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Introduction

Researcher in Graph Theory with expertise in Graph Labeling, Combinatorics and Graph Theory and Topological Indices with a passion for learning and delivering to students of Mathematics.

Education

PhD in Graph Labeling

Bahauddin Zakariya University, Bosan Road, Multan, Pakistan.

Thesis Title: Total Irregularity Strength of Graph Labeling

Experience

1. **December-12- 2005-December 2020:** Lecturer, Centre for Advanced Studied in Pure and Applied Mathematics, Bahauddin Zakariya University, Multan Pakistan
2. **January 2021-To Date:** Assistant Professor, Centre for Advanced Studied in Pure and Applied Mathematics, Bahauddin Zakariya University, Multan Pakistan

Research Papers

1. Zahid Akhtar, Hafiz fakhar-ud-din, Ali Ahmad and [Muhammad Ibrahim](#), A Multistep Implicit iterative process for common fixed points of generalized C^q operators in convex metric spaces, Sci. Int (Lahore), 25(4), 887-891, 2013
2. Ali Ahmad, [Muhammad Ibrahim](#) and Muhammad Kamran Siddiqui, On The Total Irregularity Strength of Generalized Petersen Graph, MATH. REPORTS 18(68), 2 (2016), 197-204
3. [M. Ibrahim](#), M. Asif, A. Ahmad, M.K. Siddiqui, Computing the total irregularity strength of wheel related graphs, Utilitas Mathematica, 108(2018), pp 321-338
4. [M. Ibrahim](#), M. K. Siddiqui, S. Shabir, M. Nadeem, Total irregularity strength of cycle related graphs with pendent edges, ARS COMBINATORIA, 144(2019), pp. 309-322
5. Xiujun Zhang, [Muhammad Ibrahim](#), Syed Ahtsham ul Haq Bokhary and Muhammad Kamran Siddiqui, Edge Irregular Reflexive Labeling for the Disjoint Union of Gear Graphs and Prism Graphs. Mathematics **2018**, 6, 142; doi:10.3390/math6090142.
6. Hong Yang, Muhammad Kamran Siddiqui, [Muhammad Ibrahim](#), Sarfraz Ahmad, and Ali Ahmad, Computing The Irregularity Strength of Planar Graphs, Mathematics 2018, 6, 150; doi:10.3390/math6090150
7. Juan L. G. Guirao, Sarfraz Ahmad, Muhammad Kamran Siddiqui and [Muhammad Ibrahim](#), Edge Irregular Reflexive Labeling for Disjoint Union of Generalized Petersen Graph, Mathematics 2018, 6, 304; doi:10.3390/math6120304
8. Muhammad Kamran Siddiqui, Muhammad Imran, [Muhammad Ibrahim](#), Total irregularity strength for product of two paths, AKCE International Journal of Graphs and Combinatorics, //doi.org/10.1016/j.akcej.2018.11.001.
9. [Ibrahim, Muhammad](#), Muhammad Javed Azhar Khan, and Muhammad Kamran Siddiqui. "Edge Irregular Reflexive Labeling for Corona Product of Graphs." ARS COMBINATORIA 152 (2020): 263-282.

