

RESUME



1. Name Kodukula Venkata Suryanarayana Sarma

2. Address

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3. Date of Birth : 18/05/1970

4. Nationality : Indian

5. Sex : Male

6. Category : OC

7. Academic Record from Undergraduate Degree

Degree	Specialisation	University/Institute	Year of Completion
Ph.D.	Graph Theory	Dravidian University, Kuppam	2015
M.Phil.	Mathematics	Madurai Kamraj University, Madurai	2005
M.Sc.	Mathematics	Andhra University, Visakhapatnam	1994
B.Sc.	Mathematics, Physics, Statistics	Andhra University, Visakhapatnam	1990

8. Academic Experience

Teaching Experience

Duration	Organisation	Area(s)
June 2015 – Till date	GVP College for Degree and P.G. Courses, School of Engineering, Visakhapatnam	Mathematics
July 2006 – May 2015	Regency Institute of Technology, Yanam	Mathematics
June 2000 – May 2006	JES Degree College, Visakhapatnam	Mathematics
June 1997 – May 2000	Gandhi Degree College, Visakhapatnam	Mathematics
June 1994 – May 1997	Alfa Junior College, Visakhapatnam	Mathematics

9. Administrative Experience

Period	Organisation	Designation	Nature of Responsibility
June 2016 – 30-11- 2023	GVP College for Degree and P.G. Courses, School of Engineering, Visakhapatnam	Head of the Department, Mathematics	Department Head
2012-2015	Regency Institute of Technology, Yanam	Nodal Officer and Additional Chief Superintendent of Examinations	Controller of Examinations
2012-2015	Regency Institute of Technology, Yanam	Acted as Head of the Department, Mathematics	Department Head
2013-2015	Regency Institute of Technology, Yanam	Acted as Nodal officer, MHRD, Pondicherry University	Updating DCF-II formats

10. Present Position

Designation	Organisation	
Associate Professor Department of Basic Sciences and Humanities	GVP College for Degree and P.G. Courses(A), Visakhapatnam	

11. Current Areas of Research Specialisation

Graph theory

12. Patents:

Filed an Indian patent on “**Fluid Dynamic Melted Aluminium Refinement In A Designed Furnace Through A Mathematical Model**” bearing application No.**202241041907 A** on 21/07/2022 and published on 29/07/2022.

13. Publications

(a) Papers in **International** Journals:

Published : 19

S.No.	Author(s)	Year of Publication	Title of Paper	Complete Reference of Journal
1.	Dr.K.V.S.Sarma	2023	A Study on Some labelling techniques of graphs	NCDT 2023 1st National Conference on Design Thinking: Trans-Disciplinary Challenges & Opportunities
2.	Dr.K.V.S.Sarma	2022	Fluid Dynamic Melted Aluminium Refinement In A Designed Furnace Through A Mathematical Model	Indian patent bearing application No. 202241041907 A on 21/07/2022 and published on 29/07/2022.
3.	Dr.K.V.S.Sarma	2021	A few observations on the paper “Maximum distance in graphs”	AIP Conference Proceedings 2375, 020027 (2021); https://doi.org/10.1063/5.0067831 Published Online: 05 October 2021
4.	Dr.K.V.S.Sarna	2021	Interval-valued intuitionistic fuzzy topological sub algebras (IVIFTS) in BF-algebra	AIP Conference Proceedings 2375 , 020011 (2021) https://doi.org/10.1063/5.0066313

