



Shri Chaitenyeshwar Shikshan Mandal, Nagpur  
**SHRI LEMDEO PATIL MAHAVIDYALAYA**

Mandhal, Tah. Kuhi, Dist. Nagpur  
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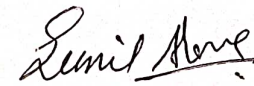
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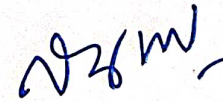
NAAC 2024/ Metrics Level Deviations/Cr- 3.3.2

Date:- 10/09/2024

<b>Criteria 3.3.2:</b>	Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years
<b>Clarification Asked:</b>	DVV has updated the data after exclusion the enteric without ISSN /ISBN no. 1) HEI needs to provide the Cover page highlighting the name of the author, year of publication and institute affiliated, content page and first page of the selected publication. 2) HEI also needs to provide the Web-link of books. 3) HEI must also ensure the year of publication, Name of the faculty and affiliating institution is highlighted on the cover page.
<b>Response:</b>	1) List of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years is attached. <b>(Appendix-I)</b> 2) The book cover page highlighting the name of the author, year of publication and institute affiliated, content page and first page of the selected publication are attached. <b>(Appendix-II)</b> 3) Conference paper presentation certificates heighliting the name of the author are attached. <b>(Appendix-III)</b> 4) Web-link to books and conference papers is also provided.

  
Cr-3 Coordinator

  
IQAC Coordinator  
**IQAC**  
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Shri. L.. P. Mahavidyalaya,  
Mandhal.

  
Principal  
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur



# **Appendix-I**



Shri Chaitenyeshwar Shikshan Mandal, Nagpur  
**SHRI LEMDEO PATIL MAHAVIDYALAYA**

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**3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five year.** (15)

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Deepak Taikar	Text book of Physics B.Sc. (Semester IV)	NA	NA	NA	National	2019-2020	978-81-942042-7-5	Shri Lemdeo Patil Mahavidyalaya	DNA Publication
2	Mahesh Gaidhane	NA	Study of pharmacokinetics, physiochemical, medicinal properties of thiazole based beta-amino carbonyl derivatives	IWCSET-2020	International web conference on Science, Engineering & Technology (IWCSET-2020)	International	2019-2020		Shri Lemdeo Patil Mahavidyalaya	
3	Mahesh Gaidhane	NA	Synthesis and Antioxidant and Antifungal Active of Various Novel Substituted Phenothiazines Derivatives	International Conference on Advances in Physical, Chemical & Mathematical Sciences (ICAPCM 2020)	International Conference on Advances in Physical, Chemical & Mathematical Sciences	International	2019-2020		Shri Lemdeo Patil Mahavidyalaya	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
4	Deepak Taikar	NA	Blue light emitting $Tm^{3+}$ doped $La_2O_3$ phosphor for W-LED application	International Conference on Advances in Physical, Chemical & Mathematical Sciences (ICAPCM 2020)	International Conference on Advances in Physical, Chemical & Mathematical Sciences	International	2019-2020		Shri Lemdeo Patil Mahavidyalaya	
5	Deepak Taikar	NA	Study of photoluminescence of $Tb^{3+}$ doped $Sr_2CeO_4$ phosphor for UV LED application	NCSCA 2019	11 <sup>th</sup> National conference on Solid State Chemistry and Allied Areas	National	2019-2020		Shri Lemdeo Patil Mahavidyalaya	
6	Dr. Navneet Kumar Lamba	NA	Coupled Hygrothermoelastic Model Response of a finite solid circular cylinder	--	24 <sup>th</sup> International Conference of International Academy of Physical Sciences	International	2019-2020		Shri Lemdeo Patil Mahavidyalaya	
7	Pankaj Meshram	NA	Encapsulation of the Isatin Schiff base in the core of $\beta$ -Cyclodextrin	NCSCA 2019	11 <sup>th</sup> National conference on Solid State Chemistry and Allied Areas	National	2019-2020		Shri Lemdeo Patil Mahavidyalaya	



Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
8	Pankaj Meshram	NA	Synthesis and Characterization of the Inclusion Complex of $\beta$ -Cyclodextrin as Host and Schiff Base of 1H-indole-2,3-dione as a Guest molecule	International Conference on Advances in Physical, Chemical & Mathematical Sciences (ICAPCM 2020)	International Conference on Advances in Physical, Chemical & Mathematical Sciences	International	2019-2020		Shri Lemdeo Patil Mahavidyalaya	
9	Navneet Kumar Lamba	Mathematical Analysis of Transmission of COVID-19/A Comparative Study of COVID-19 Pandemic in Rajasthan, India, Chapter no. 5, pp. 77-100	NA	NA	NA	International	2020-21	978-981-33-6264-2	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Mathematical Engineering, Springer Publication

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
10	Navneet Kumar Lamba	Mathematical Analysis of Transmission of COVID-19/ Mathematical Modelling of COVID-19 in Pregnant Women and Newly Borns, pp. 337-348	NA	NA	NA	International	2020-21	978-981-33-6264-2	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Mathematical Engineering, Springer Publication
11	Deepak Taikar	NA	Effect of Li <sup>+</sup> - ion on photoluminescence property of Eu <sup>3+</sup> doped ZnO phosphor	International Web Conference on Advanced Material Science & Nanotechnology (NANOMAT-2020)	International Web Conference on Advanced Material Science & Nanotechnology (NANOMAT-2020)	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	
12	Deepak Taikar	NA	Synthesis and luminescence study of n-UV excitable Tm <sup>3+</sup> activated blue phosphor		6th International Conference on Advances in Material Science	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
13	Deepak Taikar	NA	Structural and Electrical Properties of Nano[Ni <sub>0.6</sub> Zn <sub>0.4</sub> Fe <sub>2</sub> O <sub>4</sub> ] Spinel Ferrite		International E-Conference on Recent Advances in Material Science and Nanotechnology	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	
14	Mahesh Gaidhane	NA	Comparative Ultrasonic Synthesis of Quinoline Fractionalized Chalcone and its Absorption, Distribution, Metabolism and Excretion Analysis		6th International Conference on Advances in Material Science	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	
15	Mahesh Gaidhane	NA	Synthesis and biological activity of o-b-D-glucosides of substituted pyrimidine-2,4,6-triones		International Interdisciplinary Virtual Conference on Drug Disease and Development	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
16	Avinash Titarmare	NA	DEPRESSION-INDUCED PROBLEM FOR SPORTS MAN AND THEIR REMEDIES		INTERNATIONAL MULTIDISCIPLINARY CONFERENCE ON 'CONTEMPORARY APPROACHES AND APPLICATIONS IN PHYSICAL EDUCATION & SPORTS SCIENCES	International	2020-21		Shri Lemdeo Patil Mahavidyalaya	
17	Deepak Taikar	University Physics Volume-I	NA	NA	NA	National	2021-22	9789391322816	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Alliance & Co.
18	Smita Kharkale	A Text book of Chemistry (B.Sc. Sem-I)	NA	NA	NA	National	2021-22	978-93-87278-85-1	Shri Lemdeo Patil Mahavidyalaya, Mandhal	DnyanPath Publication
19	Smita Kharkale	A Text book of Chemistry (B.Sc. Sem-II)	NA	NA	NA	National	2021-22	978-93-91331-70-2	Shri Lemdeo Patil Mahavidyalaya, Mandhal	DnyanPath Publication

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
20	Tirthraj Kapgate	Dehadan-Awayawdan Mrutyunantarchi Sundar Bhet/Dehanamude Jiwanani Mrutyuhi Arthapurn Hoto	NA	NA	NA	National	2021-22	978-81-950169-0-7	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Madhyama Prakashan
21	Naveenet Kumar Lamba	Soft Computing in Inventory Management/ A Stackelberg Game Approach in Supply Chain for Imperfect Quality Items with Learning Effect in Fuzzy Environment	NA	NA	NA	International	2021-22	978-981-16-2156-7	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Springer Publication
22	Pankaj Meshram	NA	Synthesis and characterization of $\beta$ -Cyclodextrin:3-((4-methoxyphenyl)imino) indolin-2-one inclusion complex	International conference on New Horizons and Trends in Chemical Sciences	International conference on New Horizons and Trends in Chemical Sciences	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	



Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
23	Smita Kharkale	NA	Assessment of genotoxic effect of aqueous 1,2,4,5-tetrazine with allium sativum		International virtual conference on current scenario in chemical sciences (CSCS-2021)	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	
24	Smita Kharkale	NA	Current education and promotion of quality in teaching learning and research		National Seminar on Revised Assessment Framework: Understanding & Challenges	National	2021-22		Shri Lemdeo Patil Mahavidyalaya	
25	Smita Kharkale	NA	Valuation of Genotoxic Effect of Aqueous Organic compound with Allium Sativum (Garlic)		International e-conference on Sustainable and Futuristic Materials	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	
26	Mahesh Gaidhane	NA	Trace elements analysis in ground water used for drinking purposes		International e-conference on Recent innovations in science and technology	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
27	Mahesh Gaidhane	NA	Synthesis of B-Amino Carbonyl Pyrimidines under Ionic Liquid [Et <sub>3</sub> NH][HSO <sub>4</sub> ] Catalysis	ICNHTCS-202	International conference on New Horizons and Trends in Chemical Sciences	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	
28	Mahesh Gaidhane	NA	Current education and promotion of quality in teaching learning and research	National Seminar on Revised Assessment Framework: Understanding & Challenges	National Seminar on Revised Assessment Framework: Understanding & Challenges	National	2021-22		Shri Lemdeo Patil Mahavidyalaya	
29	Mahesh Gaidhane	NA	Synthetic, Characterization and Medicinal Perspectives: 1,2,4-Triazole, 4-Oxidiazole and 4-Oxaazolidinones	International e-conference on Sustainable and Futuristic Materials	International e-conference on Sustainable and Futuristic Materials	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	
30	Navneet Kumar Lamba	NA	Thermoelastic Modeling of time fractional circular sector disk with internal heat generation		International Conference on Advancement in Science, Technology and Mgmt.	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
31	Navneet Kumar Lamba	NA	Modeling and Analysis in One Dimensional Fractional Thermoelastic Problem for a Finite Half Space		27th International conference of International Academy Of Physical Sciences (Coniaps Xxvii) On "Recent Advances In Solid Mechanics & Seismology"	International	2021-22		Shri Lemdeo Patil Mahavidyalaya	
32	Navneet Kumar Lamba	NA	Time fractional theory in Functionally Graded thermosensitive thick hollow cylinder		National E-Conference "Recent Trends In Pure And Applied Mathematics"	National	2021-22		Shri Lemdeo Patil Mahavidyalaya	
33	Deepak Taikar	A Text Book of Physics (B.Sc. Sem-V)	NA	NA	NA	National	2022-23	978-93-91201-70-8	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Sai Jyoti Publication
34	Tirthraj Kapgate	Rashtrasantane Paik/Gandhiji Nantarcha Bharat ani Rashtrasant	NA	NA	NA	National	2022-23	978-93-93673-08-4	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Raghav Publishers and Distributors

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
35	Tirthraj Kapgate	Sawali/ Samajik Sanskrutikta, kala ani vichar tikaun thewnari apad jidda	NA	NA	NA	National	2022-23		Shri Lemdeo Patil Mahavidyalaya, Mandhal	Vanraee Foundation
36	Smita Kharkale	Application of Nanomaterials in Medical Procedures and Treatments/Chapter7: Advanced Materials and Processing Techniques Pg No.:247-264	NA	NA	NA	International	2022-23	978-981-5136-95-1	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Bentham Book
37	Smita Kharkale	NA	Genotoxic Effects of 1,2,4,5-tetrazin on Allium sativum L. and Allium cepa L.	CSCS-2022	2nd International virtual conference on current scenario in chemical sciences (CSCS-2022)	International	2022-23		Shri Lemdeo Patil Mahavidyalaya, Mandhal	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
38	Smita Kharkale	NA	Genotoxic effects of tetrazin on allium sativum and allium cepa	ICIESM-2023	Innovation in Engineering Science and Management (ICIESM-2023)	International	2022-23	978-935457-951-6	Shri Lemdeo Patil Mahavidyalaya, Mandhal	
39	Mahesh Gaidhane	NA	Synthesis of ZnO Nanoparticle by Sol-Gel methods and its characterization	Functional Materials for Sustainable Development	National Symposium on Functional Materials for Sustainable Development	National	2022-23		Shri Lemdeo Patil Mahavidyalaya, Mandhal	
40	Sunil Alone	Re-imagining Education: A Framework for Educational Transformation- Vol. 1/Re-imagining Education: A Framework for Educational Transformation in India	NA	NA	NA	National	2023-24	978-81-962554-9-7	Shri Lemdeo Patil Mahavidyalaya, Mandhal	A2Z EduLearnin gHub Publications



Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
41	Deepak Taikar	Applications of Physics in Recent Trends of Science/Applications in Phototherapy Lamp: Narrow band UVB emitting Gd <sup>3+</sup> doped La <sub>2</sub> O <sub>3</sub> phosphor for phototherapy lamp	NA	NA	NA	International	2023-24	978-81-952098-3-5	Shri Lemdeo Patil Mahavidyalaya, Mandhal	Skylark International Publication
42	Mahesh Gaidhane	NA	A study of hardness in ground water in selected area in Nagpur district, Maharashtra	4th International confernce on Recent Trends in Science, Engineering and Technology	ICRTSET-2024	International	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	
43	Mahesh Gaidhane	NA	Study of biological activities of Carbohydrates derived Sprio barbiturates	4th International confernce on Recent Trends in Science, Engineering and Technology	ICRTSET-2024	International	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	

Sl. 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	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
44	Navneet Kumar Lamba	NA	Memory-based thermoelastic modelling of an annular disc under heating and cooling processes	International Conference on Water	International Conference on Water	International	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	
45	Pankaj Uikey	NA	Harvesting technique and characterization, methods of potassium titanyl phosphate (KTP) single crystal	National conference on Innovative Trend in Higher Education and Research	ITHER-2024	National	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	
46	Tirthraj Kapgate	NA	Zadibolital gani:Mahadevachigani		Zadiboli Sahitya Sanmelan	National	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	
47	Tirthraj Kapgate	NA	Marathi Kaviteche Antarang		Marathitil Laghu Kawya Sahitya Sanmelan	National	2023-24		Shri Lemdeo Patil Mahavidyalaya, Mandhal	



  
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# **Appendix-II**

**Academic Year  
2019-2020**

*As per new semesterwise syllabus of RTM Nagpur University.*

**TEXT BOOK OF**

# **PHYSICS**

**B.Sc. (Semester IV)**

**PAPER - I : SOLID STATE PHYSICS, X-RAY & LASER**

**PAPER - II : SOLID STATE ELECTRONICS & MOLECULAR PHYSICS**

**Dr. Ramesh N. Taikar**

Assistant Professor  
Department of Physics,  
C. J. Patel College, Tirora  
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**Dr. Deepak Taikar**

Assistant Professor  
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Mandhal, District : Nagpur.

**Dr. Kalpana R. Nagde**

Assistant Professor  
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Institute of Science,  
Nagpur.

**Dr. Umesh A. Palikundwar**

Assistant Professor  
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R. T. M. Nagpur University,  
Nagpur.

**Dr. Susan John**

Assistant Professor  
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St. Francis de Sales College,  
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Assistant Professor  
Department of Physics,  
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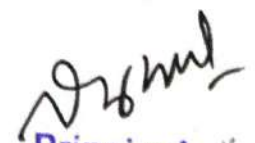
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## Paper - II

### SOLID STATE ELECTRONICS AND MOLECULAR PHYSICS

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## ABOUT AUTHORS



**Dr. Ramesh N. Talkar** is currently working as Deputy Co-ordinator of IQAC and NAAC at C. J. Patel College, Tirora, Dist - Gondia. He has done Ph.D. from National Institute of Technology (NIT), Nagpur. During his Ph.D., he and his guide Dr. V.K. Deshpande have developed India's first radiation resistant glass for hot cell of Nuclear reactor situated at IGCAR, Kalpakkam. He has also worked as a wonderful administrator and teacher in his previous engineering college. His genuine teaching skill leads to produce 2 students who have achieved medals at RTMNU, Nagpur. Developing scientific temperament and curiosity among every student is the motive of his career in teaching.



**Dr. Deepak R. Talkar** is M.Sc., Ph. D. and currently working as an Assistant professor and Head Department of Physics at Shri Lemdeo Patil Mahavidyalaya, Mandhal. He is having 10 years teaching experience at UG level. His research specialization is Luminescence. He has been awarded one patent and published 8 research papers in Scopus indexed Journals.



**Dr. Kalpana R. Nagde** is currently working as an Assistant Professor at Institute of Science, Nagpur and she is having 6 years teaching experience. Her research work was on synthesis and characterization of cathode materials for solid oxide fuel cell application. She was awarded with Junior research fellowship (UGC, New Delhi), Senior research fellowship (CSIR, New Delhi), Women Scientist award (DST, New Delhi). She has several international and national papers in her credit.



**Dr. Umesh A. Palkundwar** is working as an Associate Professor at Post Graduate Teaching Department of Physics, RTM Nagpur University, Nagpur. He is having 18 years of teaching experience at UG as well PG levels. He has published several research papers in reputed national and international journals. He is also working as a research supervisor. Under his guidance 3 students have been awarded and 2 students are pursuing their Ph.D.



**Dr. Susan John** is M.Sc., Ph. D., SET passed and currently working as an Assistant professor of Physics in St. Francis de Sales College, Nagpur. She is the winner of awards for scoring highest marks in RTMNU M.Sc. Physics, which includes P. L. Khare award, Ramchandra Krishna Chandurkar Memorial Gold medal award, K. B. L. Seth Gold Medal & XIII National Seminar on Crystallography Award. She has also presented and published many research papers in the field of Physics and Science-Religion Dialogue. She is having 13 years of teaching experience.



**Mr. Rajiv M. Meshram**, M.Sc., SET, working as assistant professor in Physics at Manoharbal Patel college of Arts, Commerce and Science, Sakoli with 11 years teaching experience in UG level. Ten research paper on luminescence has been published in the national and international conferences. One Minor Research Project is completed under the scheme of University Grant Commission.

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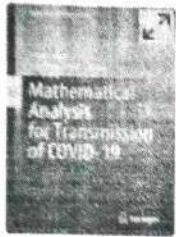
9 788194 204275

Price : Rs. 235






**Academic Year  
2020-2021**

**Mathematical Analysis for Transmission of COVID-19** pp 77–100

## A Comparative Study of COVID-19 Pandemic in Rajasthan, India

Mahesh Kumar Jayaswal, Navneet Kumar Lamba, Rita Yadav  
& Mandeep Mittal 

Conference paper | First Online: 02 April 2021

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### Abstract

The treatment of corona virus disease is not possible without any vaccine. However, spreading of the deadly virus can be controlled by various measures being imposed by Government like lockdown, quarantine, isolation, contact tracing, social distancing and putting face mask on mandatory basis. As per information from the Department of Medical Health and Family Welfare of Rajasthan on 19 September 2020, corona virus COVID-19 severely affected the state of Rajasthan, resulting in **cumulative positive cases 113,124**, cumulative

[https://link.springer.com/chapter/10.1007/978-981-33-6264-2\\_5](https://link.springer.com/chapter/10.1007/978-981-33-6264-2_5)



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**Modelling**

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3/18


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Mandhal, Tah. Kuhi, Dist. Nagpur.



**Mathematical Analysis for Transmission of COVID-19** pp 337–348

## Mathematical Modelling of COVID-19 in Pregnant Women and Newly Borns

[Navneet Kumar Lamba](#) , [Shrikant D. Warbhe](#) & [Kishor C. Deshmukh](#)

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### Abstract

Enlightened by the Coronavirus, the present paper deals with a mathematical model of COVID-19 to investigate the impact of S-I-R-M model on the pregnant women and the newly borns due to the influence of availability of suitable conditions. The rates of infection, rate of recovery, rate of mortality for pregnant women before and after delivery and for newly born babies due to the transmission rate have been discussed for the present observed data. The numerical illustrations have been carried out for the [parameters, functions and represented graphically by](#)

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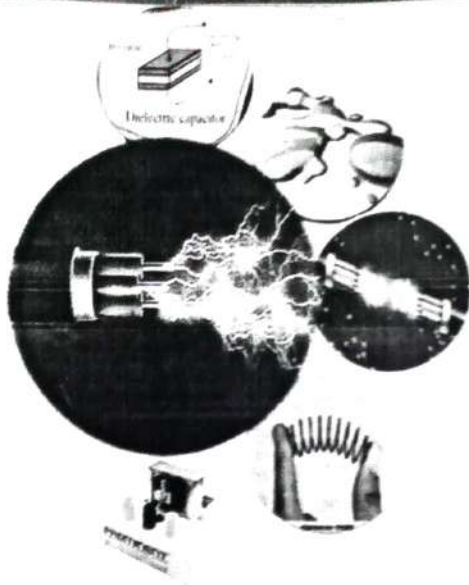
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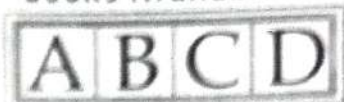


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सुप्रसिद्ध कवी व विचारवंत

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**माझा** आणि देहदानाचा संबंध फार वर्षांपूर्वी आला. देहदानाच्या चळवळीत देह झिजवणारे डॉ. चंद्रकांत मेहर हे माझे चांगले मित्र आहेत. सुमारे २२ वर्षांपूर्वी 'सामना' या दैनिकात उपसंपादक असताना मी त्यांची एक मुलाखत घेतलेली आठवते. श्री. मेहर यांनी देहदान या विषयाचा सर्वांगीण अभ्यास करून डॉक्टरेट पदवी प्राप्त केली आहे. या क्षेत्रातील त्यांचे योगदान फार मोलाचे आहे. श्री. मेहर हे आगरकरी बाण्याचे, विवेकी बुद्धिमत्तेचे एक सुधारकी व्यक्तिमत्व आहेत! अंधश्रद्धा निर्मूलन समितीचेही ते कार्यकर्ते आहेत. त्या वेळी देहदानाविषयी त्यांची मते, त्यांनी केलेले चिंतन आणि त्यांनी सांगितलेले देहदानाचे फायदे ऐकून तर मी थक्क होऊन जात असे.

परिणामतः तेव्हाच मी आणि माझी पत्नी संगीता, आम्ही उभयतांनी देहदानाचा संकल्प करून टाकला.

त्यामुळेच माझे प्राध्यापक मित्र डॉ. सुशील मेश्राम यांनी देहदान चळवळीत स्वतःला झोकून दिले आहे, हे कळल्यावर मला फार आनंद झाला. डॉ. मेश्राम यांच्या व्यक्तिमत्त्वातील प्रामाणिकपणा आणि त्यांची जागरूक विचारसरणी याविषयी आधीही त्यांच्याविषयी मला आदर होताच; पण आता त्यांच्या या देहदानाच्या कार्यामुळे तो आदर आणखी दुणावला. या चळवळीतील कार्यकर्ता हा खरोखर कर्ता सुधारक असतो. आधी केले मग सांगितले ही अशा समाजकार्याची एक

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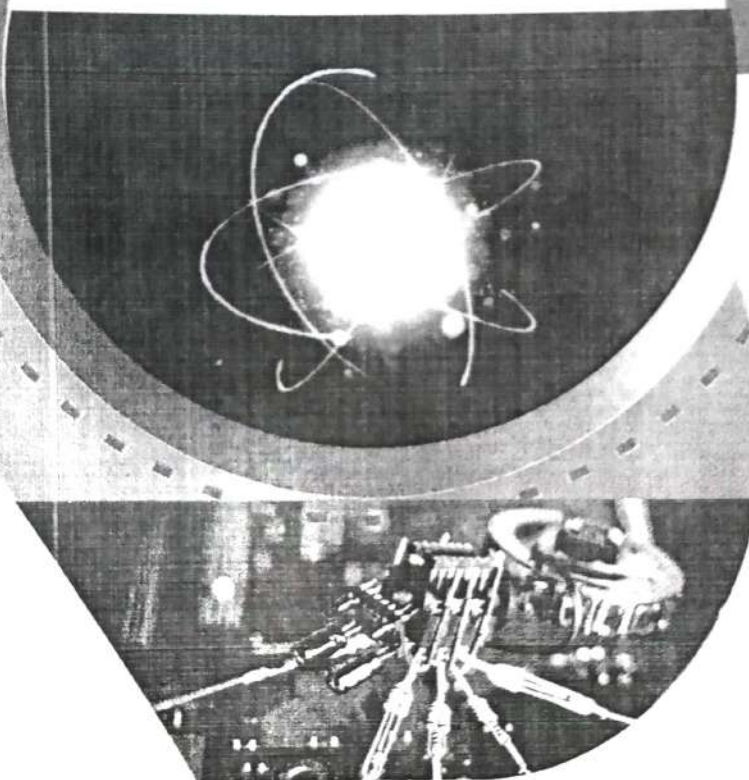
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B. Sc. Semester - V

Paper-I : Atomic physics, Free electron theory and Statistical physics

Paper-II : Quantum mechanics, Nanomaterials and Nanotechnology



Dr. Gajanan D. Zade

Dr. Deepak R. Taikar

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# A Text Book of **PHYSICS** B. Sc. (Semester - V)

Paper - I : Atomic physics, Free electron theory and Statistical physics  
Paper - II : Quantum mechanics, Nanomaterials and Nanotechnology

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प्रकाशक  
राघव पब्लिशर्स अॅण्ड डिस्ट्रीब्युटर्स,  
राजविलास टॉकीज जवळ,  
महाल, नागपूर - ४४० ०३२

अक्षर जुळवणी व मुद्रक  
महालक्ष्मी ऑफसेट,  
सिरसपेठ, नागपूर - ४४० ००९

या ग्रंथात व्यक्त झालेले विचार त्या त्या लेखकांचे स्वतःचे असून त्या विचारांशी संपादक  
व प्रकाशक सहमत असतीलच असे नाही.



