2.

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Table 2

	a	**f**	**g**	**deg**
1	1	1	0	**2**
2	1	0	0	**1**
4	0	0	1	**1**
6	0	1	1	**2**

Table 2 shows that the maximum value is 2. By case (b) of step 3, there is tie in the first and fourth rows and the associated vertices are 1 and 6 respectively. Select anyone arbitrarily. Let us choose first row and the corresponding vertex is 1. By step 4, assign new color (say Pink) to the vertex 1 and delete that row. By step 5, the columns 'a' and 'f' have single ones associated with the vertices 2 and 6. Strike off the columns and neglect the marked vertices. By step 6, select the unmarked vertex 4. By case (b) of step 6, there is only one unmarked row in the reduced matrix. Assign same color (say Pink) to the vertex 4 and delete the corresponding row and columns with single ones say 'g'. The remaining vertices 2 and 6 are distinct and there is no columns in the reduced matrix. By step 4, assign new color (say Green) to vertices 2 and 6. The resulting graph is shown in figure 2.

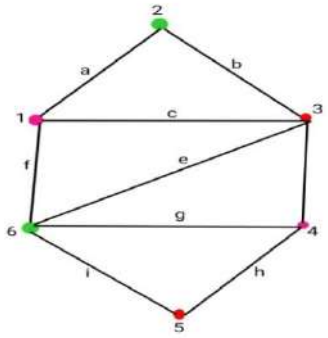

Figure:2

By the proposed method, the vertices of a given graph is colored with minimum three colors and its chromatic number is 3.

3. Conclusion

In this paper we have presented a simple approach for finding chromatic number of a graph using incidence matrix. The illustration discussed here can clearly indicate the perfection of the simple approach for proper coloring of given graphs. Further a computer based algorithm can be developed in future by using any computer languages which will make more easier to color any larger size of graphs.

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ICISH 004

Optimization of Fuzzy integrated Inventory model with green technology using Kuhn-Tucker approach

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Abstract: This paper derives an integrated inventory model with shortage, Carbon Emission and Green Investment in a fuzzy environment. A green investment is used to limit carbon emissions, we tried to obtain optimal cost relative to optimal lot size and Effect of controlling carbon emissions using fuzzy Kuhn-Tucker method. The models are analysed based on several cost components and evaluated using numerical examples.

Keywords: Kuhn-Tucker method, optimization, fuzzy

ICISH 015

An Inventory model with time dependent demand and partial backorder using Lagrange Method

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Abstract: In this paper, we study an inventory model for items that have a power demand and where shortages are allowed. Some of inventory parameters are appropriated heptagonal fuzzy numbers. The objective of this paper is to maximize the return on inventory investment defined as the ratio of the profit per unit time over the average inventory cost. Further to achieve the optimal solution using Lagrange method. These optimal solutions that maximize the return on inventory investment are, in general, different from those that minimize the total inventory cost per unit time. Finally, a numerical example of the optimal inventory model with respect to the system input parameters are given to the proposed model.

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Minimal Split Domination number of some special graphs

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Abstract: In this paper, presented the idea of minimal split dominating set in a graph G(V,E). A set S of vertices of G is a split dominating set of G's, if the sub graph <V-S> is not connected. A minimal split dominating set in a graph G is a split dominating set that contains no split dominating set as a proper subset. A minimal dominating set of minimum cardinalities is a minimum split dominating set and consists of $\gamma_{SD}(G)$ vertices and further investigate the split dominating set and split dominating number of various special graphs like Bidiakis cube, Durer graph, Golomb graph and etc.