5.	Dr.K.V.S.Sarma	2019	An extension of the paper "Maximum Distance in Graphs"	International Journal of Mathematics Trends and Technology (IJMTT), 65 (6)(2019): 54-60
6.	Dr.K.V.S.Sarma	2018	On Some Topological Indices of Tensor Product Graphs	International Journal of Mathematics Trends and Technology 64.1 (2018): 37-45.
7.	Dr.K.V.S.Sarma	2017	On Tensor Product of Standard Graphs -II	International Journal for Research of Mathematics Trends in Applied Sciences and Engineering Technology (IJRASET), Vol. 5(10), 2017, pp.444-455.
8.	K.V.S.Sarma & I.H.N.Rao	2016	On the Degree Distance of Standard Graphs	International Journal of Mathematics Trends and Technology (IJMTT), Vol. 36(2), August 2016, pp.86-98.
9.	K.V.S.Sarma & I.H.N.Rao	2015	Interesting Observations on the first and second Zagreb Coindices	Global Journal of Pure and Applied Mathematics (GJPAM) , Vol.11(2), December 2015, pp.83-88.
10.	K.V.S.Sarma & I.H.N.Rao	2015	Wiener Index of Some Graphs of Special Type	International Journal of Latest Trends in Engineering and Technology, IJLTET, Vol.6(1), September 2015, pp.134-140.
11.	K.V.S.Sarma & I.H.N.Rao	2015	On Edge-Szeged & G/A Edge-Szeged Index of Standard Graphs	International Journal of P2P Network Trends and Technology (IJPTT) –Volume 21(1), October 2015, pp 1-12.
12.	K.V.S.Sarma & I.H.N.Rao	2014	On the Fourth Zagreb Index of a Graph	International Journal of Mathematical Archive – 5(12), 2014, ISSN:2229-5046, pp. 136-141.
13.	K.V.S.Sarma & I.H.N.Rao	2013	On G/A–Szeged Index of Standard Graphs	International Journal of Mathematical Archive – 4(2), 2013, ISSN:2229-5046,pp.231-236.
14.	K.V.S.Sarma & I.H.N.Rao	2012	On Maximal Independent Sets in a Graph	International Journal of Mathematical Archive – 4(2), 2012, ISSN:2229-5046, pp.1-5.
15.	K.V.S.Sarma & I.H.N.Rao	2012	On Szeged Indices related to tensor product of Standard Graphs of Same Category	International Journal of Mathematical Archive – 4(2), 2012, ISSN:2229-5046, pp.3085-3096.
16.	K.V.S.Sarma & I.H.N.Rao	2012	On Szeged Index of Standard Graphs	International Journal of Mathematical Archive – 3(8), 2012, ISSN: 2229-5046, pp.3129-3135.
17.	K.V.S.Sarma & I.H.N.Rao	2010	On Tensor Product of Standard Graphs	International Journal of Computational Cognition, Vol.8, No.3(94-98) September 2010.
18.	K.V.S.Sarma & I.H.N.Rao	2009	On a Special type of Graphs	International Review of Pure and Applied Mathematics, Vol. 5(2), (July-December) 2009, pp 311-331.
19.	K.V.S.Sarma & I.H.N.Rao	2009	On some properties of Number-theoretic graphs	Pacific Asian Journal of Mathematics, Vol.3, No.1-2, January-December 2009, pp.24.

(b) Papers in Indian Journals :05

Published

S.No	Author(s)	Year of Publication	Title of Paper	Complete Reference of Journal
1.	K.V.S.Sarma & I.H.N.Rao	2012	The Szeged Index Of Tensor Product Graphs	Proceedings of Andhra Pradesh Akademi of Sciences, Vol.14(1), Jan-June 2012, pp.25-38.
2.	K.V.S.Sarma & I.H.N.Rao	2009	On Set – inclusion matchings	Proceedings of Andhra Pradesh Akademi of Sciences, Vol.13(1-4) Jan-Dec.2009:149-157
3.	K.V.S.Sarma & I.H.N.Rao	2008	On set - inclusion coverings	Varahamihir Journal of Mathematical Sciences, VJMS 8 No.2, 2008.
4.	K.V.S.Sarma & I.H.N.Rao	2007	Lower difference graphs	Proceedings of Andhra Pradesh Akademi of Sciences, Vol.11(3), September 2007:223-228.
5.	K.V.S.Sarma & I.H.N.Rao	2007	The Wiener number for a class of graphs	Varahamihir Journal of Mathematical Sciences, VJMS 8 No.2, 2007.

(c) Papers in International Conferences :04

S.No.	Author(s)	Year of Publication	Title of Paper	Name and Place of Conference
1.	K.V.S.Sarma	2021	A Critical solution on maximum Distance on Graphs	Essence of Mathematics and its Engineering Applications (ICEMEA), KL University, Guntur
2.	K.V.S.Srama	2019	On graceful Number of Graphs	Recent Inventions and Innovations in Mathemathematical Sciences, Andhra Univrsity, Visakhpatnam, India
3.	K.V.S.Sarma & I.H.N.Rao	2013	On Edge-Szeged and G/A Edge-Szeged Index of Standard Graphs	Discrete Mathematics and its Applications held at Dharwad University, Karnataka
4.	K.V.S.Sarma & I.H.N.Rao	2010	On Certain type of Graphs	International Conference of Mathematicians held by Hyderabad International Conventional Centre, Hyderabad