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Shri Laxman Patil Mahalaxmi Mandhal  
Mandhal, Teh. Nandgaon, Dist. Nagpur



४.

## गांधीजी नंतरचा भारत आणि राष्ट्रसंत

डॉ. तीर्थराज कापगते

शिवानी एज, प्लॉट नं. ३, गावडे लेआउट

नरेंद्र नगर, नागपूर - २७

भ्रमणध्वनी : ८६५७०४९५०७

वंदनीय राष्ट्रसंत तुकडोजी महाराज गेले तेव्हा आचार्य अत्र्यांच्या वृत्तपत्रातील पहिल्या पानावरील बातमीचा मथळा होता, 'महाभारताच्या महापुरूषाचे महानिर्वाण' या तीन शब्दांच्या शीर्षकातून राष्ट्रसंत म्हणून तुकडोजी महाराजांची देशमान्यता जशी अधोरेखित होते; तशी देशाला केंद्रस्थानी ठेवून केलेल्या त्यांच्या कार्याचेही नकळत स्मरण होते; आणि भारतीय समाजाच्या संभ्रमाच्या प्रत्येक टप्प्यावर होऊन गेलेले सर्व संत, महात्मे आणि महामानवांची उत्तुंग व्यक्तिमत्त्वे आपल्या नजरेपुढे क्षणार्धात उभी राहतात.

महापुरुषांचा विचार हा संपूर्ण समाजाच्या स्थितीशीलतेचा कणा मोडून त्या समाजाला गतीशीलतेकडे घेवून जाणारा असतो. आजही भारतातील सहा लाख खेड्यांमध्ये पासष्ट टक्के लोक राहतात आणि त्यांचा उदरनिर्वाह शेतीवर चालतो; खेड्यातील या शेतकऱ्यांचे आणि कष्टकऱ्यांचे जीवन आजही हलाकीचे आहे. आणि ही हलाकी, हे हाल शतकांनुशतकांपासून चालू आहेत; पण शेतीचा, कष्टकऱ्यांच्या आणि शेतकऱ्यांच्या प्रश्नाचा आणि दुःख-दारिद्र्याचा विचार ज्या महामानवाने पहिल्यांदा केला त्याचे नाव महात्मा जोतीराव फुले! त्यांच्यापूर्वी कोणीच हा विचार इतक्या गंभीरपणे, पोटतिडीकीने आणि तुकारामी कळवळ्याने केला नाही. त्यानंतर भारतीय राजकारणाच्या निमित्ताने महात्मा गांधींचे लक्ष पुन्हा एकदा या खेड्यापाड्यांतील जनतेकडे गेले. आणि देशाच्या स्वातंत्र्यलढ्यासाठी लोकचळवळ उभी करतानाच या देशातील ग्रामव्यवस्थेचाही विचार गांधींजींनी केला आणि ग्रामस्वराज्याची कल्पना मांडली.

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राष्ट्रसंतांचे पाईक



Principal

Shri. Suresh Patil Mahavidyalaya  
Mandhal, Teh. Nani, Dist. Nagpur





डॉ. गिरिश गांधी  
अमृत महोत्सव

# सावळी



डॉ. गिरिश गांधी  
अमृत महोत्सव

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*(Signature)*

Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur



मनच सार्थ व्यक्त करणारे विवेक एवढे यामो काढलेले अयाचिचानासक्याक  
मर्जीचे कलाकड्यारी काटसावरी उदेंदेवलाही आमुद देते. जामिनां जाली की  
ही काही तर जमिनीची होऊन गहते. गिरीशगांधीनीही त्याच्या अकल्पनाची  
गद्वीरे इतवली  
मनेन, संस्थामा दिशा दिली. सर्वत्र धत्रातील त्याच्या विविध कार्याकर्वलाची  
नी  
ने त्याची धर्मही तसाच बीज रावत रहाण्याचा. उगवला तो आपलं नाही ते  
ने कुडीयाची प्रति आणि मुमाजाची समती या तीनही अतुकलतानी गिरिश  
ची आणि यथादी परिमित आभलाएवढी व्यापक ज्ञान





डॉ. गिरीश गांधी  
अमृत महोत्सव

सं पा व की य

गौरव ग्रंथ समिती २०२२

संपादक मंडळ

मधुकर भावे  
अध्यक्ष

बाळ कुळकर्णी  
सरचिटणीस

सदस्य  
डॉ. श्रीकांत तिडके  
मोरेश्वर बडगे  
डॉ. सतीश पावडे  
डॉ. अनिल हिरेखण

सजय नहार  
अरुणा सबाने  
रेखा दंडिगे - धिया

स्वाती हुदार  
शुभदा फडणवीस  
डॉ. मोहम्मद असदुल्लाह  
डॉ. कोमल ठाकरे  
डॉ. सुनील रामटेके

मुखपृष्ठ, मांडणी व सजावट  
विवेक रानडे

अक्षर जुळवणी व मुद्रित शोधन  
भायश्री बनहट्टी

विशेष साहाय्य  
तनुका रानडे, रितेश कर्णेवार

मुद्रक  
विपुल ऑफसेट

वनगार्ड फाऊंडेशन, २०२, यश कॉम्प्लेक्स, मुम्बई मजल्या  
डॉ. श्रीकांत जिचकार चौक, आमरावती रोड, नागपूर  
फोन : ०७१२-२५४३४७६ vanpatil@gmail.com



Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur

गांधीवाद म्हणजे धार्मिक मानवतावाद आहे. नीतिशास्त्र, समाजशास्त्र आणि राजकारण यांसाठी आधारभूत असणारी नैतिक दृष्टी या मानवतावादामध्ये अंतर्भूत असते. हीच वैचारिक भूमिका घेऊन गेली पाच दशकं विदर्भाच्या सार्वजनिक जीवनाची वाटचाल उज्वल भविष्याकडे नेण्यासाठी वचनबद्ध असलेले डॉ. गिरीश गांधी.

राजकारण, समाजकारण, साहित्य, संस्कृती, क्रीडा, नाटक, पर्यावरण आणि निसर्ग अशा विविध क्षेत्रांसाठी अविरत सेवाकार्य करित या प्रदेशातील सांस्कृतिक स्पंदने निकोप निष्ठेने जोपासत समाजजीवनाचा दीर्घपट त्यांनी अनुभवला. निरनिराळ्या अर्थपूर्ण चळवळींमध्ये निरपेक्षपणे सहभागी झाले, सहृदय पाठिंबा देते झाले, कार्यकर्त्यांना सदैव प्रोत्साहित करित राहिले.

संस्थात्मक सरचनेतील तात्त्विक आणि व्यावहारिक कौशल्याने सार्वजनिक जीवनातील संस्थात्मक ध्येयवादाचा प्रदीर्घ प्रवास अनुभवला. बहुजन, नवोदित, युवा व महिलांच्या विविध प्रवाहो अस्मिताना सन्मानित केले.

या प्रदेशातील संसाधने, जनमानसिकता, लोकशाही प्रक्रिया, आघाड्या यांची स्वतंत्र विचारशीलता जोपासली. त्यांच्या भूमिकेत गांधी, फुले, आंबेडकर, विनोबा, धारिया यांच्या वैचारिकतेचा स्वीकार दिसून येतो. त्यातील मानवतावादी व राष्ट्रप्रेरित मूल्यात्मकता त्यांना कायम प्रभावित करित असते हीच त्यांच्या व्यक्तित्वाची व वैचारिक भूमिकेची आणि त्यानुरूप कर्तृत्वाची प्रगल्भ साक्ष ठरते.

आणि या वैचारिक भूमिकेचे अनुबंध सर्वच कार्यांशी, चळवळींशी आणि प्रागतिक प्रवाहांशी अतूटपणे जुळवून त्यांनी या प्रदेशातील सार्वजनिक जीवनात एक वेगळा आदर्श प्रस्थापित केला.

गिरीश गांधी यांच्या अमृत महोत्सवो वर्षानिमित्त त्यांच्या प्रदीर्घ सेवाकार्यकाळाच्या आणि कार्यकर्तृत्वाच्या आठवणी साहजिकच चर्चेचा विषय बनल्या. गिरीश गांधी यांच्या व्यक्तिमत्त्वाचे पैलू, साहित्य, कला, संस्कृती, क्रीडा, वक्तृत्व, पर्यावरण, पत्रकारिता, राजकारण, समाजकारण, सार्वजनिक जीवन आणि त्यांचे व्यक्तिगत आयुष्य या विषयांवरील आठवणींचे एक अपूर्व संचित एकत्रित करून त्यांचे वैयक्तिक व पब्लिक लिफ्टास एक उज्वल प्रेरणा कायमस्वरूपी निर्माण करावी या उद्देशाने हा गौरव ग्रंथ

- २२२/ डॉ. सुनील देशमुख  
 २२८/ डॉ. आशिष देशमुख  
 २३३/ डॉ. परम घोंगे  
 २३६/ पणेश नाथू  
 २३९/ युवराज शहा  
 २४२/ अनंत घारड  
 २४५/ शुभदा फडणवीस  
 २४९/ रेखा दंडिगे घिया  
 २५५/ डॉ. सतीश पावडे  
 २६०/ डॉ. सुनील रामटेके  
 २६४/ डॉ. तीर्थराज कापगते  
 २६९/ डॉ. मंजुषा सावरकर  
 २७२/ कॅप्टन एल. बी. कलंत्री  
 २७४/ डी. आर. मल  
 २७८/ गजानन नारे  
 २८०/ माधव देशपांडे  
 २८३/ डॉ. उदय बोधनकर  
 २८६/ डॉ. सागर खादीवाला  
 २८८/ डॉ. मोहम्मद असदुल्लाह  
 २९०/ नीलिमा कुळकर्णी  
 २९३/ विवेक रानडे  
 २९६/ के. डी. वैद्य -  
 ३००/ अनिल तालुकदार  
 ३०७/ विष्णू मनोहर  
 ३०९/ डॉ. सतीश वटे  
 ३११/ डॉ. अविनाश रोडे  
 ३१४/ श्रीराम काळे

- डॉ. गिरीश गांधी : समर्पित व्यक्तिमत्व  
 किमयागार लोकसंग्रही  
 योजकस्य तंत्र दुर्लभम्  
 भाऊ : आमचे आधारवड  
 राजकारणातील एससायकलॉपिडिया  
 नात्यापलीकडचं नातं  
 तुम आशा विश्वास हमारे  
 निरहंकारी परोपकारी भाऊ  
 डॉ. गिरीश गांधी  
 हळव्या मनाचे रसिकाग्रणी भाऊ  
 विचार टिकवून ठेवणारी अपार जिद !  
 पाथ फाईंडर  
 गिरीशभाऊ : एक अदृश्य शक्ती  
 स्वाभिमानी आणि सिद्धान्तवादी गिरीश गांधी  
 आनंदपवांचे पंगलात्री : डॉ. गिरीशभाऊ  
 स्नेहाची सावली - गिरीश गांधी  
 डॉ. गिरीश गांधी : बहुआयामी व्यक्तिमत्व  
 गिरीश गांधी : अजातशत्रू  
 शांती का एक दूत  
 साऱ्यांचे भाऊ, माझे दादा  
 बापाचं हृदय आईचं मन  
 संत्रा नगरीचे भूषण माजी आमदार भाऊ गांधी  
 आमचे गिरीशभाऊ  
 सामान्यातले असामान्य गिरीशभाऊ  
 गिरीश तं ज्ञानमयो विज्ञानमयोसी  
 गिरीश गांधी : एक आश्वासन  
 माझे आधारवड

