

# List of Research Publications only in SCI Journals during 2017-22

1. Shallu, Kukreja VK. 2022. Numerical treatment of Benjamin-Bona-Mahony-Burgers equation with fourth-order improvised B-spline collocation method. *Journal of Ocean Engineering and Science*. 7(2): 99-111. (Impact Factor 4.803)
2. Shallu, Kukreja VK. 2022. An improvised extrapolated collocation algorithm for solving Kuramoto–Sivashinsky equation. *Mathematical Methods in the Applied Sciences*. 45(3): 1451-1467. (Impact Factor 3.007)
3. Kumari A, Kukreja VK. 2022. Error bounds for septic Hermite interpolation and its implementation to study modified Burgers' equation. *Numerical Algorithms*. 89(4): 1799-1821. (Impact Factor 2.370)
4. Kumari A, Kukreja VK. 2022. Robust septic Hermite collocation technique for singularly perturbed generalized Hodgkin–Huxley equation. *International Journal of Computer Mathematics*. 99(5): 909-923. (Impact Factor 1.750)
5. Kaur Dhanoa R, Sal Moslehian M, Singh M. 2022. A generalized Wigner–Yanase skew information. *Linear and Multilinear Algebra*. 2022. (Impact Factor 1.178)
6. Rani N, Sharma SR, Mishra V. 2022. Grayscale and colored image encryption model using a novel fused magic cube. *Nonlinear Dynamics*. 108(2): 1773-1796. (Impact Factor 5.741)
7. Sharma JR, Kumar S, Argyros IK. 2022. a class of higher-order Newton-like methods for systems of nonlinear equations. *International Journal of Computational Methods*. 19(02): 2150059. (Impact Factor 1.734)
8. Sharma JR, Kumar S. 2022. A class of accurate Newton–Jarratt-like methods with applications to nonlinear models. *Computational and Applied Mathematics*. 41(1): 1-28. (Impact Factor 2.998)
9. Singh H, Sharma JR. 2022. Reduced cost numerical methods of sixth-order convergence for systems of nonlinear models. *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas*. 116(4): 1-24. (Impact Factor 2.276)
10. Mittal RC, Kumar S, Jiwari R. 2022. A cubic B-spline quasi-interpolation algorithm to capture the pattern formation of coupled reaction-diffusion models. *Engineering with Computers*. 38(2): 1375-1391. (Impact Factor 7.963)
11. Singh H, Sharma JR. 2022. Simple and efficient fifth order solvers for systems of nonlinear problems. *Mathematical Modelling and Analysis*. (Accepted) (Impact Factor 1.603)
12. Kapil Y, Kaur R, Singh M. 2021. On a question of Bhatia, Friedland and Jain. *Linear and Multilinear Algebra*. 69(16): 3031-3042. (Impact Factor 1.178)
13. Mittal RC, Kumar S, Jiwari R. 2021. A comparative study of cubic B-spline-based quasi-interpolation and differential quadrature methods for solving fourth-order parabolic PDEs. *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences* 91(3):461-474. (Impact Factor 1.291)
14. Kumari A, Kukreja VK. 2021. Septic Hermite collocation method for the numerical solution of Benjamin–Bona–Mahony–Burgers equation. *Journal of Difference Equations and Applications*. 27(8): 1193-1217. (Impact Factor 1.352)
15. Shallu, Kumari A, Kukreja VK. 2021. An improved extrapolated collocation technique for singularly perturbed problems using cubic B-spline functions. *Mediterranean Journal of Mathematics*. 18(4): 1-29. (Impact Factor 1.305)
16. Sharma JR, Kumar S. 2021. An excellent numerical technique for multiple roots. *Mathematics and Computers in Simulation*. 182: 316-324. (Impact Factor 3.601)
17. Kumar S, Kumar D, Sharma JR, Argyros IK. 2021. An efficient class of fourth-order derivative-free method for multiple-roots. *International Journal of Nonlinear Sciences and Numerical Simulation*. 2021. (Impact Factor 2.156)
18. Sharma JR, Kumar S. 2021. A class of computationally efficient Newton-like methods with frozen inverse operator for nonlinear systems. *International Journal of Nonlinear Sciences and Numerical Simulation*. 2021. (Impact Factor 2.156)
19. Mishra RK, Dua H. 2021. Bianchi type-I cosmological model in Sáez-Ballester theory with variable deceleration parameter. *Astrophysics and Space Science*. 366(5): 1-11. (Impact Factor 1.909)
20. Mishra RK, Dua H. 2021. Evolution of FLRW universe in Brans-Dicke gravity theory. *Astrophysics and Space Science*. 366(1):1-13. (Impact Factor 1.909)

21. Shallu, Kukreja VK. 2021. An improvised collocation algorithm with specific end conditions for solving modified Burgers equation. *Numerical Methods for Partial Differential Equations*. 37(1): 874-896. (Impact Factor 3.568)