(d) Papers in Indian Conferences:18

S.No.	Author(s)	Year of Presentation	Title of Paper	Name and Place of Conference
1.	K.V.S.Sarma & I.H.N.Rao	2019	A Few Observations on the paper "Maximum Distance in Graphs"	XXVIII Congress of APTSMS and Rashtriya Sanskrit Vidyapeetha, National conference on Recent Trends in Pure and Applied Mathematics held at Tirupati

2.	K.V.S.Sarma & I.H.N.Rao	2018	An Extension of the paper "Maximum Distance in Graphs"	XXVII Congress of APTSMS Maris Stella College, National Conference on Recent Advances in Mathematics, held at Vijayawada
3.	K.V.S.Sarma & I.H.N.Rao	2017	On Some Topological Indices of Tensor Product Graphs	XXVI Congress of APSMS and National Conference on RECENT ADVANCES IN MATHEMATICS held at Kakatiya University, Warangal, Aug 2017
4.	K.V.S.Sarma & I.H.N.Rao	2016	Degree distance of Tensor Product of a pair of Standard Graphs	XXV Congress of APSMS and National Conference on Mathematics" held at Vidyanagar MKBR Institute of Science and Technology, 2016
5.	K.V.S.Sarma & I.H.N.Rao	2015	Interesting Observations on the First and Second Zagreb Coindices.	XXIV Congress of APSMS and National Conference on Mathematics" held at Vignan Bhatathi Institute of Technology, Ghatkesar, Hyderabad.
6.	K.V.S.Sarma & I.H.N.Rao	2014	Some Graphs of Special Types	XXIII Congress of APSMS and National Conference on Mathematics" held at Vignan's Foundation for Science, Technology and Research University, Vadlamudi, Guntur
7.	K.V.S.Sarma & I.H.N.Rao	2014	Results concerning Zagreb Indices of Graphs	National Conference on Recent trends in Mathematics and its Applications held at JNTU, Kakinada
8.	K.V.S.Sarma & I.H.N.Rao	2013	The first and second Zagreb Indices and some Standard Graphs" in the month of	National Conference on Recent trends in Mathematics and its Applications held at Anurag Group of Institutions, Hyderabad.
9.	K.V.S.Sarma & I.H.N.Rao	2012	The Szeged Index of Tensor Product Graphs	National conference on Applications of Mathematics in Engineering, Physical and Life Sciences and XXI Congress of APSMS held by Department of Mathematics, S.V. University, Tirupati
10.	K.V.S.Sarma & I.H.N.Rao	2011	The Wiener Number concerning Tensor Product of Graphs	National Conference on Mathematical Modelling and Simulations organized by Department of Humanities and Sciences, Swarna Bharathi Institute of Science and Technology, Khammam
11.	K.V.S.Sarma & I.H.N.Rao	2011	On Lower Difference Graphs	National Seminar on Presnet trends in Algebra and its applications held by J.M.J. College for Women, Tenali
12.	K.V.S.Sarma & I.H.N.Rao	2011	Discrete Mathematics and its Applications	National Conference organized by Gayathri Vidya Parishad, Visakhapatnam

13.	K.V.S.Sarma & I.H.N.Rao	2010	On Tensor Products of $K_m \wedge K_n$ and $P_m \wedge P_n$	XIX Congress of APSMS-2010 and National Conference on Cryptography and Network Security held at Jyothishmathi Institute of Technology and Science, Karimnagar
14.	K.V.S.Sarma & I.H.N.Rao	2009	A special type of matchings	National Conference on Mathematical modeling in emerging technologies held at Malla Reddy Engineering College, Hyderabad
15.	K.V.S.Sarma & I.H.N.Rao	2009	The Wiener Indices for a class of Graphs	National conference on Mathematical Solutions and Soft Computing conducted by A.V.N. College, Visakhapatnam
16.	K.V.S.Sarma & I.H.N.Rao	2008	The Wiener Number for a certain graphs of Computational Chemistry	Proceeding of National Workshop on Uniform Hyper graphs and their applications held at Sir CRR Institute of Mathematics, Eluru
17.	K.V.S.Sarma & I.H.N.Rao	2007	The Wiener index for a special type of graphs	National Conference on recent development in mathematics and applications held by Andhra University, Visakhapatnam
18.	K.V.S.Sarma & I.H.N.Rao	2007	The Wiener number for a class of graphs	National Conference on Discrete Mathematics and its applications" held by Thiagarajar College of Engineering, Madhurai