- ३२४/ शर्मिष्ठा सोमरं  
 ३२६/ प्रा. सुभाष गवई  
 ३२९/ डॉ. बबन बेलसरे  
 ३३१/ प्रभूजी देशपांडे  
 ३३४/ अजय पाटील  
 ३३७/ अरुण वानखेडे  
 ३४१/ नीलकंठ आंडे  
 ३४६/ डॉ. निशा शेंडे  
 ३४८/ दिलीप गोसल  
 ३५०/ प्रा. राम गावंडे  
 ३५३/ निलेश खांडेकर  
 ३५७/ मदेश सिंघलकर  
 ३६०/ प्रगम पेंढरकर  
 ३६५/ नितीन जतकर  
 ३६९/ धनंजय पांडवकर  
 ३७२/ कमलेश राठी  
 ३७४/ मयूषा पंढे  
 ३७७/ रामचंद्र गावनेर  
 ३७९/ मजय दासे  
 ३८१/ गहिनीनाथ ठुपे  
 ३८२/ गंडा अजयकर  
 ३८३/ चित्ररूपदर्शन  
 ४२३/ निशांत गांधी  
 ४३२/ न्या. विजय डामा  
 ४३५/ मोहनलालजी राठी  
 ४३७/ शोभा मनोहरराव गांधी  
 ४४०/ प्रभा पुरुषोत्तम गांधी
- गिरीश गांधी  
 शब्द जपणारा सुसंस्कृत नेता श्री. गिरीशभाऊ गांधी  
 डॉ. गिरीश गांधी  
 लोकसंग्रहाहक माननीय गिरीश गांधी  
 बाप माणूस  
 माझे प्रेरणादायी  
 मातीचा सुगंध दरबळणारे व्यक्तिमत्व  
 स्त्री चळवळींना सदैव मदत करणारे गिरीशभाऊ  
 साधा असणारा मोठा माणूस  
 चुंबकीय व्यक्तिमत्त्वाचे धनी - गिरीशभाऊ !  
 ऊर्जा देणारा सहवास  
 डॉ. गिरीश गांधी  
 सार्वजनिक जीवनातला कलौर  
 भाऊची पाठशाळा  
 गिरीश गांधी - मार्गदर्शनाचा महावृक्ष  
 सहृदय पाठिंबा देणारे भाऊ  
 भाऊ - एक प्रेरणास्रोत !  
 प्रेमाने रणावणारे भाऊ  
 माझे आधारवड  
 पितृतुल्य गिरीशभाऊ  
 (कविता)  
 मी आणि माझे बाबा  
 मैत्रीची श्रीमंती  
 नात्यापलिकडची मैत्री  
 लक्ष्मीनारायणाचा जोडा  
 मोठ्या मनाचा लहान दीर्घ

डॉ. गिरीश गांधी  
 २२९२२२२२



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८ 'सावली' डॉ. गिरीश गांधी | गौतम ग्रंथ | २०२२



# सामाजिक सांस्कृतिकता, कला आणि विचार टिकवून ठेवणारी अपार जिद्द !

डॉ. होशंगराज कापगते

प्रसिद्ध कवी, साहित्यिक व समीक्षक

डॉ. गिरीश गांधी या आटोपशीर नावातील 'गांधी' या शब्दाचे मला बालपणापासूनच खूप आकर्षण आहे. हे नाव मनात केव्हा आणि कसे पेरले गेले हे नेमके आठवत नाही; पण जसजशी शहाणीव वाढू लागली तमतमा आयुष्याच्या विविध टप्प्यांवर 'मोहनदास करमचंद गांधी' नावाचा महात्मा भेटत राहिला; आणि प्रत्यक्षात कधीही न पाहिलेली त्याची ती हाडामांसाची मूर्ती दिवसागणिक अधिकाधिक टाशीव आणि रेखीव होत राहिली.

प्राथमिक शाळेतील प्रभातफेरीत 'उचललेस तू मीठ मूठभर साम्राज्याचा खचला पाया' या समूहगीतांसोबतच मध्येमध्ये आम्ही मुले 'बोल गांधीचे मनी धरू गरिबांसाठी राज्य करू' किंवा 'नमक का कायदा तोड दो', अशा घोषणा आवेशात देत असू. स्वातंत्र्य मिळाल्यानंतर अठरा वर्षांनी आमचा जन्म झाला असूनही त्यावेळी अंगात जणू स्वातंत्र्याचे आंदोलन संचारले असायचे !

त्या बालगीतातील 'मीठाम होता महाग भारत, तुज मुंगीचे कळे मनोगत' या 'गदिमां'च्या ओळी तेव्हापासून माझ्या विचारविश्वात कायमच्या पेरल्या गेल्या; त्या ओळींमध्ये महात्मा गांधींच्या जीवितकार्याचा आणि सामाजिक संवेदनेच्या विचारांचा सारांश आहे. त्या शब्दांमधून सामान्य माणसाविषयीची गांधीजींची आस्था अधोरेखित होते आणि तळागाळातील समूहाची वेदना समजून घेण्यात तुकारामी कळवळाही व्यक्त होतो. महात्मा गांधींचा राजकीय विचार हा समाजाभिमुख विचार आहे; आणि त्या विचाराचे कोणतेही अंग मग ते राजकारण, समाजकारण असो की अर्थकारण असो त्यात या बहुसांस्कृतिक देशातील सांस्कृतिक मूल्ये महत्त्वाची ठरतात.

गिरीशभाऊंची बांधिलकी गांधी विचारातील अशा सामाजिक संवेदनशीलतेशी आहे; आणि गांधींना अविद्येत प्रसन्नतेच्या सांस्कृतिक मूल्यांशी आहे. स्वातंत्र्यासाठी देशव्यापी लोकलढा उभारणाऱ्या महात्मा गांधींनी जन्मलेला सत्तावीस वर्षे स्वातंत्र्याची प्रक्रिया शिकविली. या प्रक्रियेत सर्वांचे हित साधणाऱ्या हीनमूल्यांचा आग्रह आहे. शांती, सत्य, अहिंसा, सूचिता, अपरिग्रह, सहिष्णुता, धर्मनिरपेक्षता, जिभंयता अशी ही शाश्वत मूल्ये येथील सर्वसमावेशक संस्कृतीला सखोल समजून घेऊन त्यांच्या प्राबल्यमान केली होती.

डॉ. कापगते हे प्रसिद्ध कवींच्या सामाजिक लोकशाहीच्या संकल्पनेतही उच्च दर्जाच्या समावेश आहे. सत्यता, सधुता आणि न्यायावर आधारित विचारविचार, मानवतावादी, धर्मनिरपेक्षी हिंमत, शोषविरुद्ध आणि दुर्न्यायानेचा विचार करणारा भारतीय समाज बाबासाहेबांच्या स्वप्नाचा हिता.



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गांधी-आंबे  
वाटचाल कर  
आदर्श प्रतिनि  
तेव्हाच त्यांच  
महाराष्ट्रात का  
सांस्कृतिक अ  
कालखंडात मि  
राजकारण हे  
प्रवेश केला. त  
त्या सर्व जबाब  
त्यांच्या स्वभाव  
त्रयस्थता नाही.  
दूर राहणारा त्या  
म्हणूनच एखाद्या  
हे नेमकं समजत  
सांगणे म्हणजे त  
असते; कारण त  
निरपेक्ष वृत्तीने स  
त्यांचा पिंड आहे  
संस्कृती आणि  
संस्कृती या ति  
कला आणि सं  
कला आणि वि  
त्याविषयी कळ  
विदर्भातील साम  
अधिकपणे काम  
आणि जिद्द त्या  
त्यांचे कला आ  
समूहांना एकत्र  
संवाद होणे हा  
गटातून विभा



# Applications of Nanomaterials in Medical Procedures and Treatments



Editor:  
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# Frontiers in Nanomedicine

*(Volume 4)*

## *Applications of Nanomaterials in Medical Procedures and Treatments*

Edited by

**Felipe López-Saucedo**

*Department of Radiation Chemistry and Radiochemistry  
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# Frontiers in Nanomedicine

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# Advanced Materials and Processing Techniques

Smita S. Bhuyar-Kharkhale<sup>1</sup>, Sudhir S. Bhuyar<sup>2</sup>, Ajay K. Potbhare<sup>3</sup>, Manjiri S. Nagmote<sup>2\*</sup>, Nakshatra B. Singh<sup>3</sup> and Ratiram G. Chaudhary<sup>2\*</sup>

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*Department of Chemistry, Seth Kesarimal Porwal College of Arts and Science and Commerce, Kamptee, India*

*Department of Chemistry and Biochemistry and RDC, Sharda University, Greater Noida, India*

**Abstract:** Advanced materials and processing techniques are the backbone of the smart industry. The smart industry could not be run without a furnish of raw materials. Further, the raw materials could become advanced materials by employing good processing technology. Owing to this, new advanced materials exhibit compelling properties and applications in various fields. In the present chapter, we have provided insight into the current development of advanced materials comprising different fabrication methodologies and their incorporation with nanofillers, as well as their advanced processing techniques. Moreover, advanced materials' applications have been emphasized in different fields, like tissue engineering, biomedical, agriculture sector, and pesticides.

**Keywords:** Advanced materials, Agricultural, Biomedical devices, Fertilizers, Pesticides, Processing techniques, Tissue engineering.

## INTRODUCTION

The unprecedented and rapid technological development started in the 19<sup>th</sup> century, especially in the fabrication and processing of advanced materials. Nowadays, advanced materials, particularly nanomaterials (NMs), have become one of the most significant generic materials due to their potential applications in different sectors [1]. The materials considered as advanced materials of 21<sup>st</sup> century are advanced nanoceramics, smart polymers, graphene-based nanomaterials, and nanocomposites (NCs). The advanced nanomaterials are shown in Fig. (1)

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Felipe López-Saucedo (Ed.)



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**Academic Year  
2023-2024**



Edited book

# Re-imagining Education

Vol. I

A Framework for  
Educational  
Transformation



## Editors

Dr. Rajeev Sengupta  
Dr. Chavan M  
Dr. Bai M K  
Mr. Midhun Moorthi. C  
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## CHAPTER 2

## RE-IMAGINING EDUCATION: A FRAMEWORK FOR EDUCATIONAL TRANSFORMATION IN INDIA

**Mr. Sunil Dattatraya Alone***Assistant Professor of English**Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur.**Maharashtra, 441210***INTRODUCTION**

Education plays a pivotal role in shaping individuals and societies, equipping them with knowledge, skills, and values essential for progress. In today's rapidly changing world, marked by technological advancements, shifting economic landscapes, and evolving societal norms, traditional education systems face unprecedented challenges. These challenges are particularly pertinent in India, where a burgeoning young population stands poised to shape the nation's future. Hence, there is an urgent need to re-imagine education to align it with the demands of the 21st century. This chapter presents a comprehensive framework for transforming education in India, encompassing innovative approaches to curriculum design, pedagogy, assessment, teacher training, technological integration, inclusivity, and community engagement.

**1. Re-envisioning the Curriculum for Holistic Development**

The foundation of educational transformation lies in re-envisioning the curriculum. Conventional curricula, often centred on rote memorization and content-based learning, fall short of preparing students for the multifaceted demands of the modern world. A re-imagined curriculum should emphasize interdisciplinary learning, critical thinking, problem-solving, creativity, emotional intelligence, and practical application. The inclusion of subjects like coding, environmental studies, and ethical reasoning can provide students with a broader perspective and a versatile skill set that aligns with the diverse and interconnected global landscape (UNESCO, 2019).

**2. Embracing Experiential Learning and Innovative Pedagogies**

Innovative pedagogical methods are essential to foster meaningful engagement and deep understanding among students. Experiential learning, which involves hands-on projects, real-world simulations, and immersive experiences, departs from passive learning, encouraging active participation (Darling-Hammond et al., 2021). Collaborative learning environments further enhance students' teamwork, communication, and problem-solving skills. Moreover, the integration of technology, including interactive multimedia, virtual reality, and AI-driven personalized learning



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# **APPLICATIONS OF PHYSICS IN RECENT TRENDS OF SCIENCE**

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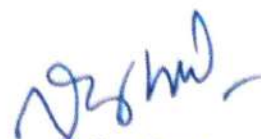
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# APPLICATIONS OF PHYSICS IN RECENT TRENDS OF SCIENCE

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### 3. Applications in Phototherapy Lamp

## Narrow Band UVB Emitting $Gd^{3+}$ Doped $La_2O_3$ Phosphor for Phototherapy Lamp

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#### Abstract

$Gd^{3+}$  doped lanthanum oxide ( $La_2O_3$ ) has been successfully synthesized using co-precipitation method. The crystal structure and the phase purity of samples were characterized using powder X-ray diffractometer. The photoluminescence (PL) spectrum was studied at room temperature. The excitation spectra of  $La_2O_3:Gd^{3+}$  phosphor monitored at 311 nm shows strong absorption in UV region. Under UV excitation, the phosphor exhibit emission at 311 nm due to  ${}^6P_{7/2} \rightarrow {}^8S_{7/2}$  electric dipole transition of  $Gd^{3+}$  ions. The emission of prepared phosphor is found to be in good agreement with emission of TL-01 lamp used in the treatment of various diseases such as Psoriasis, Parapsoriasis, Vitiligo and other skin diseases. The sharp narrow UVB emission makes this phosphor a potential candidate as phototherapy lamp phosphor for treating many skin diseases.

