

Research Publication during 2017-18:

1. Kiran Kumar Behera and A. Swaminathan, Orthogonal Polynomials related to g- fractions with missing terms, 22 pages, *Comp. Methods Function Theory* (Springer), 18 (2018) 193-219.
2. Priyanka Sangal and A. Swaminathan, Starlikeness of Gaussian hypergeometric functions using Positivity Techniques *Bulletin Malaysian Mathematical Sciences Society*, 41 (1), (2018), 507–521.
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4. Sourav Das, Henrik L Pedersen and A. Swaminathan, Pick Functions Related to the Triple Gamma Function, 14 pages, *J. Math. Anal. Appl.*, (Elsevier), 455(2), (2017) 1124-1138.
5. Priyanka Sangal and A. Swaminathan, Geometric properties of Cesàro averaging operators, *Journal of Complex Analysis*, Hindawi publications, Article ID 6584584, (2017) 1-10.
6. Barik, P.K. and Giri, A.K., A note on mass-conserving solutions to the coagulation-fragmentation equation by using non-conservative approximation, *Kinetic and Related Models (KRM)*, 11 (2018), 1125-1138
7. Meena, K.R., Mohd. Arshad and Kar Gangopadhyay, A., Estimating the parameter of selected uniform population under the squared log error loss function. *Comm. Statist.- Theo. & Meth*, 47 (7) (2018), 1679-1692.
8. Meena, K.R. and Kar Gangopadhyay, A., Estimating volatility of the selected security, *Amer. J. Math. Manage. Sc.*, 36(3) (2017), 177-187.
9. Assad, A. and Deep, K., A Hybrid Harmony Search and Simulated Annealing Algorithm for Continuous Optimization, *Information Sciences*, 450, (2018), 246-266.
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12. Dinkar, S. and Deep, K., Opposition Based Laplacian Ant Lion Optimizer, *Journal of Computational Science*, 23, (2017), 71-90.
13. Assad, A. and Deep, K., Harmony search based memetic algorithms for solving sudoku, *International Journal of System Assurance Engineering and Management*, 1-14, 2017. <https://doi.org/10.1007/s13198-017-0620-x>
14. Assif Assad, A. and Deep, K., A Heuristic Based Harmony Search Algorithm for Maximum Clique Problem, *Opsearch*, 55(2), (2018), 411-433.
15. Singh, Amarjeet and Deep, K., Improved Variants of Gravitational Search Algorithm Based on "best-so-far" Updating Mechanism, *National Academy Science Letters*, 40(13), (2017), 365–372.
16. Singh, Amreek, Deep, K. and Grover, P. A Novel Approach to Accelerate Calibration Process of K-Nearest Neighbours Classifier Using GPU, *Journal of Parallel and Distributed Computing*, 10, (2017), 114-129.
17. Lalwani, S., Kumar, R. and Deep, K., Multi-objective two-level swarm intelligence approach for multiple RNA sequence-structure alignment, *Swarm and Evolutionary Computation*, 34, (2017), 130-144.
18. Singh, G. and Deep, K., Effectiveness of new Multiple-PSO based Membrane Optimization Algorithms on CEC 2014 Benchmarks and Iris Classification, *Natural Computing*, 16(3), (2017), 473-496.
19. Singh, Amarjeet and Deep, K., Novel Hybridized variants of Gravitational Search Algorithm for Constraint Optimization, *International Journal of Swarm Intelligence*, 3(1), (2017), 1-22.

20. Gupta, K., Deep, K. and Bansal, J.C., Spider monkey optimization algorithm for constrained optimization problems, *Soft Computing*, 21, (2017), 6933–6962.
21. Kumar, P. and Kumar, S., A modified variational functional for estimating dense and discontinuity preserving optical flow in various spectrum, *International Journal of Electronics and Communications*, 70 (3) (2016), 289-300
22. Kumar, Kamlesh, Jain, M., Shekhar, C., Machine repair system with f-policy, two unreliable servers and warm standbys, *Journal of Testing and Evaluation*, 47(1) (2019) 1-23. <https://doi.org/10.1520/JTE20160595>. (Published on line on June 18, 2018).
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24. Jain, M., Shekhar, Chandra and Meena, Rakesh Kumar, Admission control policy of Maintenance for unreliable server machining system with working vacation, *Arabian Journal of Science and Engineering*, 42(7) (2017) 2993-3005
25. Shekhar, Chandra, Jain, M., Iqbal, J. and Raina, A.A., Threshold Control Policy for Maintainability of Manufacturing System with Unreliable Workstations, *Arabian Journal of Science and Engineering*, 42(7) (2017), 4833-4851
26. Jain, M. and Singh, Sudeep Sanga (2017): Control F-policy for fault tolerance machining system with general retrial attempts, *Natl. Acad. Sci. Lett., Natl. Acad. Sci.*, 40(5) (2017), 359–364
27. Jain, M. and Meena, Rakesh Kumar, Fault tolerant system with imperfect coverage, reboot and server vacation, *Journal of Industrial Engineering International*, 13) (2017), 71-78
28. Jain, M. and Meena, Rakesh Kumar, Markovian analysis of unreliable multi-components redundant fault tolerant system with working vacation and F-policy, *Cognent Mathematics*, 4(1) (2017), 1-17
29. Shekhar, C., Jain, M., Raina, A.A. and Mishra, R.P., Sensitivity analysis of repairable redundant system with switching failure and geometric renegeing, *Decision Science Letters*, 6) (2017), 337–350
30. Singh, C.J., Kaur, Sandeep, Jain, M., Waiting time of bulk arrival unreliable queue with balking and Bernoulli feedback using maximum entropy principle, *Journal of Statistical Theory and Practice*, 11(1) 41-61
31. Shekhar, C., Jain, M. and Raina, A.A., Transient analysis of machining system with spare provisioning and geometric renegeing, *International Journal of Mathematics in Operational Research*, 11(3) 396-421
32. Jain, Anamika, Ahuja, Anjali and Jain, M., Service halt in M/M/1 queue with functioning vacation and customer intolerance, *Global and Stochastic Analysis*, 4(1) (2017), 157-169.
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34. Shekhar, C., Jain, M., Raina, A.A., Iqbal, J., Optimal (N,F) policy for queue-dependent and timesharing machining redundant system, *International Journal of Quality & Reliability Management*, 34(6) 798-816
35. Jain, M. and Meena, Rakesh Kumar, Vacation model for Markov machine repair problem with two heterogeneous unreliable server and threshold recovery, *Journal of Industrial Engineering International*, 14() (2017), 143–152
36. Sharma, A. and Bhaintwal, M.: A class of skew-constacyclic codes over $Z_4 + uZ_4$, *International Journal of Information and Coding Theory*, 4(4) (2017), 289 – 303.
37. MT Nair, N Sukavanam, R Katta,, Computation of control for linear approximately controllable system using Tikhonov regularization, *Numerical Functional Analysis and Optimization* (2018)3, 9 (3), 308-321
38. R Katta, GD Reddy, N Sukavanam, Computation of control for linear approximately controllable system using weighted Tikhonov regularization, *Applied Mathematics and Computation*, (2018), 317, 252-263