(e) FDPS attended in 2020 and 2021:

S.No.	Author(s)	Year of Presentation	Title of the webinar	Institution in which webinar is held
1.	K.V.S.Sarma	14/06/2021 to 19/06/2021	Faculty Development Programme on Number Theory and its Applications	Gates Institute of Technology, Ananthapuram
2.	K.V.S.Sarma	29/06/2021 to 30/06/2021	A two day workshop on "R", A language and Environment for Statistical Computing and Graphics	Vignan Institute of Technology, Guntur
3.	K.V.S.Sarma	5/7/2021-9/7/2021	Five Days e-Workshop on Latex	Gandhi Institute of Technology and Management. Department of Mathematics, School of Science, Bengaluru
4.	K.V.S.Sarma	12/7/2021 – 17/07/2021	Recent Trends in Applications of Mathematics	Chadalawada Ramanamma Engineering College, Tirupathi
1.	K.V.S.Sarma	02/08/2021 to 14/08/2021	Faculty Development Programme on Research Advances in Mathematics and its Applications	Satyabama Institute of Science and Technology,
5.	K.V.S.Sarma	2020	A two – day National webinar on Applications of Mathematical Sciences in Real Life (AMSIR)	Mrs.A.V.N. College, Visakhapatnam

6.	K.V.S.Sarma	2020	National webinar on Applications of Mathematics	St Pious X Degree and PG College for Women, Hyderabad.
7.	K.V.S.Sarma	2020	Faculty Awareness Programme on Outcome based Education and NBA Accreditation	Ssinhgad Institute of Technology and Science, Pune
8.	K.V.S.Sarma	2020	E-Quiz programme on Communication Skills	T.S.P.Mandali's C.M.Managuli Arts, Science and Commerce College, Sindagi
9.	K.V.S.Sarma	2020	National Education Policy 2020: Implementation in Higher Education	Internal Quality Assurance Cell (IQAC), SSV College, Hapur
10.	K.V.S.Sarma	2020	National webinar on Mathematics and its Applications	University College of Engineering (IAI), Osmania University, Hyderabad

(f) Books

Published:01

S.No.	Name of Book	Year of Publication	Name of Publisher	Co-authors (if any)
1.	Engineering Mathematics-II (For Polytechnic II Year(III Semester -Common to All Branches)	2010	Falcon Publishers, Hyderabad	Dr.K.V.Ramana

14. Awards, Honours and Recognitions

- **Delivered a talk** in an international conference commemorating the 100th birth anniversary of Prof. V.Lakshmikantham The International Conference, Latest Advances Contributions and Applications in Nonlinear Analysis (LACANA) is from 13th to 16th march 2024.
- **Board of Studies Member**, Department of mathematics for SRINIVASA INSTITUTE OF TECHNOLOGY, CHEYYERU, AMALAPURAM, EG (DT) for three years from the academic year 2023-24 to 2026-27.
- Recognised by ANDHRA UNIVERSITY as research Guide and guiding two students for Ph.D.
- Chaired a session in an International Conference on **“Relevance of Ancient Mathematics to the Current Digital Trends (ICRAMDT-2022)”** held in collaboration with XXXI Annual Congress of APTSMS XXIX Congress of APTSMS held at National Sanskrit University, Tirupathi during 9/12/2022 - 11/12/2022.
- Chaired a session in XXIX Congress of APTSMS & National Conference on Mathematics and its Applications (NCMA-2020) held at Department of Mathematics, Mahatma Gandhi University, Nalgonda, T.S. during 3/12/2020 – 5/12/2020.
- Acted as a reviewer for Journal of Nonlinear Sciences and Applications (JASA).
- Chaired a session in International Conference on Advances in Science, Engineering Mathematics (ICASEM 2020) held at Annamacharya Institute of Technology and Sciences (A), Rajampet from August, **7th – 9th**, 2020.
- Chaired a session in “XXIX Congress of APTSMS & National Conference on Mathematics and its Applications (NCMA-2020) held at the Department of Mathematics, Mahatma Gandhi University, Nalgonda, T.S, during December **3rd - 5th**, 2020.