22. Shallu, Kukreja VK. 2021. Analysis of RLW and MRLW equation using an improvised collocation technique with SSP-RK43 scheme. *Wave Motion*. 105: 102761. (Impact Factor 2.174)
23. Sharma R, Sharma JR, Kalra N. 2020. A modified Newton–Özban composition for solving nonlinear systems. *International Journal of Computational Methods*. 17(08): 1950047. (Impact Factor 1.734)
24. Kapil Y, Singh M. 2020. Determinants of some special matrices. *Linear and Multilinear Algebra*. 1-23. (Impact Factor 1.178)
25. Rani D, Mishra V. 2020. Numerical inverse Laplace transform based on Bernoulli polynomials operational matrix for solving nonlinear differential equations. *Results in Physics*. 16: 102836. (Impact Factor 4.565)
26. Mishra V, Rani D. 2020. Laplace transform inversion using Bernstein operational matrix of integration and its application to differential and integral equations. *Proceedings of the Indian Academy of Sciences - Mathematical Sciences*.130(1): 1-29. (Impact Factor 0.626)
27. Sharma JR, Argyros IK, Kumar S. 2020. A faster King–Werner-type iteration and its convergence analysis. *Applicable Analysis*. 99(14): 2526-2542. (Impact Factor 1.429)
28. Kumar D, Sharma JR, Argyros IK. 2020. Optimal one-point iterative function free from derivatives for multiple roots. *Mathematics*. 8(5): 709. (Impact Factor 2.592)
29. Sharma JR, Kumar D. 2020. On a reduced cost derivative-free higher-order numerical algorithm for nonlinear systems. *Computational and Applied Mathematics*. 39(3): 1-19. (Impact Factor 2.998)
30. Kumar S, Kumar D, Sharma JR, Cesarano C, Agarwal P, Chu YM. 2020. An optimal fourth order derivative-free numerical algorithm for multiple roots. *Symmetry*. 12(6): 1038. (Impact Factor 2.940)
31. Sharma JR, Kumar S, Jäntschi L. 2020. On derivative free multiple-root finders with optimal fourth order convergence. *Mathematics*. 8(7): 1091. (Impact Factor 2.592)
32. Kumar D, Sharma JR, Jäntschi L. 2020. A novel family of efficient weighted-newton multiple root iterations. *Symmetry*. 12(9): 1494. (Impact Factor 2.940)
33. Mishra RK, Dua H. 2020. Phase transition of cosmological model with statistical techniques. *Astrophysics and Space Science*. 365(7): 1-13. (Impact Factor 1.909)
34. Mishra RK, Chand A. 2020. Cosmological models in Sáez-Ballester theory with bilinear varying deceleration parameter. *Astrophysics and Space Science*. 365(4): 1-9. (Impact Factor 1.909)
35. Mittal RC, Kumar S, Jiwari R. 2020. A cubic B-spline quasi-interpolation method for solving two-dimensional unsteady advection diffusion equations. *International Journal of Numerical Methods for Heat & Fluid Flow*. 30(9): 4281-4306. (Impact Factor 5.181)
36. Arora S, Jain R, Kukreja VK. 2020. Solution of Benjamin-Bona-Mahony-Burgers equation using collocation method with quintic Hermite splines. *Applied Numerical Mathematics*. 154: 1-16. (Impact Factor 2.994)
37. Singla C, Gupta S, Singh S. 2019. Some new harmonic mappings convex in one direction and their convolution. *Filomat*. 33(19): 6131-6139. (Impact Factor 0.988)
38. Rani D, Mishra V, Cattani C. 2019. Numerical inverse Laplace transform for solving a class of fractional differential equations. *Symmetry*. 11(4): 530. (Impact Factor 2.940)
39. Sharma JR, Argyros IK, Kumar S. 2019. Convergence analysis of weighted-Newton methods of optimal eighth order in Banach spaces. *Mathematics*. 7(2): 198. (Impact Factor 2.592)
40. Sharma JR, Kumar D, Argyros IK. 2019. An efficient class of Traub-Steffensen-like seventh order multiple-root solvers with applications. *Symmetry*. 11(4): 518. (Impact Factor 2.940)
41. Sharma JR, Kumar S, Argyros IK. 2019. Development of optimal eighth order derivative-free methods for multiple roots of nonlinear equations. *Symmetry*. 11(6): 766. (Impact Factor 2.940)
42. Sharma JR, Kumar S, Argyros IK. 2019. Generalized Kung–Traub method and its multi-step iteration in Banach spaces. *Journal of Complexity*. 54: 101400. (Impact Factor 1.333)
43. Kumar D, Sharma JR, Cesarano C. 2019. An efficient class of Traub–Steffensen-type methods for computing multiple zeros. *Axioms*. 8(2): 65. (Impact Factor 1.824)
44. Sharma JR, Kumar D, Argyros IK, Magreñán ÁA. 2019. On a Bi-Parametric Family of Fourth Order Composite Newton–Jarratt Methods for Nonlinear Systems. *Mathematics*. 7(6): 492. (Impact Factor 2.592)