10. MUHAMMAD IBRAHIM, SHAZIA MAJEED, MUHAMMAD KAMRAN SIDDIQUI, EDGE IRREGULAR REFLEXIVE LABELING FOR STAR, DOUBLE STAR AND CATERPILLAR GRAPHS, TWMS J. App. and Eng. Math. V.10, N.3, 2020, pp. 718-726
11. NIDA ZAHRA, MUHAMMAD IBRAHIM, AND MUHAMMAD KAMRAN SIDDIQUI, On Topological Indices for Swapped Networks Modeled by Optical Transpose Interconnection System, IEEE ACCESS, DOI: 10.1109/ACCESS.2020.3034439.
12. Yongsheng Ke, Muhammad Javed Azhar Khan, Muhammad Ibrahim, Muhammad Kamran Siddiqui, On edge irregular reflexive labeling for Cartesian product of two graphs, Eur. Phys. J. Plus (2021) 136:6 //doi.org/10.1140/epjp/s13360-020-00960-1
13. Muhammad Javed Azhar Khan, Muhammad Ibrahim and Ali Ahmad, On Edge Irregular Reflexive Labeling of Categorical Product of Two Paths, Computer Systems Science & Engineering, DOI:10.32604/csse.2021.014810.
14. Muhammad Ibrahim, Nida Zahra & Muhammad Kamran Siddiqui, On V_e -Degree and E_v -Degree Based Topological Indices for the Series of Benzenoid Graphs, POLYCYCLIC AROMATIC COMPOUNDS, //doi.org/10.1080/10406638.2021.1926294
15. Nida Zahra and Muhammad Ibrahim, ON TOPOLOGICAL PROPERTIES OF TRIPLE BASE HIERARCHICAL INTERCONNECTION NETWORK ON VERTEX-EDGE AND EDGE-VERTEX DEGREE, International Journal of Advanced Research in Engineering and Technology, Volume 12, Issue 5, 2021, pp. 98-110, DOI: 10.34218/IJARET.12.5.2021.010.
16. Ali N. A. Koam, Ali Ahmad, Muhammad Ibrahim and Muhammad Azeem, Edge Metric and Fault-Tolerant Edge Metric Dimension of Hollow Coronoid, Mathematics 2021, 9, 1405. //doi.org/10.3390/math9121405.
17. Ghazanfar Abbas, Muhammad Ibrahim, Nida Zahra, ON M-POLYNOMIALS DEGREE BASED TOPOLOGICAL INDICES OF SOME OPTIMAL COST NETWORKS, International Journal of Advanced Research in Engineering and Technology, Volume 12, Issue 5, May 2021, pp. 156-168, DOI: 10.34218/IJARET.12.5.2021.015
18. Nida Zahra and Muhammad Ibrahim, On topological properties of hierarchical hypercube network based on V_e and E_v degree, Main Group Met. Chem. 2021; 44: 185–193.
19. Nida Zahra, Muhammad Ibrahim, ON V_e -DEGREE AND E_v -DEGREE BASED TOPOLOGICAL INDICES OF CERTAIN OTIS BISWAPPED NETWORK, Advances in Mathematics Scientific Journal, 10 (2021) no.6 pp. 2887-2908
20. M. Ibrahim, S. Khan, M. A. Asim, M. Waseem, Total irregularity strength of some cubic Graphs, Proyecciones Journal of Mathematics Vol. 40, No 4, pp. 905-918, August 2021. Universidad Católica del Norte Antofagasta – Chile
21. Ghazanfar Abbas, Muhammad Ibrahim, Ali Ahmad, Muhammad Azeem, and Kashif Elahi, M-Polynomials and Associated Topological Indices of Sodalite Materials, Mathematical Problems in Engineering Volume 2021, Article ID 5924409, 10 pages <https://doi.org/10.1155/2021/5924409>
22. Muhammad Shahbaz Aasi, Muhammad Asif, Tanveer Iqbal, and Muhammad Ibrahim, Hindawi Journal of Mathematics Volume 2021, Article ID 9177818, 6 pages, <https://doi.org/10.1155/2021/9177818>
23. Ghazanfar Abbas and Muhammad Ibrahim, Computation of Polynomial Degree-Based Topological Descriptors of Indu-Bala Product of Two Paths, Hindawi

- Journal of Chemistry Volume 2021, Article ID 6281596, 19 pages, <https://doi.org/10.1155/2021/6281596>
24. Nida Zahra, [Muhammad Ibrahim](#), A study of VE and EV degree based topological indices of transition metal tetra-cyano benzene structure, Alexandria Engineering Journal, (2022) 61, 6409–6417.
 25. Ghazanfar Abbas, Muhammad Ibrahim, Ali Ahmad, Muhammad Azeem, Kashif Elahi, M-Polynomials of Tetra-Cyano-Benzene Transition Metal Structure, Polycyclic Aromatic Compounds, Published online 24, December 2021, doi.org/10.1080/10406638.2021.2019797
 26. [Muhammad Ibrahim](#), Sadia Husain, Nida Zahra and Ali Ahmad, Vertex-Edge Degree Based Indices of Honey Comb Derived Network, Computer Systems Science & Engineering, DOI:10.32604/csse.2022.018227
 27. [Muhammad Ibrahim](#), Ana Gulzar, Muhammad Fazil, Muhammad Naeem Azhar On Edge *H*-Irregularity Strength of Hexagonal and Octagonal Grid Graphs, Journal of Mathematics, Volume 2022, Article ID 6047926, 10 pages <https://doi.org/10.1155/2022/6047926>
 28. Chenxi Wang, M. J. A. Khan, [M. Ibrahim](#), E. Bonyah, M. K. Siddiqui, and S. Khalid, On Edge Irregular Reflexive Labeling for Generalized Prism, Journal of Mathematics Volume 2022, Article ID 2886555, 7 pages <https://doi.org/10.1155/2022/2886555>
 29. Guozhen Ma, Muhammad Ibrahim, Ghazanfar Abbas, M. K. Siddiqui, and Samuel Asefa Fufa, On Degree-Based Topological Indices of Thermodynamic Cuboctahedral Bi-Metallic Structure, Hindawi Journal of Mathematics Volume 2022, Article ID 6484704, 10 pages, <https://doi.org/10.1155/2022/6484704>

Accepted Papers

Supervisions:

Research Students	Registered	In Process	Passed
PhD	-	05	02
MS	-	07	28

Student Completed Their PhD:

S. No.	Student Name	Thesis Title	Affiliation	Year	Completion date
1.	Muhammad Javed Azhar Khan	Reflexive Edge Irregularity Strength of Some Graphs	CASPAM, BZU	2017	09-12-2022
2.	Nida Zahra	Ev degree and Ve degree based topological indices of some chemical graphs and networks.	CASPAM, BZU	2018	09-12-2022

PhD Student List along with titles:

