

*Dr. Uzma Ahmad (Tenured Associate Professor)*

*HEC Approved Supervisor*

uzma.math@pu.edu.pk

## Publications

### Year 2023

1. Iqra Nawaz and Uzma Ahmad, Certain Concepts in Directed Rough Fuzzy Graphs and its Application to Mergers of Companies, *Fuzzy Information and Engineering* (2023)
2. Uzma Ahmad, Muhammad Sabir, Multicriteria Decision Making based on the Degree and Distance Based Indices of Fuzzy Graphs, *Granular Computing*, 8, (2023), 793–807  
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3. Ayesha Khan, Uzma Ahmad, Sundas Shahzadi, A new decision analysis based on 2-tuple linguistic q-rung picture fuzzy ITARA–VIKOR method, *Soft Computing*, (2023).  
<https://doi.org/10.1007/s00500-023-08263-0>
4. Dalal Awadh Alrowaili , **Uzma Ahmad**, Saira Hameeed, Muhammad Javaid, Graphs with Mixed Metric Dimension three and Related Algorithms, *AIMS Mathematics* 8 (7), 16708-16723.
5. **Uzma Ahmad**, Iqra Nawaz, Said Broumi, Connectivity Index of Directed Rough Fuzzy Graphs and its Application in Traffic Flow Network, *Granul. Comput.* (2023).  
<https://doi.org/10.1007/s41066-023-00384-z>
6. Sadia Akhter, Saira Hameed, and **Uzma Ahmad**, Signed graphs with strong anti-reciprocal eigenvalue property, *Communications in Algebra*,  
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7. Ayesha Khan, **Uzma Ahmad**, Adeel Farooq, Mohamed M. Ali Al-Shamiri, Combinative Distance based Assessment Method for Decision Making with 2-Tuple Linguistic q-Rung Picture Fuzzy Sets, *AIMS Mathematics*, 2023, Volume 8(6), 13830-13874. doi: 10.3934/math.2023708
8. **Uzma Ahmad**, Ayesha Khan and Arsham Borumand Saeid, Integrated multi-criteria group decision-making methods based on q-rung picture fuzzy sets, *Soft Comput* (2023).  
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9. **Uzma Ahmad**, Tahira Batool, Domination in rough fuzzy digraphs with application, *Soft Computing*, **27**(2023): 2425–2442. <https://doi.org/10.1007/s00500-022-07795-1>

10. **U. Ahmad**, M. Imran, A. M. Alanazi, R. Yousaf, and S. Hameed, On distance-based indices of regular dendrimers using automorphism group action, Main Group Metal Chem. 46 (1), 2023, pp. 20220028. <https://doi.org/10.1515/mgmc-2022-0028>
11. **Ahmad, U.**, Khan, N.K. & Saeid, A.B. Fuzzy topological indices with application to cybercrime problem. Granul. Comput. (2023). <https://doi.org/10.1007/s41066-023-00365-2>
12. **Uzma Ahmad**, Iqra Nawaz, Wiener Index of a Directed Rough Fuzzy Graph and Application to Human Trafficking, Journal of Intelligent & Fuzzy Systems, 2022, Journal of Intelligent & Fuzzy Systems 44 (2023) 1479–1495 DOI:10.3233/JIFS-221627
13. **Uzma Ahmad**, Saira Hameed, Sadia Akhtar, On weighted noncorona graphs with properties R and  $-SR$ , Kuwait Journal of Science, 50(2A), 2023: 1-12