**Key Words:** Phosphor; co-precipitation; photoluminescence; phototherapy; psoriasis

#### 1. Introduction

Luminescent materials can absorb energy from the incident radiation and emit light after a series of energy transfer processes. The emission ranges from ultraviolet to infrared region of electromagnetic spectrum [1-4]. Luminescent materials are also known as phosphors. The various types of luminescence are distinguished by a prefix, which denotes the mode of excitation, e.g. photoluminescence is caused by the absorption of photons of visible or near visible

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# **Appendix-III**

**Academic Year  
2019-2020**





Society for Technologically Advanced  
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Bangalore

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This is to certify that **Dr. Mahesh K. Gaidhane** of Shri Lemdeo Patil College, Mandhal has delivered Oral Presentation on Study of pharmacokinetics, physiochemical, medicinal properties of thiazole based beta-amino carbonyl derivatives at International Web Conference on Science, Engineering & Technology (IWCSET-2020) held during May 15-16, 2020.

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Chairperson, IWCSET

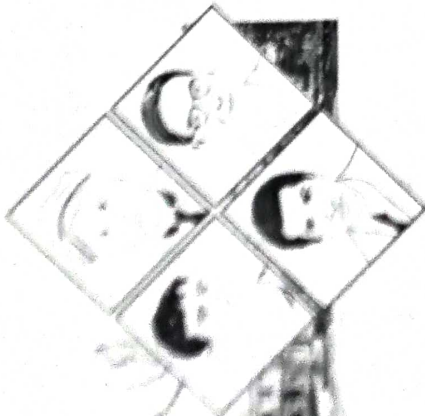
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& Dean Faculty of Science



PP-27

## Synthesis And Antioxidant and Antifungal Active of Various Novel Substituted Phenothiazines Derivatives

Mahesh K. Gaidhane<sup>1\*</sup>, Meghasam N. Narule<sup>2</sup>, Pravin K. Gaidhane<sup>3</sup>  
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### Abstract:

**Aims:** In recent years there is a tremendous increase of drug resistant pathogens, leading to the design and development of newer antibacterial agents. Various novel substituted phenothiazines derivatives have been prepared to study on the basis of pharmacological activities in drugs discovery.

**Methods:** Phenothiazine derivatives substituted in the 2, 3 and 4 positions belong to a big group of tricyclic aromatic compounds. They are in extensive use in psychiatry as tranquilizers and neuroleptics. Due to their characteristic structure they exhibit many valuable analytical properties. A short facile synthesis of 8-[2-(3//, 5//--dimethyl-4//--ethoxy carbonyl pyrrolyl) hydrazine] substituted phenothiazines (5a-j) from 2-arylamino benzal-2-(3',5'-dimethyl-4'-ethoxy carbonyl pyrrolyl)hydrazines (4) in presence of sulphur and iodine.

**Results:** These compounds show antibacterial and antifungal activities when compared with standard drug Norfloxacin and Griseofulvine against Bacterial cultures such as Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Proteus vulgaris and fungal cultures such as Aspergillus niger and Candida albicans. And also these compounds were screened for their antioxidant activity. The synthesized compounds are characterized by FTIR, <sup>1</sup>H NMR, elemental and chemical properties.

**Keywords:** Antioxidant active, Antifungal Activity, Pyrrolyl, Phenothiazines

### References:

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This is to certify that Prof./Dr./Mr./Mrs./Ms. E. R. Taikar

of Shri Lemdeo Patil Mahavidyalaya, Mandhal presented a paper (Oral/Poster)  
entitled Blue light emitting Tm<sup>3+</sup> - W-LGO Applications in

International Conference on Advances in Physical, Chemical and Mathematical Sciences  
(ICAPCM-2020) organized by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur,

13<sup>th</sup>-16<sup>th</sup> February 2020. He/She has presented Oral/Poster No. 33

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*Govardhan S. Khadekar*







## Blue light emitting $Tm^{3+}$ doped $La_2O_3$ phosphor for W-LED application

D. R. Taikar<sup>1\*</sup>, R. N. Taikar<sup>2</sup>, S. J. Dhoble<sup>3</sup>, P. Randiwe<sup>1</sup>

<sup>\*</sup><sup>1</sup>Department of Physics, Shri Lemdeo Patil Mahavidyalaya, Mandhal

Email Address:- deepak\_taikar@rediffmail.com

<sup>2</sup>Department of Physics, C. J. Patel College, Tirora

Email Address:- rntaikar@gmail.com

<sup>3</sup>Department of Physics, R. T. M. Nagpur University, Nagpur

Email Address:- sjdhoble@rediffmail.com

<sup>1</sup>Principal, Shri Lemdeo Patil Mahavidyalaya, Mandhal

Email Address:- kitspradeep@gmail.com

### Abstract

Photoluminescence (PL) study of  $Tm^{3+}$  doped  $La_2O_3$  phosphor was investigated. The phosphor was prepared by co-precipitation method using oxalic acid and annealed at  $1000^\circ C$ . X-ray powder diffraction (XRD) analysis confirmed the formation of  $La_2O_3$ . Photoluminescence measurement showed that the phosphor exhibited characteristic  $Tm^{3+}$  bright blue emission at about 457nm attributed to  $^1D_2 \rightarrow ^3F_4$  transition of  $Tm^{3+}$  ion under 230nm as well as 365nm excitation<sup>1</sup>. This indicates that the prepared phosphor is good and promising candidate for eco-friendly solid state lighting (W-LED) application.

**Keywords:** phosphor;  $La_2O_3$ ; solid state lighting; W-LED



*[Handwritten Signature]*

Principal

Shri Lemdeo Patil Mahavidyalaya  
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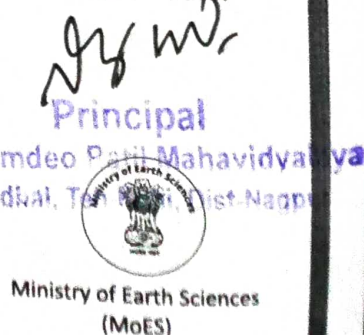
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Research Award category in Mathematics

Title of the invited Lecture/Research Paper Coupled hydrothermoelastic Model Response

of a finite solid circular cylinder

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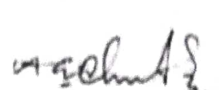


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**PC-11 : Encapsulation of the Isatin Schiff Base in the core of  $\beta$ -Cyclodextrin****Pankaj H. Meshram<sup>1</sup> and Jyotsana S. Meshram<sup>2</sup>**

1. Research Scholar, Department of chemistry R.T.M. Nagpur University, Nagpur, India
2. Professor, Department of chemistry, R.T.M. Nagpur University, Nagpur, India  
[Punkaj99@gmail.com](mailto:Punkaj99@gmail.com)

**Abstract :** Isatin, chemically recognized as 1H-indole-2,3-dione, are known to be biologically active and synthetically versatile substances that are widely employed in organic and heterocyclic syntheses. The chemistry of isatin and its derivatives viz. imines (C=N) are particularly interesting because of their potential application in drug chemistry. These compounds are less soluble in aqueous medium which causes diminishing biofunctionality. The bioaccessibility and stability of the synthesized Schiff bases can be enhanced by the preparation of their inclusion complexes with  $\beta$ -Cyclodextrin. The Schiff bases and their inclusion complexes are analyzed through physical and different spectral techniques like UV-visible, FT-IR, LC-MS. The encapsulation of the Isatin Schiff base in the core of  $\beta$ -cyclodextrin enhances its activity.

**Keywords:** Isatin,  $\beta$ -Cyclodextrin

**References :**

1. Singh, R.; Bharti, N.; Madan, J.; Hiremath, S.N., *J. Pharm. Sci. Techno.*, 2010, 171-183.
2. J.K. Tripathy, and S.Panda, *Asian J chem.*, 2011, 1631-1635.
3. Pramoda Kumar Das, Rabinarayana Sahu, *IOSR Journal of Applied Chemistry (IOSR-JAC)*, 2016, 9 (9 Ver. II), 24-30.
4. P. Thirumurugan, S. Mahalaxmi, and P.T. Perumal, *J chem sci*, 2012, 122(16), 819-832.
5. Jagdish Badgujar et.al. *American Journal of advance drug delivery*, 2016,4(3),32-44.

**PC-12 : The Delivery of CNS Drugs Across The Blood Brain Barrier; Chemical Modifications of Drug Nanoparticles and Applications****Sandeep Kumar Shukla, Ram Prakash Aharwal, Archana Pandey**

Department of Chemistry, Dr. H.S. Gour Central University, Sagar (M.P.)

E-mail: Prof. archnapandey@gmail.com

s.shukla3634@gmail.com

**Abstract :** Development of novel drug delivery has been a growing interest among the researchers. The novel drug delivery usually aims for maximal drug bioavailability, tissue targeting, controlled release kinetics, ease of administration, and the effective delivery of traditionally difficult drugs such as lipophiles, amphi-philes and biomolecules. Colloidal drug carriers include CNS drug carriers and microparticulate drug carriers, which successfully prolong the existence of the drug in systemic circulation and lower the toxicity. One of the most challenging problems, if not the most challenging, in drug development is not to develop drugs to treat diseases of the central nervous system (CNS), but to manage to distribute them to the CNS across the blood-brain barrier. The development of BBB targeting technologies is a very active field of research and development. One goal is to develop chemically modified derivatives of CNS drug (diazepam) chemically modified nanoparticulate of drugs capable of crossing biological barriers, in particular the BBB. Nanocarrier drug delivery involves targeting CNS drugs enclosed in a particular Mixed PEG 400- CTAB polymer. Drug nanoparticles have been shown to improve bioavailability and enhance drug exposure for oral and parenteral dosage forms. Nanoparticles of diazepam were prepared by nanoperception method. Mixed surfactant of CTAB and PEG 400 greatly enhanced the solubility of poorly water soluble drug, i.e. diazepam. Drug release follow zero order kinetics with fickinian diffusion.

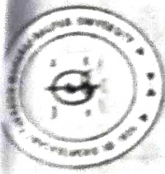
**Keywords:** Bioavailability, Diazepam (DIZ), Drug delivery, Polymeric surfactants, Release kinetics



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International Conference on Advances in Physical, Chemical and Mathematical Sciences (ICAPCM-2020) organized by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur,

**13<sup>th</sup> - 16<sup>th</sup> February 2020.** He/She has presented Oral/Poster No. 38

**Prof. Niraj T. Khate**  
Working Chairman  
ICAPCM-2020, Nagpur  
& Registrar (Officiating).  
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**Prof. Jyotsna Meshram**  
Co-ordinator  
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Chairman  
ICAPCM-2020, Nagpur  
Dean Faculty of Science  
Technology, R.M.N.U., Nagpur



PP-38

Synthesis and Characterization of the Inclusion Complex of  $\beta$ -Cyclodextrin as Host and Schiff Base of 1H-indole-2,3-dione as a Guest Molecule.

Pankaj Meshram<sup>1\*</sup>, Jyotsna Meshram<sup>2</sup>

<sup>1</sup>Shri Lemdeo Patil Mahavidyalaya, Mandhal, [pankaj99@gmail.com](mailto:pankaj99@gmail.com)  
<sup>2</sup>Professor, PGTD of Chemistry, RTM Nagpur University, Nagpur [drjmeshram@gmail.com](mailto:drjmeshram@gmail.com)

**Abstract:**

Isatin, chemically recognized as 1H-Indole-2,3-dione, are known to be biologically active and synthetically versatile substances that are widely employed in organic and heterocyclic syntheses. The chemistry of Isatin and its derivatives viz. Imines (C=N) are particularly interesting because of their potential application in drug chemistry. These compounds are less soluble in aqueous medium which causes diminishing bio-functionality. The bio-accessibility and stability of the synthesized Schiff's bases can be enhanced by the preparation of their inclusion complexes with  $\beta$ -Cyclodextrin. The use of  $\beta$ -Cyclodextrin as host molecule for the encapsulation of Isatin Schiff's base can protect the complex from environmental condition and improve the aqueous solubility.

In the present work, the guest molecule, Schiff bases of 1H-indole-2, 3-dione is encapsulated with  $\beta$ -Cyclodextrin. Inclusion complex with  $\beta$ -Cyclodextrin is analysed through physical and different spectral technique like UV-Visible, FT-IR, LC-MS. The encapsulation of Isatin Schiff's base in the core of  $\beta$ -Cyclodextrin enhances its biological activity and solubility.