45. Sharma JR, Kumar D, Jäntschi L. 2019. On a reduced cost higher order Traub-Steffensen-Like method for nonlinear systems. *Symmetry*. 11(7): 891. (Impact Factor 2.940)
46. Sharma JR, Kumar S, Cesarano C. 2019. An efficient derivative free one-point method with memory for solving nonlinear equations. *Mathematics*. 7(7): 604. (Impact Factor 2.592)
47. Sharma JR, Kumar D, Cattani C. 2019. An efficient class of weighted-Newton multiple root solvers with seventh order convergence. *Symmetry*. 11(8): 1054. (Impact Factor 2.940)

48. Kumar D, Sharma JR, Cesarano C. 2019. One-point optimal family of multiple root solvers of second-Order. *Mathematics*. 7(7): 655. (Impact Factor 2.592)
49. Kumar D, Sharma JR, Jäntschi L. 2019. Convergence analysis and complex geometry of an efficient derivative-free iterative method. *Mathematics*. 7(10): 919. (Impact Factor 2.592)
50. Sharma JR, Kumar S, Jäntschi L. 2019. On a class of optimal fourth order multiple root solvers without using derivatives. *Symmetry*. 11(12):1452. (Impact Factor 2.940)
51. Sharma JR, Kumar D, Argyros IK. 2019. Local convergence and attraction basins of higher order, Jarratt-like iterations. *Mathematics*. 7(12): 1203. (Impact Factor 2.592)
52. Mishra RK, Dua H. 2019. Bulk viscous string cosmological models in Saez-Ballester theory of gravity. *Astrophysics and Space Science*. 364(11): 1-12. (Impact Factor 1.909)
53. Sharma JR, Kumar D. 2019. On a class of efficient higher order Newton-like methods. *Mathematical Modelling and Analysis*. 24(1):105-126. (Impact Factor 1.603)
54. Rani D, Mishra V, Cattani C. 2018. Numerical inversion of Laplace transform based on Bernstein operational matrix. *Mathematical Methods in the Applied Sciences*. 41(18): 9231-9243. (Impact Factor 3.007)
55. Sharma JR, Argyros IK, Kumar D. 2018. Design and analysis of a new class of derivative-free optimal order methods for nonlinear equations. *International Journal of Computational Methods*. 15(03): 1850010. (Impact Factor 1.734)
56. Sharma JR, Arora H. 2018. Efficient higher order derivative-free multipoint methods with and without memory for systems of nonlinear equations. *International Journal of Computer Mathematics*. 95(5): 920-938. (Impact Factor 1.750)
57. Sharma JR, Kumar D. 2018. A fast and efficient composite Newton–Chebyshev method for systems of nonlinear equations. *Journal of Complexity*. 49: 56-73. (Impact Factor 1.333)
58. Sharma JR, Kumar D. 2018. Design and analysis of a class of weighted-Newton methods with frozen derivative. *Journal of Pure and Applied Mathematics*. 9(2): 207-222. (Impact Factor 2.722)
59. Sharma JR, Argyros IK, Kumar S. 2018. Ball convergence of an efficient eighth order iterative method under weak conditions. *Mathematics*. 6(11): 260. (Impact Factor 2.592)
60. Mishra RK, Dua H, Chand A. 2018. Bianchi-III cosmological model with BVDP in modified  $f(R,T)$  theory. *Astrophysics and Space Science*. 363(6): 1-8. (Impact Factor 1.909)
61. Kapil Y, Pal R, Aggarwal A, Singh M. 2018. Conditionally negative definite functions. *Mediterranean Journal of Mathematics*. 15(5):1-12. (Impact Factor 1.305)
62. Verma S, Gupta S, Singh S. 2017. Geometric properties of an integral operator. *Bulletin of the Malaysian Mathematical Sciences Society*. 40(1): 345-360. (Impact Factor 1.397)
63. Aggarwal A, Kapil Y, Singh M. 2017. Contractive maps on operator ideals and norm inequalities II. *Linear Algebra and its Applications*. 513: 182-200. (Impact Factor 1.307)
64. Aggarwal A, Kapil Y, Singh M. 2017. Contractive maps on operator ideals and norm inequalities III. *Linear Algebra and its Applications*. 530: 322-343. (Impact Factor 1.307)
65. Kapil Y, Conde C, Moslehian MS, Singh M, Sababheh M. 2017. Norm inequalities related to the Heron and Heinz means. *Mediterranean Journal of Mathematics*. 14(5): 1-18. (Impact Factor 1.305)
66. Sharma JR, Argyros IK, Kumar D. 2017. On a general class of optimal order multipoint methods for solving nonlinear equations. *Journal of Mathematical Analysis and Applications*. 449(2): 994-1014. (Impact Factor 1.417)
67. Mishra RK, Chand A. 2017. A comparative study of cosmological models in alternative theory of gravity with LVDP & BVDP. *Astrophysics and Space Science*. 362(8): 1-11. (Impact Factor 1.909)