

PROFILE

- 1. Name** : **Dr. S. K. VAIDYA**
- 2. Department** : **Mathematics**
- 3. Present Designation** : **Professor**
Department of Mathematics,
Saurashtra University,
Rajkot-360 005
Gujarat (India).
- 4. Educational Qualifications** : **M.Sc.(Maths),Ph.D.**
- 5. Teaching Experience** : **24 years as on 01-03-2012**
- 6. The Number of Students**
Supervised for M.Phil (Maths) : **24**
- 7. The Number of Students**
Supervised for Ph.D. (Maths) : **07**
- 8. The Number of Students**
Pursuing for Ph.D. Degree : **06**

(A) Research Publications

- 1) Kerr-Schild type solutions of Einstein Maxwell Equations – Class Quantum Grav. 8 (1991), 1717-1722.
- 2) An Anisotropic Analogue of Finch-Skea Solution – Mathematics Today XIII (1995), 43-50.
- 3) Einstein Clusters of Charged Particles – Mathematics Today, XV (1997), 55-60
- 4) Anisotropic Fluid Spheres in General Relativity – APH NS, Heavy Ion Physics 3(1996), 177-188.
- 5) Regular Induced Subgraphs of K_n , Mathematics To day 23(2007), 25 – 30.
- 6) Cordial Labeling for Two Cycle Related Graphs, The Math. Student, J. of Indian Math. Soc. 76(2007), 237-246.
- 7) Cordial and 3-equitable Labeling of cycle with twin-chords, Proceedings of ICETAETS 13 – 14 Jan 2008, vol – I, 905-907.
- 8) Gracefulness of Union of two Paths with grid graph and complete Bipartite graph, Proceedings of ICETAETS 13 – 14 Jan 2008, vol – I, 616 – 619.
- 9) Some Classes of Disconnected Graceful Graphs, Proceedings of ICETAETS 13 – 14 Jan 2008, vol – I, 1050 – 1056.
- 10) Barycentric subdivision and cordial labeling of some cycle related graphs, Proceedings of ICETAETS 13 – 14 Jan 2008, vol – I, 1081-1083.
- 11) Some new Cordial Graphs, Int. J. of Scientific Computing 2(1) (2008), 81-92.
- 12) Cordial labeling for cycle with one chord and its related graphs, Indian J.of Math. and Math. Sciences 4(2) (2008), 145-156.
- 13) A general class of Maximal Non-Hamiltonian Graphs, Mathematics Today 24 (2008), 77-80.
- 14) Cordial and 3-equitable labeling of star of a cycle, Mathematics Today 24(2008), 54-64.
- 15) An Anisotropic Analogue of Schwarzschild Interior Solution, PRAJNA Journal. of Pure and Applied Sci.16(2008), 80-89.

- 16) Cordial and 3-Equitable Labeling for Some Shell Related Graphs, J. Sci. Res 1(3)(2009), 438-449. (DOI: 10.3329/jsr.v1i3.2227)
- 17) Cordial and 3-Equitable Labeling for Some Star Related Graphs, Int. Mathematical Forum 4(31)(2009), 1543-1553
- 18) Some Cordial Graphs in the Context of Barycentric Subdivision, Int. J. Contemp. Math. Sciences, 4(30)(2009), 1479-1492
- 19) Some Important Results on Triangular Sum Graphs, Applied Mathematical Sci., 3(36)(2009), 1763-1772
- 20) Some Wheel Related 3-Equitable Graphs in the Context of Vertex Duplication, Advances and Applications in Discrete Math.4(1)(2009), 71-85
- 21) Some New Mean Graphs, International Journal of Information Science and Computer Mathematics, 1(1)(2010), 73-80
- 22) Some New Star Related Graphs and Their Cordial as well as 3-equitable Labeling, Journal of Science, 1(1)(2010), 111-114
- 23) Mean Labeling in the Context of Some Graph Operations, International Journal of Algorithms, Computing and Mathematics, 3(1)(2010), 1-8
- 24) Some Cycle Related Product Cordial Graphs, International Journal of Algorithms, Computing and Mathematics,3(1)(2010), 109-116
- 25) Strongly Multiplicative Labeling in the Context of Arbitrary Supersubdivision, Journal of Mathematics Research, 2(2)(2010), 28-33
- 26) Prime Labeling for Some Cycle Related Graphs, Journal of Mathematics Research, 2(2)(2010), 98-103
- 27) Some New Results on Cordial Labeling in the Context of Arbitrary Supersubdivision of Graphs, Applied Mathematical Sciences, 4(47)(2010), 2323-2329
- 28) Some New Product Cordial Graphs, Journal of Applied Computer Science & Mathematics, 8(4)(2010), 62-65.
- 29) Total Product Cordial Graphs Induced By Some Graph Operation on Cycle Related Graphs, International Journal of Information Sciences and Computer Mathematics, 1(2)(2010), 113-126