**Keywords:** Isatin Schiff's base;  $\beta$ -Cyclodextrin; Inclusion complex; Enhances biological activity

\*Presenting author

**References:**

1. Singh R., Bharti N., Madan J., Hiremath S.N., *J. Pharm. Sci. Techno.*, 2010, 171-183.
2. J.K. Tripathy and S. Panda, *Asian J Chem.*, 2011, 1631-1635.
3. Jagdish Badgujar et.al. *American Journal of advance drug delivery*, 4(3), 2016, 32-44
4. Benjamas Cheirsilp and Jaruporn Rakmai, *Biol Eng Med*, 2(1), 2016, 1-6

PP-39

Synthesis, Characterization and Antibacterial screening of Metal  $\beta$ -diketonates

Pooja N. Verma\*, Babita G. Yadao, Doyel M. Bhattacharya,  
Himani C. Pandhurnekar, Mangesh B. Thakre  
Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur-440017  
\*[pooja\\_27feb@yahoo.com](mailto:pooja_27feb@yahoo.com) (+919021727679)

**Abstract:**

1-(2,4-dihydroxy-5-nitrophenyl)-3-(thiophen-2-yl)propane-1,3-dione (DNTPD) and its Calcium and Magnesium complexes have been synthesized. The  $\beta$ -diketone ligand is afforded by employing Baker-Venkataraman rearrangement on 4-hydroxy-5-nitro-2-(thiophen-2-yl) oxyacetophenone which was previously synthesized by p-nitroacetophenone and thiophene-2-carboxylic acid. The synthesized compounds were characterized by physical properties, elemental analysis, IR spectra, <sup>1</sup>H-NMR, mass spectra and electronic spectra and the geometry of metal complexes have been concluded by magnetic spectra. The thermal stability of metal complexes has been studied by Thermogravimetric



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**Academic Year**  
**2020-2021**





**International Web Conference on  
Advanced Materials Science & Nanotechnology  
(NANOMAT-2020)**

Organized by Department of Physics, Vinayak Vidnyan Mahavidyalaya,  
Nandgaon Khandeshwar, Dist. Amravati (MS), India

ICMNA106

# Certificate

**Dr. Deepak Taikar**

of

**Shri Lemdeo Patil Mahavidyalaya, Mandhal**

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Has presented a paper **Effect of Li<sup>+</sup>-ion on photoluminescence property of Eu<sup>3+</sup> doped ZnO phosphor by Oral Presentation** and participated in the International Web Conference on Advanced Material Science & Nanotechnology (NANOMAT-2020) held at web sources Organized by Department of Physics, Vinayak Vidnyan Mahavidyalaya, Nandgaon Khandeshwar, Dist. Amravati, Maharashtra, India during **20<sup>th</sup>-21<sup>st</sup> June 2020.**

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Principal  
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Mandhal, Tah. Kuhi, Dist. Nagpur.

## Effect of Li<sup>+</sup>-ion on photoluminescence property of Eu<sup>3+</sup> doped ZnO phosphor

**D. R. Taikar<sup>1\*</sup>, K. Nagle<sup>2</sup> and S. Patle<sup>3</sup>**

<sup>1</sup> Department of Physics, Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur, India

<sup>2</sup> Department of Physics, Institute of Science, Nagpur, India

<sup>3</sup> Department of Physics, Priyadarshini J. L. College of Engineering, Nagpur, India

\*Corresponding author: deepak\_taikar@rediffmail.com

### Abstract

Photoluminescence (PL) study of Eu<sup>3+</sup> doped ZnO phosphor and the effect of Li<sup>+</sup>-ion on PL property of ZnO:Eu<sup>3+</sup> were investigated. The phosphors were prepared by simple co-precipitation method using oxalic acid and annealed at 1000°C. The prepared phosphors were characterized using XRD and photoluminescence (PL) techniques. The result of x-ray powder diffraction (XRD) analysis confirmed the formation of ZnO. The Eu<sup>3+</sup> doped ZnO shows the characteristic emission lines corresponding to <sup>5</sup>D<sub>0</sub> → <sup>7</sup>F<sub>J</sub> transition of Eu<sup>3+</sup> ions. After introducing Li<sup>+</sup> ion in ZnO:Eu<sup>3+</sup> phosphor, the luminescence efficiency enhanced due to the charge compensation. The PL study reveals that the prepared phosphors are useful in near UV excited LED, optoelectronic display devices and related applications.

### Keywords

ZnO; Phosphor; Eu<sup>3+</sup>; Charge compensation; LED.



A handwritten signature in blue ink, appearing to read 'S. Patle', written over the printed name 'Principal'.

Principal  
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Mandhal, Tah. Kuhi, Dist. Nagpur.



Post – Graduate Department of Physics

# Raje Ramrao Mahavidyalaya, Jath

(Affiliated to Shivaji University, Kolhapur)

Sixth International Conference on Advances in Materials Science (Online)  
(ICAMS - 2021) on 23<sup>rd</sup> – 24<sup>th</sup> April 2021

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This is to certify that Mr./Miss./Dr./Prof. Taikar Deepak of Shri Lemdeo Patil Mahavidyalaya, Mandhal, Dist. Nagpur has participated and presented a paper entitled Synthesis and luminescence study of n-UV excitable Tm<sup>3+</sup> activated blue phosphor in the Sixth International Conference on Advances in Materials Science (Online) (ICAMS – 2021) organized by Post – Graduate Department of Physics and IQAC of Raje Ramrao Mahavidyalaya, Jath – 416 404, Dist – Sangli, Maharashtra, India during 23<sup>rd</sup> - 24<sup>th</sup> April 2021.

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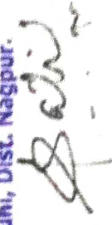
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ICNHTCS-2022

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**Mr. Pankaj H. Meshram**

presented paper with in depth insight into the topic based upon his significant research work. The paper was presented at an International Conference on New Horizons and Trends in Chemical Sciences organized by Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur and ISAS Nagpur Chapter on **25th & 26th March, 2022**. His paper is awarded Encouragement Prize in Oral presentation category.

  
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## OP-37 : Synthesis and characterization of $\beta$ -Cyclodextrin:3-((4-methoxyphenyl)imino) indolin-2-one inclusion complex

Pankaj Meshram, Jyotsna Meshram, Rajendra, S. Dongre

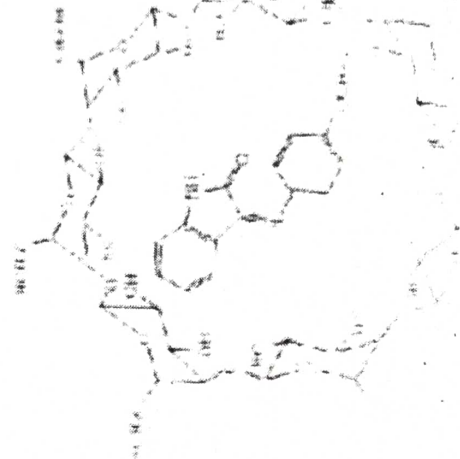
Department of chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal 441210, Nagpur (MS) India

Department of chemistry, R.T.M. Nagpur University, Nagpur 440033 (MS) India

### Abstract

In the present study, the inclusion complex of 1H-indole-2,3-dione's schiff base named as 3-((4-methoxyphenyl)imino)indolin-2-one (A) with  $\beta$ -cyclodextrin ( $\beta$ -CD) having composition 1:1 molar ratio were prepared. The synthesis of inclusion complexes carried out by a co-precipitation method. Schiff's base and inclusion complex were characterized using FT-IR, <sup>1</sup>H-NMR and Mass spectroscopy. The mass spectra of the schiff's base shows base peak at m/z 253. IR stretching frequency for azomethine (C=N) linkage at 1731 Cm<sup>-1</sup> and <sup>1</sup>H-NMR peaks having chemical shift,  $\delta$  values between  $\delta$  =3.74-8.87 ppm. These spectroscopic studies gives the evidence for the successful synthesis of (A). The IR and NMR spectra of 1H-indole-2,3-dione's Schiff base is affected on forming inclusion complex with  $\beta$ -Cyclodextrin ring.

**Key words:** Isatin Schiff base,  $\beta$ -Cyclodextrin, Inclusion complexes, Co-precipitation method.



*(Signature)*  
Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhi, Dist. Nagpur.

Khandesh College Education Society's

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## International Virtual Conference on

# Current Scenario in Chemical Sciences (CSCS - 2021)

## CERTIFICATE

This is to certify that **Dr. Smita S Kharkale** of **Shri Lemdeo Patil Mahavidyalaya Mandhal,** Nagpur has presented a research paper (e-Poster) entitled **Assessment of genotoxic effect of aqueous 1,2,4,5-tetrazines with allium sativum** at International Virtual Conference on Current Scenario in Chemical Sciences (CSCS - 2021) organized by School of Chemical Sciences, Moolji Jaitha College (Autonomous), Jalgaon (MS), India on **6<sup>th</sup> and 7<sup>th</sup> September 2021.**

  
Dr. R. R. Mahire  
Coordinator  
(CSCS-2021)

  
Dr. V. R. Shaikh  
Convener  
(CSCS-2021)

  
Prof. R. M. Rathod  
Chairman  
(CSCS-2021)

  
Prof. S. N. Bharambe  
Principal  
M.J. College, Jalgaon



Shri Lemdeo Patil Mahavidyalaya  
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Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur  
NAAC Sponsored National Seminar

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On  
Revised Assessment Framework: Understandings & Challenges  
Organized by Internal Quality Assurance Cell  
11<sup>th</sup> February 2022




## Certificate

This is to certify that Prof./Dr./Mr./Mrs./Ms. Smita Khorkele of Shri. Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur has participated in the NAAC Sponsored National Seminar on "Revised Assessment Framework: Understandings & Challenges" organized by IQAC, Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur, held on Friday the 11<sup>th</sup> February 2022.


He/She has contributed article Current Education and Promotion of Quality in Teaching Learning and Research

  
Dr. Y. V. Bhute  
IQAC Coordinator & Convenor

  
Dr. M.M. Shinkhede  
Organizing Secretary.

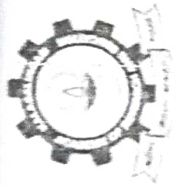
Dr. V. M. Pendsey  
Principal



  
Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kushi, Dist. Nagpur.





# International E-Conference on Sustainable and Futuristic Materials (SFM-2021)

Organized by

International Research Centre and Department of Chemistry, Kalasalingam Academy of Research and Education, Krishnankoil  
*Gondia Education Society's*  
Department of Chemistry, J.M. Patel Arts, Commerce & Science College, Bhandara

And

*Amar Sewa Mandals*

Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur

## CERTIFICATE

This is to certify that **Dr. Smita S. Kharkale** of **Shri Lemdeo Patil Mahavidyalaya, Mandhal, Tah. Kuhi, Dist. Nagpur, Maharashtra** has participated and presented **Poster in the International E-Conference on Sustainable and Futuristic Materials (SFM-2021)** held during **29-30<sup>th</sup> November, 2021** organized by International Research Centre and Department of Chemistry, Kalasalingam Academy of Research and Education, Krishnankoil, Department of Chemistry, J. M. Patel Arts, Commerce & Science College, Bhandara, and Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur.

*Brijesh Pare*

Prof. Brijesh Pare  
President  
ACT

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Dr. D. V. Prabhu  
General Secretary  
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*Prof. M. Swaminathan*

Prof. M. Swaminathan  
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SFM-2021

*J. M. Patel*

J. M. Patel  
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Bhandara

*Dr. W. B. Gurnule*

Dr. W. B. Gurnule  
Organizing Secretary  
SFM-2021  
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Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhi, Dist. Nagpur.



Shri Datta Prasadik Shikshan Prasarak Mandal's

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Bharti Science College Arni, Dist-Yavatmal (M.S.) India

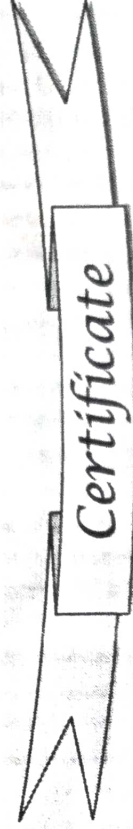


## DEPARTMENTS OF SCIENCE & IQAC

Organized  
One Day International Multidisciplinary E-Conference

On

### “RECENT INNOVATIONS IN SCIENCE AND TECHNOLOGY”



This is to certify that Prof. / Dr. / Mr. Mahesh Gaidhane of Department of Chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal, Dist. Nagpur has successfully participated / presented a paper entitled “TRACE ELEMENTS ANALYSIS IN GROUND WATER USED FOR DRINKING PURPOSES” in One Day International Multidisciplinary E-Conference on “Recent Innovations in Science and Technology” (RIST-2022) organized by Departments of Science & IQAC of L. R. Bharti Arts, Commerce and Smt. S. R. Bharti Science College, Arni, Dist. Yavatmal on 12<sup>th</sup> April, 2022.

Dr. D. P. Deshmukh  
Convener

Dr. M. R. Kakpure  
Co-convenor & IQAC Coordinator

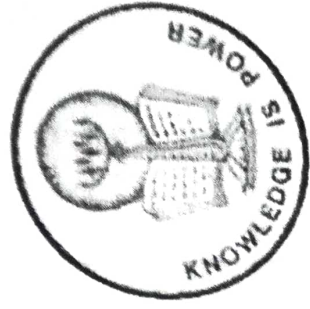
Dr. R. M. Tated  
Principal



Principal  
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhi, Dist. Nagpur.