- **Delivered an Invited talk on “ An Extension Results on Maximum Distance on Graphs” in FDP on “Mathematical Modelling and its Applications in Engineering” conducted at JOGINAPALLY B.R. ENGINEERING COLLEGE, Hyderabad from 8th – 12th July 2019**
- Presented a paper entitled “**On Certain types of Graphs**” in International Conference of Mathematicians (held every four years in different countries). In 2010, it was held at Hyderabad for the first time in India, organized by HCU in HICC (Hyderabad International Convention Centre). The content of the paper was appreciated by all and I was provided with all financial emoluments (nearly 75000/-) by executive council committee of ICM- 2010.
- On the eve of **National Mathematical Year – 2012** (125th birth anniversary of Srinivas Ramanujan) two special issues are brought by the Andhra Pradesh Academy of Sciences. My paper on **The Szeged index of tensor product graphs** was selected and published in the 1st issue of the PAPAS Journal which contains **select seven articles** from writers all over India and this paper is the unique one, selected from Vishakapatnam, India.
- Presently executive Council Member for Andhra Pradesh and Telangana Mathematical Society for Mathematical Sciences.

15. Research Plan for the next 5 years

My dissertation entitled 'some contributions in Graph Theory' has three major topics.

- (i) Matchings, Coverings and Independent sets
- (ii) Lower difference graphs and Number-Theoretic graphs
- (iii) Wiener Number of a class of Graphs.

The first one has interesting applications in Economics, Operation Research. The second one has very useful applications in communication networks and transportation problems. The third one has significant applications in chemistry and chemical Engineering.

At present, my concentration is on the third one. Chemical graph theory is a branch of Mathematical Chemistry related with the study of organic compounds. These graphs are models of molecules in which atoms are represented by vertices and bonds by edges in the graph. It is possible to study the Physico-Chemical properties of molecules by using the information encoded in their corresponding graph.

A topological index is a numerical number derived from the structural graph of a molecule. This index is invariant under graph isomorphism. This kind of index was first proposed by Harold Wiener and was named after him; the second one is szeged index of a graph and is due to Gutmann. The szeged and Wiener numbers of a water-solvable polyaryl Ether Dendrimer Nanostars have practical applicability in Nano science.

The recent index is the Zagreb index. Two types of indices the first one and the second one were introduced related to adjacent pairs of vertices in the graph. More recently the first and second Zagreb coindices are introduced related to non adjacent vertices in the graph. This is due to Klavzar, Arami, Ashriff, Doslic, Hamzeh et.al.

Presently, our group has introduced the third and fourth Zagreb indices and coindices and we are pursuing to find out the practical utility of that.

My Research plan for the next few years is

- (i) To find out the interrelationships between the Wiener Index, Szeged index and Zagreb indices and coindices.

- (ii) To determine the Zagreb-indices and coindices for Cartesian product graphs, Tensor Product graphs and other useful graphs.
- (iii) To do inter-disciplinary work in collaboration with interested experts in the field of Chemistry, Chemical/Petroleum/Computer science academicians (This is my ambition).

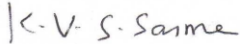
16. Programmes attended:

- **Participated** in National Workshop on "Applications of Advanced Mathematics in Engineering & Science ", conducted by Department of Engineering Mathematics, Andhra University College of Engineering (A), Andhra University, Visakhapatnam.
March, 2017
- Participated in National Seminar on "Glory of Mathematics Past and Present" conducted by Versity Education Management, December, 2012, , Sri Chaitanya Educational Institute, Visakhapatnam.
- **Participated** in a **Two-week ISTE WORKSHOP** on "Introduction to Research Methodologies" conducted by Indian Institute of Technology, Bombay from **25th June to 04th July, 2012** at Regency Institute of Technology, Yanam.
- **Participated in** Faculty Development Program Organized by ICFAI on 22nd February, 2007 Kakinada

17. Any Other Relevant Information supporting this application for a faculty position

- Executive council member of **Andhra Pradesh and Telangana Society for Mathematical Sciences.**
- Acted as a Judge for State Level Jawaharlal Nehru Science, Mathematics & Environment Exhibition (SLSMEE) – 2018.
- Acting as a reviewer for the International Journal of Advanced Research in Science and Technology (IJARST)ISSN 2319-1783(P) & ISSN 2320-1126(O).
- Life member of **Andhra Pradesh and Telangana Society for Mathematical Sciences**, Hyderabad, Andhra Pradesh.
- Life member of Association for improvement of Maths Education, Vijayawada, A.P., India.
- Life member of Association of Discrete Mathematics and its Applications (**ADMA**), Mysore, Karnataka, India.

Date : 14/06/2024
Place : VISAKHAPATNAM


Signature of Applicant