- 30) Strongly Multiplicative Labeling for Some Cycle Related Graphs, Modern Applied Science, 4(7)(2010), 82-88
- 31) L(2,1)-Labeling in the Context of Some Graphs Operations, Journal of Mathematics Research, 2(3)(2010), 109-119
- 32) Prime Cordial Labeling for Some Graphs, Modern Applied Science, 4(8)(2010), 119-126
- 33) Some New Families of Mean Graphs, Journal of Mathematics Research, 2(3)(2010), 169-176
- 34) Odd Graceful labeling of Some New graphs, Modern Applied Science, 4(10), (2010), 65-70.
- 35) Some Cycle Related Cordial Graphs in The Context of Vertex Switching, Proc.of ICDM-2008, RMS Lecturer Note Series No.13, (2010), 243-252.
- 36) The L(2,1)-Labeling of Some Middle Graphs, Journal of Applied Computer Science & Mathematics, 9(4), (2010), 104-107.
- 37) Cordial Labeling and Arbitrary Super Subdivision of Some Graphs, International Journal of Information Science and Computer Mathematics, 2(1), (2010), 51-60.
- 38) Mean Labeling for some new families of graphs, PRAJNA-Journal of pure and Applied Sciences, 18, (2010), 115-116.
- 39) Some result on Prime and k-Prime Labeling, Journal of Mathematics Research, 3(1), (2011), 66-75.
- 40) Index of cordiality for complete graphs and Cycle, Int. J. of Appl. Math. and Computation, 2(4), (2010), 38-46.
- 41) Some New Odd Graceful Graphs, Advances and Applications in Discrete Math., 6(2), (2010), 101-108.
- 42) Product Cordial labeling of Some New graphs, Journal of Mathematics Research, 3(2), (2011), 206-211. (DOI: 10.5539/jmr.v3n2p206)
- 43) Cordial Labeling for Middle Graph of Some Graphs, Elixir Dis. Math.,34, (2011), 2468-2475.

- 44) Cordial and 3-equitable Labeling for Some Wheel Related Graphs, IAENG Int. J. of Appl. Math., 42(2), (2011), 99-105.
- 45) Fibonacci and Super Fibonacci Graceful Labeling of Some Graphs, Studies in Mathematical Sciences, 2(2), (2011), 24-35
- 46) Some Strongly Multiplicative Graphs in the Context of Arbitrary Supersubdivision, Int. J. of Appl. Math. And Computation, 3(1), (2011), 60-64
- 47) Embedding and Np-Complete Problems for 3-Equitable Graphs, Int. J. of Cont. Adv. Math., 2(1), (2011), 1-7
- 48) Labeling Cacti with a Condition at Distance Two, LE Mathematiche, LXVI, (2011), 29-36 (DOI: 10.4418/2011.66.1.3)
- 49) Product Cordial Labeling in the Context of Tensor Product of Graphs, Journal of Mathematical Research, 3(3), (2011), 83-88, (DOI: 10.5539/jmr.v3n3p83)
- 50) Some new odd harmonious graphs, Int. J. of Math. and soft Comp., 1(1), (2011), 9-16
- 51) Some new graceful graphs, Int. J. of Math. and soft Comp., 1(1), (2011), 37-45
- 52) E-Cordial Labeling of Some Mirror Graphs, International Journal of Contemporary Advanced Mathematics, 2(1), (2011), 22-27.
- 53) Some New Results on *E*-Cordial Labeling, International Journal of Information Science and Computer Mathematics, 3(1), (2011), 21-29.
- 54) Some New Product Cordial Graphs, Mathematics Today, 27, (2011), 64-70.
- 55) Cordial and 3-Equitable Graphs Induced by Duplication of Edge, Mathematics Today, 27, (2011), 71-82.
- 56) New Families of Odd Graceful Graphs, Int. J. Open Problems Compt. Math., 3(5), (2010), 166-171.
- 57) Prime Cordial Labeling For Some Cycle Related Graphs, Int. J. Open Problems Compt. Math., 3(5), (2010), 223-232.
- 58) 3-Equitable Graphs in the Context of Some Graph Operations, Journal of Applied Computer Science & Mathematics, 11(5), (2011), 69-75.
- 59) New Mean Graphs, International Journal Of Mathematical Combinatorics, 3, (2011), 107-113.