**International Conference on New Horizons and Trends  
in Chemical Sciences (ICNHTCS-2022)**



# CERTIFICATE



This is to certify that

**Dr. Mahesh K. Gaidhane**

presented paper (ORAL) in an International Conference on New Horizons and Trends in  
Chemical Sciences (ICNHTCS-2022) organized by  
Department of Chemistry, Dada Ramchand Bakhu Sindhu Mahavidyalaya, Nagpur  
in Association with the Indian Society of Analytical Scientists, Nagpur Chapter  
during **25th - 26th March, 2022.**

Dr. P. Chandrachoodan National President ISAS	Dr. A. V. Bharati Chairman ISAS Nagpur Chapter	Dr. C. P. Pandhurnekar Secretary ISAS Nagpur Chapter	Dr. S. A. Mandavgane Convener ICNHTCS-22	Dr. R. D. Sarkar Convener ICNHTCS-22	Dr. V. Pendsey Principal DRE Sindhu Mahavidyalaya

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuthi, Dist. Nagpur



## OP-6 : Synthesis of $\beta$ - Amino Carbonyl Pyrimidines under Ionic Liquid $[\text{Et}_3\text{NH}][\text{HSO}_4]$ Catalysis

K. R. Lanjewar<sup>1\*</sup>, A. M. Ghatole<sup>2</sup>, M. K. Gaidhane<sup>3</sup>, G. R. Nimbarie<sup>1</sup>, S. T. Peddiwar<sup>4</sup>

<sup>1</sup>Department of Chemistry, Mohsinbhai Zaveri Mahavidyalaya, Desaijanj (Wadga), Dist: Gadchiroli (MS), India <sup>2</sup>Department of Chemistry, J. M. Jaisi Arts, Commerce and Science College, Bhandara, Dist : Bhandra, <sup>3</sup>Department of Chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal, Dist : Nagpur (MS), India.

\*E-mail: kushallanjewar@gmail.com

### Abstract

Tetraethylammonium hydrogen sulfate  $[\text{Et}_4\text{NH}][\text{HSO}_4]$  has been studied to be an efficient ionic liquid catalyst for the synthesis of  $\beta$ -amino carbonyl pyrimidines and synthesis of new quinolinyl alkenes via Knoevenagel condensation. In the present study  $\beta$ -amino carbonyl pyrimidines were synthesized through the Mannich condensation reaction of substituted pyrimidin-2(1H)-ones, cyclohexanone and 4-oxo-2-chlorobenzaldehyde. This ionic liquid is air and water stable and easy to prepare from amine and acid. Structure of all the synthesized compounds had been elucidated on the basis of elemental analysis and spectral data i.e IR, <sup>1</sup>H NMR, <sup>13</sup>C NMR, mass spectrometry. The present methodology is a green protocol and it offers several advantages such as shorter reaction time, excellent yields, simple operation procedure, mild reaction conditions and recyclable.

**Keywords:** Pyrimidine, Aldehyde, Ionic Liquid, Mannich Reaction, Green chemistry.

ICNHTCS-2022

International Conference On



Principal

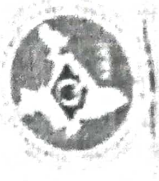
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhi, Dist. Nagpur.



Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur  
NAAC Sponsored National Seminar

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ON  
Revised Assessment Framework: Understandings & Challenges  
Organized by Internal Quality Assurance Cell  
11<sup>th</sup> February 2022



# Certificate

This is to certify that Prof./Dr./Mr./Mrs./Ms. Mahesh Geichane has participated in the  
of Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur  
NAAC Sponsored National Seminar on "Revised Assessment Framework: Understandings &  
Challenges" organized by IQAC, Dada Ramchand Bakhru Sindhu Mahavidyalaya, Nagpur, held on

Friday the 11<sup>th</sup> February 2022.

She has contributed article Current Education and Promotion of Quality  
in teaching-Learning and Research

Dr. Y.V. Bhute  
IQAC Coordinator & Convener

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Organizing Secretary

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Principal



Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhl, Dist. Nagpur.

## Current Education and Promotion of Quality in Teaching-Learning and Research

Dr. Mahesh Gaidhane<sup>1</sup> and Dr. Smita Kharkale<sup>2</sup>

<sup>1,2</sup>Assistant Professor

Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur (MS)

Email: maheshgaidhane83@gmail.com

### Abstract:


Several studies have found a positive effect of experience on teachers' effectiveness; specifically, the "learning by doing" effect is the most obvious in the early years of teaching.

Recruiters are looking to see how much you are engaged with current issues and up to what extent you are aware of the challenges that these issues place on a school. Your answers can reveal if you are genuinely interested in education, schools and the world of teaching. This analysis reviews a wide range of empirical studies that examine the impact of teacher characteristics on teacher effectiveness in order to draw conclusions about the extent to which these characteristics are, in fact, linked with teacher performance. Greater clarity on the empirical evidence can inform the wisdom of current practices, guide state efforts as they struggle with 'No Child Left Behind' compliance regarding teacher quality, and provide directions for future teacher policy decisions. For example, developing an approach to policy that values different and multiple teacher characteristics based on the research evidence may prove promising. It is important to note that many personal characteristics important for a good teacher are not measured in the studies reviewed. The focus is on those aspects of teacher background that can be translated into policy recommendations and incorporated into teaching practice. There are, however, challenges to overcome. Some students without reliable internet access and/or technology struggle to participate in digital learning; this gap is seen across countries and between income brackets within countries.

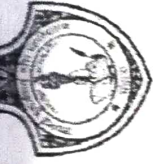
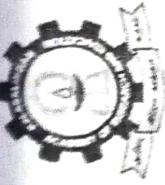
**Keywords:** Teaching practice, Digital learning, Challenges

Revised Assessment Framework: Understandings & Challenges  
Organized by Internal Quality Assurance Cell  
11<sup>th</sup> February 2023



  
Principal  
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Tah. Kuhl, Dist. Nagpur.





# International E-Conference on Sustainable and Futuristic Materials (SFM-2021)

Organized by

International Research Centre and Department of Chemistry, Kalasalingam Academy of Research and Education, Krishnankoil

*Gondia Education Society's*

Department of Chemistry, J.M. Patel Arts, Commerce & Science College, Bhandara

*And*

*Amar Sewa Mandal's*

Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur

## CERTIFICATE

This is to certify that **Dr. Mahesh K. Gaidhane** of Department of Chemistry, **Shri Lemdeo Patil Mahavidyalaya, Mandal** has participated and presented Poster in the **International E-Conference on Sustainable and Futuristic Materials (SFM-2021)** held during **29-30<sup>th</sup> November, 2021** organized by **International Research Centre and Department of Chemistry, Kalasalingam Academy of Research and Education, Krishnankoil, Department of Chemistry, J. M. Patel Arts, Commerce & Science College, Bhandara, and Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur.**



Prof. Brijesh Pare  
President  
ACT



Dr. D. V. Prabhu  
General Secretary  
ACT



Prof. M. Swaminathan  
Convener  
SFM-2021



Dr. V. P. Dhorme  
Principal  
Patel College, Bhandara



Dr. W. B. Gurnule  
Organizing Secretary  
SFM-2021

  
Principal



Presented Poster:

**SYNTHETIC, CHARACTERIZATION AND MEDICINAL  
PERSPECTIVES: 1,2,4-TRIAZOLE, 4-OXIDIAZOLE AND 4-  
OXAAZOLIDINONES**

Mahesh K. Gaidhane<sup>1</sup>, Ajay M Ghatole<sup>2</sup>, Kushal R Janjewar<sup>3</sup>, Meghasham N Narule<sup>4</sup>, Pravin K Gaidhane<sup>5</sup>

<sup>1</sup>Department of Chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal, India

<sup>2</sup>Department of Chemistry, Dhote Bandhu Science College, Bhandara, India

<sup>3</sup>Department of Chemistry Mohsinbhai Zawari Mahavidyalaya, Desaijanj, Wadsa, MS, India,

<sup>4</sup>Department of Chemistry, Vidya Vikas Arts, Commerce & Science College, Samudrapur, India

<sup>5</sup>Govindrao Wanjari Engineering and Technology, Hudkshwar Road, Nagpur, India

**Abstract**

**Aims:** Triazole is an N-bridged aromatic heterocyclic compound that received a considerable attention in recent years. A practical method is developed for the synthesis of oxazolidinone derivatives, an important class of heterocyclic compounds. The effect of bases and solvents on this cyclization reaction is discussed and a simple new base-solvent system is found to be the most effective. **Methods:** The synthesis of medicinal perspectives of 2-substituted, 1,2,4-triazole (**4a-g**), 4-oxadiazole (**5a-g**) and 4-oxazolidinones (**6a-g**) starting from 3,5-dimethyl-2,4-diethoxy carbonyl pyrrole (1) are presented in this paper. **Results:** The application Compound (**4e-g**), (**5e-g**) and (**6e-g**) show Anticancer, Antiproliferative and Antileishmanial when compared with standard drug. The structures of the compounds have been confirmed by IR, <sup>1</sup>H NMR and Elemental analysis. The compounds **3a**, **3c**, **4g**, **5f**, **5g**, **6b** and **6f** (possessing phenyl, 4-methyl, 2-chlorophenyl, 4-nitrophenyl and 3-nitrophenyl) have shown good antioxidant activity. **Conclusion:** Hence these compounds shall be exploited further for medicinal perspectives activities to attain a potential pharmacophore.

**Keywords:** Medicinal Perspectives, 1,2,4-Triazole, 4-Oxidiazole And 4- Oxaazolidinones

Corresponding Author: International Research Centre and Department of Chemistry, Kalasalingam Academy  
of Education, Krishnankoil - Gonda Education Society's Department of Chemistry, J. M  
& Science College, Bhandara - Anur Sewa Mandal's, Department of  
Mahra Mahavidyalaya - Nagpur



  
Principal  
Shri Lemdeo Patil Mahavidyalaya  
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In Association



## ICASTM - 2021

### CERTIFICATE OF PARTICIPATION

This is to certify that Mr./Miss/Mrs./Dr. **Navneet Kumar Lamba** of **Shri Lemdeo Patil Mahavidyalaya, Mandhal** has participated in International Conference on Advancement in Science, Technology and Management (ICASTM-2021) organized on **23rd** and **24th December, 2021** and presented a research paper titled **Thermoelastic Modeling of Time Fractional Circular Sector Disk with Internal Heat Generation** authored by **Navneet Kumar Lamba, H. S. Roy**

**Dr. Vinit Gupta**  
Convener-ICASTM

**Dr. Abhay Kasetwar**  
Dean, R&D



**Dr. Sanjay L. Badjate**

Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh. Kuki, Dist. Nagpur.



SPSPM's

N B Navale Sinhgad College of Engineering, Solapur



## Certificate of Participation

**Dr. NAVNEET KUMAR LAMBA**

from **Shri Lemdeo Patil Mahavidyalaya, Mandhal**  
has presented paper titled

"Time fractional theory in Functionally Graded thermosensitive thick hollow cylinder"  
in the National e-Conference "Recent Trends in Pure and Applied Mathematics"  
(NCRTPAM-2021) on **24<sup>th</sup> July 2021**, organized by

N B Navale Sinhgad College of Engineering, Solapur.

in Collaboration with

Shivaji University Mathematical Society (SUMS), Kolhapur.

*Kharat V.V.*

Dr. V. V. Kharat  
Convener

Certificate No.  
NCRTPAM-12

Dr. S. D. Nawale  
Principal

*S. D. Nawale*



*S. D. Nawale*  
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North Maharashtra University, Jalgaon (M.S.), India


TH-OP-10

# Second International Virtual Conference on Current Scenario in Chemical Sciences (CSCS - 2022)


## Certificate

This is to certify that **Dr. Smita S. Kharkale** of **Shri Lemdeo Patil mahavidyalaya, Mandhal** has participated and presented a research paper (Oral) entitled **Genotoxic Effects of 1,2,4,5-tetrazin on Allium sativum L. and Allium cepa L.** at International Virtual Conference on Current Scenario in Chemical Sciences (CSCS - 2022) organized by School of Chemical Sciences, Moolji Jaitha College (Autonomous), Jalgaon (MS), India on **16<sup>th</sup> and 17<sup>th</sup> September 2022.**

  
Dr. R. R. Mahire  
Coordinator  
(CSCS-2022)

  
Dr. V. R. Shaikh  
Convener  
(CSCS-2022)

  
Dr. Y. B. More  
Chairman  
(CSCS-2022)

  
Prof. S. N. Bharambe  
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MANDHAL

Shree Lemdeo Patil Mahavidyalaya

Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur





# CERTIFICATE OF APPRECIATION

International Conference On Innovation In Engineering, Science and Management (ICIESM-2023)

THIS CERTIFICATE IS PROUDLY PRESENT TO

Dr. Smita S. Kharkale

has Presented/Attended his/her Research paper Titled Genotoxic effects of 1,2,4,5-tetrazin on allium sativum which has been Awarded as Best Paper in ICIESM-2023 Organized by Wainganga

College of Engineering and Management, Nagpur on 24th Feb. 2023.