S. No.	Student Name	Thesis Title	Affiliation	Year
1.	Ghazanfar Abbas	On Distance and Degree Based Topological Indices of Some Graphs Using Polynomials	CASPAM, BZU	2017
2.	Muhammad Ahmad Raza	Working on Synopsis and Research work	CASPAM, BZU	2021
3.	Maryam Anwar	Left PhD in July 2023	CASPAM, BZU	2021
4	Maira Khalid	Working on Synopsis and Research work	CASPAM, BZU	2021
5	Faiza Akram	Working on Synopsis and Research work	CASPAM, BZU	2021

M. Phil Student List along with titles:

S. No.	Student Name	Thesis Title	Affiliation	Year
1.	Hamza Rehman	Total Irregularity strength of isomorphic copies of some graphs	CASPAM, BZU	2015-17
2.	Waseem Abbas	Total Irregularity strength of some Planar graphs	CASPAM, BZU Distance Learning	2015-17
3.	Khalid Naeem Awan	Total edge(vertex) H- Irregularity strength of Cartesian product of paths	CASPAM, BZU (Lahore Sub Campus)	2016-18
4.	Muhammad Aleem	Total edge(vertex)H-Irregularity strength of Ladder related graphs	CASPAM, BZU (Lahore Sub Campus)	2016-18
5.	Zeeshan Ghani	Total Irregularity strength of convex polytope graphs	CASPAM, BZU (Lahore Sub Campus)	2016-18
6.	Niaz Hussain	Edge(Vertex) H- Irregularity Strength of Some Sun Related Graphs	CASPAM, BZU	2016-18
7.	Nadeem Khurshid	Edge H-Irregularity Strength of some Cycle Related Graphs	CASPAM, BZU	2016-18
8.	Shaista Parveen	Total Irregularity Strength of Some Cycle Related Graphs	CASPAM, BZU	2016-18

9.	Maryam Anwar	Edge Irregular Reflexive Labeling of Some Cycle Related Graphs	CASPAM, BZU	2017-19
10.	Shazia Majeed	Edge Irregular Reflexive Labeling of Star and Grid Related Graphs	CASPAM, BZU	2017-19
11.	Ana Gulzar	Edge H-Irregularity Strength of Generalized Cyclic Snake and Grid Related	CASPAM, BZU	2017-19
12.	Tania Riaz	Vertex Irregular Reflexive Labeling of Some Cubic Graphs	CASPAM, BZU	2017-19
13.	Sana Khan	Total Irregularity Strength of Some Cubic Graphs	CASPAM, BZU	2017-19
14.	Muhammad Ahmad Raza	Total Irregularity Strength of Consecutive Non Isomorphic Copies of Disjoin Union of Some Cycle Related Graphs and Polaroid Grid Graphs	CASPAM, BZU	2017-19
15.	Ramesha Tariq	EDGE IRREGULAR REFLEXIVE LABELING OF SOME SPECIAL GRAPHS	CASPAM, BZU	2018-20
16.	Zaib Hassan Niazi	ON d-LUCKY LABELING OF SOME SPECIAL GRAPHS	CASPAM, BZU	2018-20
17.	Muhammad Asif	On reflexive vertex irregular labeling of some regular graphs	CASPAM, BZU	2018-20
18.	Sultan Ahmad	ON ZERO SUM FLOW NUMBER OF SOME GRID GRAPHS	CASPAM, BZU	2018-20
19.	Muhammad Ahmad	ON CORDIAL LABELING OF SOME SPECIAL GRAPHS	CASPAM, BZU	2018-20
20.	Zanib Zafar	EDGE IRREGULAR REFLEXIVE LABELING OF HELM GRAPHS	CASPAM, BZU	2018-20
21.	Naved Akhtar	TOTAL IRREGULARITY STRENGTH OF SOME TRIANGLE RELATED GRAPHS	CASPAM, BZU	2018-20
22.	Sana Ullah	Total Edge Irregularity Strength of some Indu Bala Product of Two Graphs	CASPAM BZU	2020-22
23.	Muhammad Irfan Haider	d-Lucky Labeling of Some Regular Graphs	CASPAM BZU	2020-22
24.	Ali Haider	Zero Sum Flow Number of Some Regular Graphs	CASPAM BZU	2020-22
25.	Muhammad Hamza Naved	Rainbow Neighborhood Number of Some Graphs	CASPAM BZU	2020-22

26.	Aniqa Mohtashim	On Ve-Degree and Ev-Degree Based Topological Indices of Some Line Graphs	CASAPM BZU	2021-23
27.	Areeba Umar	Twin Labeling of Some Graphs	CASAPM BZU	2021-23
28.	Amina Rehman	Vertex Reflexive Irregularity Strength of Some Regular Graphs	CASAPM BZU	2021-23
29.	Saba Nazir	Research Work in Progress	CASAPM BZU	2022-24
30.	Tehreem	Research Work in Progress	CASAPM BZU	2022-24
31.	Asma Khalid	Research Work in Progress	CASAPM BZU	2022-24
32.	Muntaha Ishrat	Research Work in Progress	CASAPM BZU	2022-24

Reference

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