- 60) Some New Families of Prime Cordial Graphs, Journal of Mathematics Research, 3(4), (2011), 21-30.
- 61) Some New Families of E-Cordial Graphs, Journal of Mathematics Research, 3(4), (2011), 105-111.
- 62) Some product cordial graphs, Elixir Dis. Math., 41, (2011), 5948-5952.
- 63) E-Cordial Labeling for Cartesian Product of Some Graphs, Studies in Mathematical Sciences, 3(2), (2011), 11-15.
- 64) Fibonacci and Super Fibonacci Graceful Labelings of Some Cycle Related Graphs, International Journal of Math. Combin., 4, (2011), 59-69.
- 65) Prime Cordial Labeling of Some Graphs, Open Journal of Discrete Mathematics, 2, (2012), 11-16. (DOI: 10.4236/ojdm.2012.21003)
- 66) Some Switching Invariant Prime Graphs, Open Journal of Discrete Mathematics, 2, (2012), 17-20. (DOI: 10.4236/ojdm.2012.21004)
- 67) Product Cordial Graphs in the Context of Some Graph Operations, International journal of mathematics and scientific computing, 1(2), (2011), 1-6.
- 68) Some New Families of Line Graceful Graphs, International journal of mathematics and scientific computing, 1(2), (2011), 26 – 28.
- 69) Distance Two Labeling of Some Total Graphs, General Mathematics Notes, 3(1), (2011), 100 – 107.
- 70) Distance Two Labeling of Generalized Cacti, International Journal of Math. Combin., 2, (2012), 103 – 109.
- 71) Harmonic mean labeling in the context of duplication of graph elements, Elixir Discrete Mathematics, 48, (2012), 9482 – 9485.
- 72) Radio labeling for some cycle related graphs, International Journal of Mathematics and Soft Computing, 2(2), (2012), 11 – 24.
- 73) Further results on product cordial graphs, International Journal of Mathematics and Soft Computing, 2(2), (2012), 67 – 74.

(B) Conference / Seminar / Workshop attended

- 1) Gujarat Ganit Mandal, Silver Jubilee Conference from 30 Oct. to 1st Nov. 1988 at Saurashtra University, Rajkot.
- 2) XVI conference of Indian Association for General Relativity and Gravitation from 10 Dec. to 11th 1991 at S.P. Uni., V.V. Nagar.
- 3) Workshop on Preparation of Instructional Material for Distance Learning at T.T.T.I., Bhopal from 17 Feb. to 28th Feb. 1992.
- 4) Saurashtra University Silver Jubilee Celebration Research Seminar on 30 March 1993 at Rajkot.
- 5) Short course on Quality Circle from 6 Sept. to 7th Sept. 1993 at Govt. Polytechnic, Rajkot.
- 6) Research Seminar on Pure and Applied Maths from 1st March to 3rd March 1997 at M.S. University, Vadodara and also presented a Research paper titled as "Einstein Clusters of Charged Particles"
- 7) XIII Gujarat Science Congress from 8th Sept. to 9th Sept. 1997 at North Gujarat University, Patan and also presented a research paper titled as "A Perfect Fluid Spherically Symmetric Solution"
- 8) UGC sponsored Research seminar on Pure and Applied Maths from 14th Feb. to 15th Feb. 1999 at Sardar Patel University, Vallabh Vidyanagar and also presented a thesis titled as "Some Investigation in The Theory of Relativity."
- 9) UGC sponsored Refresher Course in Applied Statistics at Saurashtra University, Rajkot from 6th Sept. to 26th Sept. 1999.
- 10) UGC sponsored Refresher course in Mathematics at Sardar Patel University, V.V. Nagar from 2nd Nov. 2000 to 19th Nov. 2000.
- 11) UGC sponsored National Seminar on Mathematics at S.P. Uni., V.V. Nagar from 3-5 March 2001.
- 12) 39th Conference of Gujarat Ganit Mandal from 14th Nov. to 15th Nov. 2002 at Community Science Centre, Rajkot.
- 13) XVIII Gujarat Science Congress 13-03-2004 at Sau. Uni., Rajkot and presented a research paper entitled as "Core Envelope Models in General Relativity."