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14. **Uzma Ahmad**, Sadia Akhter, Saira Hameed, On Graphs With Anti-Reciprocal Eigenvalue Property, Transactions On Combinatorics, 2022, 10.22108/TOC.2022.135210.2015
15. Ayesha Khan, Muhammad Akram, **Uzma Ahmad** and Mohammed M. Ali Al-Shamiri, A new multi-objective optimization ratio analysis plus full multiplication form method for the selection of an appropriate mining method based on 2-tuple spherical fuzzy linguistic sets, MBE, 2022, 20(1): 456–488.
16. **Uzma Ahmad**, Iqra Nawaz, Directed rough fuzzy graph with application to trade networking, Computational and Applied Mathematics, 2022, 41:366 (pages 1-26) <https://doi.org/10.1007/s40314-022-02073-0>
17. S. Hameed, **U. Ahmad**, Inverse of the adjacency matrices and strong anti-reciprocal eigenvalue property, Linear and Multilinear Algebra, 2022, 70(14), 2739-2764
18. **Uzma Ahmad**, Saieed Akbari, Saira Hameed, Mohammad Ali Nematollahi, Faiza Saeed, Addendum to "Spectral characterizations of signed cycles", Linear Algebra and its Applications, 2022, 651, 83-89.
19. Muhammad Akram, Ayesha Khan, **Uzma Ahmad**, Jos´e Carlos R. Alcantud and Mohammed M. Ali Al-Shamiri, A new group decision-making framework based on 2-tuple linguistic complex  $q$ -rung picture fuzzy sets, MBE, 2022, 19(11): 11281–11323, DOI: 10.3934/mbe.2022526

20. Saira Hameed , Ahmed Alamer , Muhammad Javaid and **Uzma Ahmad**, An estimation of HOMO-LUMO gap for a class of molecular graphs, Main Group Metal Chem. 2022, 45:100–105.
21. G. Muhiuddin, Saira Hameed, Ayman Rasheed and **Uzma Ahmad**, Cubic Planar Graphs with Application to Road Network, Journal: Mathematical Problems in Engineering, Volume 2022, Article ID 5251627, 12 pages  
<https://doi.org/10.1155/2022/5251627>
22. **U. Ahmad**, S. Ahmed, Muhammad Javaid, M. N. Alam, Computing Fault-tolerant Metric Dimension of Connected Graphs, Journal of Mathematics, Volume 2022, Article ID 9773089, 6 pages <https://doi.org/10.1155/2022/9773089>
23. G. Muhiuddin, Saira Hameed, Afeefa Maryam and **Uzma Ahmad**, Cubic Pythagorean Fuzzy Graphs, Journal of Mathematics, 2022, Volume 2022 , Article ID 1144666, <https://doi.org/10.1155/2022/1144666>
24. M. Akram, A. Khan, **U. Ahmad**, Extended MULTIMOORA method based on 2-tuple linguistic Pythagorean fuzzy sets for multi-attribute group decision-making, Granular Computing, 2022, Granular Computing <https://doi.org/10.1007/s41066-022-00330-5>
25. Muhammad Akram, **Uzma Ahmad**, Rukhsar, Faruk Karaaslan, Complex Pythagorean fuzzy threshold graphs with application in petroleum replenishment, Journal of Applied Mathematics and Computing, 2022, 68, 2125-2150
26. M. Javaid, M. Ibraheem, E. Bonyah, **U. Ahmad** and S. Wang, First General Zagreb Co-Index of Graphs under Operations, Journal of Mathematics, Volume 2022, Article ID 5094929, 11 pages, <https://doi.org/10.1155/2022/5094929>
27. M. Akram, **U. Ahmad**, Rukhsar and S. Samanta, Threshold Graphs Under Pythagorean Fuzzy Information, Journal of Multiple-Valued Logic and Soft Computing, 2022, 35(5-6), 547-574.
28. Muhammad Imran, Shehnaz Akhtar, **Uzma Ahmad**, Sarfraz Ahmad, Ahsan Bilal, On Extremal Graphs of Degree Distance Index by Using Edge-Grafting Transformations Method, Combinatorial Chemistry & High Throughput Screening, 2022, 25(3), 560 - 567  
<https://doi.org/10.2174/1386207323666201224123643>

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30. Muhammad Akram, **Uzma Ahmad**, Rukhsar, Threshold graphs under picture Dombi fuzzy information, Granular Computing, <https://doi.org/10.1007/s41066-021-00291-1>