*[Signature]*

Director  
WCEM, Nagpur



*[Signature]*

Convener  
WCEM, Nagpur

*[Signature]*  
Principal

Shri Lemdeo Patil Mahavidyalaya  
National, Tel-Nagpur, Dist-Nagpur





75  
Azadi Ka  
Amrit Mahotsav



# National Symposium on "Functional Materials for Sustainable Development"

10 - 12 October 2022

Organised by

The National Academy of Sciences, India (NASI), Nagpur Chapter

In association with

Rashtrasant Tukadoji Maharaj Nagpur University

## Certificate

This is to certify that Dr./Mr./Mrs./Ms. **Mahesh Gaidhane**.....

**Dept. of Chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal**

has participated and made Oral/Poster presentation in the National Symposium  
on 'Functional Materials for Sustainable Development' held at, RTM, Nagpur  
University, Nagpur during **October 10-12, 2022**

Dr. N. S. Gajbhiye

Chairman, NASI, Nagpur Chapter

Dr. Smita Acharya

Secretary, NASI, Nagpur Chapter



Principal  
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur

$y=0.6$  compounds is possibly due to large reduction in the oxygen stoichiometry and subsequent reduction in the charge carriers.

## Electrospun Luminescent Samarium doped Yttrium Aluminium Garnet Nanofibers for smart clothing

Khushbu A. Rathi\*, Subhash B. Kondawar#

Department of Physics, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur-440033, India

\*Presenting Author Email: [khushburathi55@gmail.com](mailto:khushburathi55@gmail.com) #Corresponding Author Email: [sbkondawar@yahoo.co.in](mailto:sbkondawar@yahoo.co.in)

### Abstract

Samarium ion-doped Yttrium Aluminum Garnet ( $\text{Sm}^{3+}$ :YAG) nanofibers were fabricated by a simple and efficient electrospinning method, to study its photoluminescence properties for smart clothing and optical applications. The thermal analysis result confirmed that a pure YAG phase formed around  $900^\circ\text{C}$ , which consists of a cubic phase with space group Ia-3d, as confirmed by XRD. The morphology of as-spun nanofibers was analysed by scanning electron microscope (SEM). After calcination at  $900^\circ\text{C}$ , the average diameter of obtained nanofibers was found to be 74 nm, which is purely on a nanometer scale. The excitation spectrum of YAG:  $\text{Sm}^{3+}$  nanofibers is obtained by monitoring the strongest emission at 618nm due to  $4G5/2 \rightarrow 6H7/2$  transition of  $\text{Sm}^{3+}$  ion and the emission spectrum of YAG:  $\text{Sm}^{3+}$  nanofibers, under 404 nm excitation consists of three emission peaks at 569 nm ( $4G5/2 \rightarrow 6H5/2$ ), at 618 nm ( $4G5/2 \rightarrow 6H7/2$ ), and 650 nm ( $4G5/2 \rightarrow 6H9/2$ ), emitting orange colour in the visible region. Thus,  $\text{Sm}^{3+}$ : YAG nanofibers emitting orange colour can be used for smart clothing and light emitting applications. Keywords: Optical material, Electrospinning, Nanofibers,  $\text{Sm}^{3+}$ : YAG, photoluminescence.

## Synthesis of ZnO Nanoparticle by Sol-Gel Method and its Characterization

Kalpna R. Nagde<sup>1</sup>, Simaran Quereshi<sup>2</sup>, Deepak Taikar<sup>3,a)</sup>, Mahesh Gaidhane<sup>4</sup>, Ramesh Taikar<sup>5</sup>

<sup>1</sup> Department of Physics, Institute of science, Nagpur- 440012, India.

<sup>2</sup> Department of Physics, G. H. Raisoni College of Engineering, Nagpur- 440016, India.

<sup>3</sup> Department of Physics, Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur, India.

<sup>4</sup> Department of Chemistry, Shri Lemdeo Patil Mahavidyalaya, Mandhal, Nagpur, India.


<sup>5</sup> Department of Physics, C. J. Patel College, Tirora, India

a) Corresponding author: [deepak.taikar@yahoo.co.in](mailto:deepak.taikar@yahoo.co.in)

### Abstract

Zinc oxide (ZnO) nanoparticles were prepared by using Sol-gel synthesis route. An x-ray diffraction study confirms the formation of hexagonal structure of ZnO with average particle size 22.4nm. The Infrared spectroscopic study shows characteristic absorption bands of prepared ZnO which occurs at  $634.58\text{cm}^{-1}$



  
Principal  
Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Nagpur





AMAR SEWA MANDAL'S

# GOVINDRAO WANJARI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(NAAC ACCREDITED & ISO 9001-2015 CERTIFIED INSTITUTE)



4<sup>th</sup> International Conference on  
Recent Trends in Science, Engineering & Technology

## Certificate

This is to certify that Dr./Prof./Mr./Ms. M. K. Gaidhane has  
presented a paper entitled "A Study of hardness in ground water  
in selected areas in Nagpur district, Maharashtra, India."  
in 4<sup>th</sup> International Conference On "Recent Trends in Science, Engineering  
& Technology" (ICRTSET-2024) held on 23<sup>rd</sup> -24<sup>th</sup> February 2024 at

Govindrao Wanjari College of Engineering & Technology, Nagpur.

Dr. Rakesh G. Shriwastava  
Co-convenor (ICRTSET-2024)

*R.*

Dr. Salim A. Chavan  
Principal

*S.*

Mrs. Smeeta Abhijit Wanjarri  
Treasurer, Amar Sewa Mandal's



*Smeeta*  
Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur





AMAR SEWA MANDAL'S

# GOVINDRAO WANJARI COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR

(NAAC ACCREDITED & ISO 9001-2015 CERTIFIED INSTITUTE)

## 4<sup>th</sup> International Conference on Recent Trends in Science, Engineering & Technology

### Certificate

This is to certify that Dr./Prof./Mr./Ms. M. K. Gaikhande has presented a paper entitled "Study of biological activities of carbohydrates derived Spiro barbiturates."

in 4<sup>th</sup> International Conference On "Recent Trends in Science, Engineering & Technology" (ICRTSET-2024) held on 23<sup>rd</sup>-24<sup>th</sup> February 2024 at

Govindrao Wanjari College of Engineering & Technology, Nagpur.



Principal

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur

*Smeeta*

*P.*  
Dr. Rakesh G. Shriwastava  
Co-convenor(ICRTSET-2024)

*gk*  
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*Smeeta*  
Mrs. Smeeta Abhijit Wanjarri  
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# Certificate

*This certifies that*

**Dr. Navneet Kumar Lamba**, Department of Mathematics, Shri Lemdeo Patil Mahavidyalaya, Nagpur, INDIA, has given Oral talk presentation entitled, "*Memory-based thermoelastic modelling of an annular disc under heating and cooling processes*" in the **International Conference on Water** from **14th – 16th March 2024** at the Bijolai, Jodhpur, Rajasthan, India.

**HYBRID SETUP**



**International Institute of Water**

Near Kaylana Lake, Air Force Radar Road, Bijolai, Jodhpur 342 003, Rajasthan, India  
Phone: (+91) 7080764999, E-mail: contact@iiwater.org

[www.iiwater.org](http://www.iiwater.org)

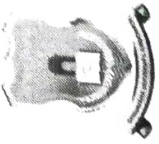


*[Signature]*  
**Principal**

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur



Bharat Shikshan Prasarak Mandal Saoli's  
**RASHTRAPITA MAHATMA GANDHI ARTS, COMMERCE & SCIENCE  
COLLEGE, SAOLI DIST-CHANDRAPUR (MAHARASHTRA)**



Affiliated to Gondwana University, Gadchiroli  
**Organized**

**ONE DAY INTERDISCIPLINARY NATIONAL CONFERENCE  
ON  
INNOVATIVE TRENDS IN HIGHER EDUCATION AND RESEARCH  
(ITHER-2024)**

*Certificate*

This is to certify that Mr./Mrs./Dr./Prof. \_\_\_\_\_

**UIKEY P. R.**

of **Shri Lemdeo Patil College, Mandhal Nagpur** attended /presented his/her

Research work as oral/ poster entitled Harvesting technique and characterization, methods  
of potassium titanyl phosphate (KTP) single crystal.

in One Day Interdisciplinary National Conference on Innovative Trends in Higher Education  
and Research (ITHER-2024) at Rashtrapita Mahatma Gandhi Arts, Commerce & Science  
College, Saoli Dist- Chandrapur (M. Saoli) **on 1st March 2024**  
Add a subheading

Mr. Prashant S. Wasade  
Organizing Secretary

Dr. Dilip B. Kamdi  
Organizing Secretary

Dr. Ashok T. Khobragade  
Convener & Officiating Principal



**Principal**

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur





आडीबोली साहित्य मंडळ, साकोली

अना

आडीबोली साहित्य मंडळ, स्याका बाहणी/ख.

याच्या सयुक्त विद्यमान

# आडीबोली साहित्य संमेलन

बाहणी/ख. ता.सडक/अर्जुनी, जि.गोंदिया

दिवस-सनवार १६ अना इतवार १७ डिसेंबर २०२३

## परमान पत्र

पान. डॉ. तीर्थराज कापडगे, नागपूर

जय झाडो !

आपन बाहणी/ख. आडीबोली साहित्य संमेलनात येवून कारिकायाचा मोबा वाडवल्या अना आमचा मानपान वचनमन्या बातचीत/आडीकवी संमेलन/लोककला/पुस्तक पोवा/विमभूषण/गंगोर्ग.

आमनता वचना, परिसंवाद (बाला-चित) (Poppu) या कार्यक्रमान वाका सामील झाल्या.

आडीबोली मौंक्रुती टिकताने आपला मोलाचा हिस्सा आये. मुद्दमन्याना आपल्यालं परमान पत्र देवून परमानत करच्यात येत आये.

Dr. H. R. Chavhan

संमेलनाध्यक्ष

डॉ. चंद्रकांत लेनगुरे

Dr. H. R. Chavhan

अध्यक्ष

डॉ. हरिचंद्र बोस्कर  
आडीबोली साहित्य मंडळ, साकोली

Dr. H. R. Chavhan

स्वागतार्थी

विकास तु. खोटे  
आडीबोली साहित्य मंडळ, साकोली

Dr. H. R. Chavhan

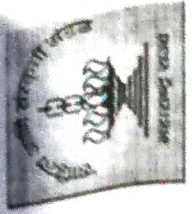
कार्याध्यक्ष

चंद्रकुमार बहेकर  
मौंश भंडास्कर

Principal

Shri. G. S. Mahapatra  
Shri. G. S. Mahapatra  
Shri. G. S. Mahapatra





# साहित्य कला सेवा मंडळ नागपूर



मराठीतील लघू  
काव्य राज्यस्तरीय  
साहित्य संमेलन

## महाराष्ट्र राज्य साहित्य व संस्कृती मंडळ, मुंबई आयोजित

साहित्य कला सेवा मंडळाच्या सुवर्णमहोत्सवी वाटचाली प्रित्यर्थ  
२ रे अन्य मराठी राज्यस्तरीय साहित्य संमेलन २०२४

### सन्मानपत्र

माननीय - डॉ. सी. रमेशचंद्र - आपण साहित्य कला सेवा मंडळ, नागपूर व महाराष्ट्र राज्य साहित्य व संस्कृती मंडळ, मुंबई यांच्या संयुक्त विद्यमाने दिनांक १७ व १८ फेब्रुवारी २०२४ रोजी, लोकमान्य टिळक स्मृति सभागृह, कस्तुरबा भवन, बजाज नगर, नागपूर येथे आयोजित 'मराठीतील लघू काव्य राज्यस्तरीय साहित्य संमेलनाच्या' निमित्ताने - उत्सव - या सत्रात - या सत्रात सहभाग घेतला त्याबद्दल आम्ही आपले आभारी आहोत. आपल्या पुढील साहित्यिक वाटचालीसाठी प्रस्तुत सन्मानपत्र अत्यंत सन्मानाने व शुभेच्छांसह आपणास प्रदान करण्यात येत आहे.

संमेलनाध्यक्ष  
स्वागताध्यक्ष

श्री. मदन विठ्ठल कुलकर्णी  
श्री. राजेश कुबडे

डा. मदन विठ्ठल कुलकर्णी  
श्री. गोपाल कडकूर

Principal  
उपाध्यक्ष  
सचिव

Shri Lemdeo Patil Mahavidyalaya  
Mandhal, Teh-Kuhi, Dist-Nagpur

श्री. राजेंद्र बोकाडे  
प्रा. सुहास काकडे

जीवूत महोत्सवी

वर्षाकडे वाटचाल...