- 14) n-CARDMATH Group Discussion on Signed Discrete Structures and Applications, at R.I. E.(Mysore) from 15 to 24 Nov 2005.
- 15) Instructional Workshop on Applications of Graph Theory in Chemistry, at Karnatak University, Dharwad from 27 to 31 march 2006.
- 16) n-CARDMATH Group Discussion on Labelings of Discrete Structures and Applications, at MARY MATHA ARTS AND SCIENCE COLLEGE Mananthavady, KERALA from 19 to 28 April 2006.
- 17) Participated in 9th national conference of Indian society of statistics, computer & applications during 11-13 November ,2006 at Department of statistics, Saurashtra University, Rajkot and presented following three research papers
 - 1) On maximal non-Hamiltonian graphs.
 - 2) Reconstruction of graphs.
 - 3) Gracefulness and skolem gracefulness of $C_4 \cup P_n, n \geq 3, n \in N$.
- 18) Participated in International Conference in Discrete Mathematics (ICDM'06) during 15th Dec to 18th Dec.2006 at IISc. – Bangalore and presented a research paper entitled “Some classes of graceful graphs”.
- 19) Participated in DST sponsored International conference on recent developments in combinatorics and graph theory at Kalasalingam University, Krishnankoil (T.N.) during 10-14 June 2007 and presented a research paper entitled “3-equitable labeling of some cycle related graphs”.
- 20) Delivered a talk on “Some Labeling techniques in Graph Theory” in the 44th annual convention of Gujarat Ganit Mandal during 4-6 November 2007 at Vadodara.
- 21) Participated in the International Conference on Emerging Technologies and Applications in Engineering, technology and Sciences during 13-14 January -2008 at Saurashtra University, Rajkot and presented following research papers.
 - 1) Cordial and 3-equitable labeling of star of a cycle.
 - 2) Cordial and 3-equitable labeling of cycle with twin chords.
 - 3) Barycentric subdivision and cordial labeling of some cycle related graphs.
 - 4) Gracefulness of union of two path graphs with grid graphs and complete bipartite graph.

- 5) Some classes of disconnected graceful graph.
- 22) Participated in UGC & GUJCOST sponsored Mathematics Meet at Gujarat University, Ahmedabad during 28-29 March-2008.
- 23) Participated in DST & CSIR sponsored International conference on discrete mathematics (ICDM-2008) at University of Mysore during 6-10 June -2008 and presented a research paper entitled “Some cordial graphs in the context of vertex switching”.
- 24) Delivered an invited talk on “Reconstruction of Graphs” in the “National Conference on Algebra, Graph Theory and their Applications” (NCAGA’09) organized by Department of Mathematics (Manonmaniam Sundarnar University-Tirunelveli, Tamilnadu) during 4-6 February-2009.
- 25) Delivered an invited talk on “Labeling of Graphs” in the “Two day National Seminar on Discrete Mathematics and Applications” organized by ANJA College(Sivakasi, Tamilnadu) during 18th & 19th March, 2009.
- 26) Participated in Fifth Annual Instructional Conference of ADMA & Graph Theory Day V (ACADMA 2009) organized by Pariyar University, Salem (Sponsored by CSIR, DST & NBHM) during 8th to 10th June-2009 and presented following three Research Papers.
- 1) Some Strongly Multiplicative Graphs In The Context Of Arbitrary Super Subdivision.
 - 2) Product Cordial Graphs Induced by Some Graph Operations on cycle related Graphs.
 - 3) Some New Graceful Graphs.
- 27) Participated in Instructional Conference of ADMA and graph theory day-VI at College of Engineering–PUNE (Maharashtra) during 8th to 10th June-2010 and presented a research paper entitled “Some Cordial Graphs in the Context of Fusion and Duplication”
- 28) Participated in International Congress of Mathematicians (ICM-2010) during 19 to 28 August 2010 at Hyderabad.
- 29) Delivered a live talk through BISAG, Gandhinagar for the state-wide class room of T.Y.B.Sc. On 07-12-2010 on the ‘Theory of Graphs’.