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31. Muhammad Akram, Saba Siddique and **Uzma Ahmad**, Mengers Theorem for m-Polar Fuzzy Graphs and Application of m-Polar Fuzzy Edges to Road Network, Journal of Intelligent & Fuzzy Systems, 2021, 41, 1553 – 1574.
32. Saba Siddique, **Uzma Ahmad** and Muhammad Akram, A Decision-Making Analysis with Generalized m-Polar Fuzzy Graphs, Journal of Multiple-Valued Logic and Soft Computing, 2021, 37, 409-436
33. Muhammad Javaid , Muhammad Ibraheem, **Uzma Ahmad** and Q. Zhu, Computing Bounds for Second Zagreb Coindex of Sum Graphs, Mathematical Problems in Engineering, Volume 2021, Article ID 4671105, 19 pages, <https://doi.org/10.1155/2021/4671105>
34. **U. Ahmad**, S. Hameed and S. Jabeen, Noncorona graphs with strong anti-reciprocal eigenvalue property, Linear and Multilinear Algebra, 2021,69(10), 1878-1888.
35. Saba Siddique, **Uzma Ahmad** and M. Akram, .A study on generalized graphs representations of complex neutrosophic information. J. Appl. Math. Comput., 2021, 65, 481–514

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36. S. Siddique, **U. Ahmad**, W. Salam, M. Akram, F. Smarandache, Representation of Competitions by Complex Neutrosophic Information, Journal of Intelligent & Fuzzy Systems, 2020, 39, 7881–7897
37. J. Wei, **U. Ahmad**, S. Hameed and J. Hanif. Locating-Total Domination Number of Cacti Graphs, Mathematical Problems in Engineering Volume 2020, Article ID6197065, 10 pages, <https://doi.org/10.1155/2020/6197065>
38. **U. Ahmad**, S. Hameed and S. Jabeen, Class of weighted graphs with strong anti-reciprocal eigenvalue property, Linear and Multilinear Algebra, 2020, 68(6), 1129-1139.

39. U. Ahmad, M. Arooj, Combinatorial Properties of Power Graphs of Finite Groups of Prime Order Elements, Communications in Algebra, 2020, 48(2), 708-716.
40. S. Hameed, Uzma Ahmad, Extremal values in a class of basic peri-condensed benzenoids with respect to VDB topological indices, Ars Combinatoria: A Canadian Journal of Combinatorics, 2019, 145, 367-376.

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41. S. Hameed, U. Ahmad, Minimal Energy Tree with 4 Branched Vertices, Open Chemistry, 2019, 17, 198-205
42. Jianzhong Xu, Jia-Bao Liu, Ahsan Bilal, Uzma Ahmad, Hafiz Muhammad Afzal Siddiqui, Bahadur Ali and Muhammad Reza Farahani, Distance Degree Index of Some Derived Graphs, Mathematics 2019, 7(3), 283; <https://doi.org/10.3390/math7030283>

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43. U. Ahmad and S. Hameed, Bounds of HOMO-LUMO gap for certain nanotubes and nanotori, Journal of Informatics and Mathematical Sciences. 10(3) (2018), 391-398
44. U. Ahmad and S. M. Husnine, The Power Digraphs of finite groups, Utilitas Math 106 (2018), 319-339

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45. U. Ahmad and M. Moeen, The digraphs arising by the power maps of generalized Quaternion groups, Journal of algebra and its applications, 16(9) 1750179 (2017) [12 pages], DOI: 10.1142/S0219498817501791
46. U. Ahmad, A. Sarfraz, R. Yousaf, Computation of Zagreb and Atom bond connectivity Indices of Certain Families of Dendrimers by using Automorphism Group Action, J. Serb. Chem.Soc. 82(2) (2017) , 151-162.

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47. Yuhong Huo, Jia-Bao Liu, Sarfraz Ahmad, Nighat Farah ,Uzma Ahmad, Mohammad R. Farahani, Muhammad Imran, "On certain topological indices of TUC5C8 nanotubes" Journal of Computational and Theoretical Nanoscience,13 (2016), 9158-9161.
48. U. Ahmad and M. Moeen The classification of finite groups by using iteration digraphs, Czechoslovak Math. J, 66(4) (2016), pp. 1103-1117

49. U. Ahmad and S. M. Husnine, The Power Digraphs of Safe Primes, Bull. Iranian Math. Soc., 42(3) (2016), 749-759
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51. **U. Ahmad**, The Power Digraphs Associated with Generalized Dihedral Groups, Discrete Mathematics, Algorithms and its Applications, 7(4)(2015), 1550057(14 pages) DOI: 10.1142/S1793830915500573
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