- 30) Delivered an invited talk entitled as “Domination in Graphs” during Mathematics Meet-2011 sponsored by U.G.C. and GUJCOST, organized by Department of Mathematics, Gujarat University, Ahmedabad during 03-02-2011 to 05-02-2011.
- 31) Delivered an invited talk entitled as “Some Basic Concepts of Graph Theory” under the U.G.C. exchange of teacher’s scheme at Department of Mathematics, Gujarat University, Ahmedabad on 25-02-2011.
- 32) Participated in Seventh Annual Conference of Academy of Discrete Mathematics and Applications (ADMA) and Graph Theory Day VII at Department of Mathematics, National Institute of Technology Calicut (Kerala) during 9th – 11th June-2011.
- 33) Delivered an invited talk on ‘Kepler’s laws of planetary motion’ on 30th September 2011 at Bahauddin Science College - Junagadh, for the Prof. A. R. Rao Lecture Series sponsored by Prof. A. R. Rao Foundation(V. V. Nagar-Gujarat)
- 34) Delivered an invited talk entitled ‘Reconstruction of Graphs’ on 11th November 2011 in the ‘48th Annual Convention of Gujarat Ganit Mandal’ at Amreli.
- 35) Delivered a series of two lectures on the topic ‘Graph Theory : Introduction and Applications’ under Shree I. A. Patel (Shertha) Visiting Professor Programme on 06th March 2012 at Department of Mathematics, Sardar Patel University, V.V.Nagar (Anand) Gujarat.
- 36) Participated in Eighth Annual Conference of ADMA & Graph Theory Day VIII organized by V. V. Vaniaperumal College for Women, Virudhunagar, Tamil Nadu (Sponsored by CSIR & DST) during 8th to 10th June 2012 and presented research paper ‘Symmetric Regular Cacti – Properties and Enumeration’.
- 37) Delivered an invited talk entitled ‘Introductions to matrices’ on 26th June 2012 during Faculty Development Program at VVP Engineering College, Rajkot.
- 38) Delivered an invited talk entitled ‘Some Graph Labeling Problems’ on 28th June 2012 in Faculty Development Program in Mathematics at Marwadi Education Foundation’s Group of Institutions, Rajkot.
- 39) Delivered an invited talk entitled ‘Srinivasa Ramanujan – A Natural Genius’ on 29th June 2012 in Faculty Development Program in Mathematics at Marwadi Education Foundation’s Group of Institutions, Rajkot.

- 40) Delivered an invited talk entitled 'Srinivasa Ramanujan – A Natural Genius' on 20th July 2012 at Christ College, Rajkot.

(C) Miscellaneous

- 1) Successfully completed a Minor Research Project during 2001-2002 entitled as "Study of Core Envelope Models in General Relativity."
- 2) Successfully coordinated a UGC sponsored Refreshers Course (RC – 162) in Mathematics & Statistics from 30/01/06 to 19/02/06 at Academic Staff College – Saurashtra University, Rajkot.
- 3) Acted as an organizing secretary for National conference on combinatorics and graph theory during 10-12 March-2007 at Saurashtra University, Rajkot. This conference provided enough motivation to young researchers from all over the state.
- 4) Executive committee member of Academy of Discrete Mathematics and Applications for 2012 – 2014.
- 5) Working as a reviewer of many international journals like
 - Utilitas mathematica
 - Ars combinatoria
 - International journal of mathematics and soft computing
 - Applied Mathematics from Script Journal
 - Discrete Mathematics from Elsevier
 - Journal of Scientific Research
 - Discussiones Mathematicae Graph Theory
 - Open Journal of Discrete Mathematics

(D) Membership of Professional Bodies

- 1) Life Member of IAGRG (Indian Association of General Relativity and Gravitation)
- 2) Life Member of Gujarat Ganit Mandal.
- 3) Life member of ADMA (Academy for Discrete Mathematics and Applications)