39. U Arora, N Sukavanam, APPROXIMATE Controllability of semilinear fractional stochastic system with nonlocal conditions, *Dynamic Systems and Applications*, (2018), 27 (1), 45-62
40. S Kumar, M Kumar, N Sukavanam, Approximate controllability of non-densely defined semilinear control systems for two classes of nonlinearity, *International Journal of Dynamics and Control*, (2018), 1-9
41. A Shukla, N Sukavanam, DN Pandey Approximate controllability of semilinear fractional stochastic control system, *Asian-European Journal of Mathematics*, (2018) 185008
42. U Arora, N Sukavanam, Controllability of retarded semilinear fractional system with non-local conditions *IMA Journal of Mathematical Control and Information*, 2017. 1-17
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44. R Katta, N Sukavanam, Approximate Controllability of Semilinear Control System Using Tikhonov Regularization, *International Journal of Differential Equations* 2017
45. Goyal, M. and Agrawal, P. N., Bezier variant of the Jakimovski- Leviatan- Paltanea operators base on Appell polynomials, *Ann. Univ. Ferrara*, (2017) DOI: 10.1007/s11565-017-0288-9.
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47. Garg, T., Agrawal, P. N. and Araci, S., Rate of convergence by Kantorovich Szasz type operators based on Brenke type polynomials, *J. Inequal. (2017) Appl.* DOI:10.1186/s13660-017-1430-z.
48. Gupta, P. and Agrawal, P. N., q- Lupas Kantorovich operators based on Polya distribution, *Ann. Univ. Ferrara*, 64 (2018), 1-23.
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56. Sidharth, M., Acu, A. M. and Agrawal, P. N., Approximation degree of a Kantorovich variant of Stancu operators based on Polya - Eggenberger distribution, *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas*, (2017) <https://doi.org/10.1007/s13398-017-0461-0>.
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75. Debnath, I. P. and Gupta, S. K., Duality for the class of a multiobjective problem with support functions under under $K-G_f$ invexity assumptions, *Bulletin of the Iranian Mathematical Society*, article in press.
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Conference Proceeding:

- 1 Jain A., Agrawal, P.K., Jain, M., N-Policy for M/Hk/1 System with Unreliable Server and Setup, *IEEE Proc. of International Conference on Intelligent Communication and Computational Techniques (ICCT)* Manipal University, Jaipur, Dec 22-23, 2017, 138-144.
- 2 Nandal, S. and Kumar, S., Image Denoising using Fractional Quaternion Wavelet Transform, *Proc. of 2nd Int. Conference on Computer Vision and Image Processing, AISC (Springer)*, 704, 301-313, 2017

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- 4 1. N Gupta, A Nayak, "Numerical study related to transient mixed convection flow in air-filled ventilated parallelogram-shaped enclosure with isothermal hot wall" 44th national conference on Fluid mechanics and Fluid power (FMFP-2017) held during 14-17 December, 2017 in Amrita University, Amritapuri campus, Kollam, Kerala, India.
- 5 Neha Gupta, A. K. Nayak, "Transient Mixed Convection Flow in Ventilated Parallelogram Enclosure with Partially Active Thermal Zones" 24th National and 2nd International ISHMT-ASTFE Heat and mass transfer conference (IHMTTC-2017), held during 27-30 December, 2017 in BITS-Pilani, Hyderabad campus, India.
- 6 Neha Gupta, A. K. Nayak, "Numerical study on Transient mixed Convection and entropy generation in a skewed ventilated enclosure" 3rd Thermal and Fluids Engineering Conference (TFEC), March 04-07, 2018, Nova Southeastern University, Fort Lauderdale, Florida, USA, pp. 1285-1295, DOI: 10.1615/TFEC2018.tfh.020734
- 7 4. Banerjee, A. and Nayak, A. K., (2017): Assessment And Prediction Of Eof Mixing In Binary Electrolytes, ASME 2017 Fluids Engineering Division Summer Meeting (FEDSM), July 30 – August 3 in Waikoloa, HI, USA, Paper Number:FEDSM2017-69524.
- 8 Haque, A. and Nayak, A. K., (2017): Mixed Electroosmotic Pressure Driven Flow And Heat Transfer Of Power Law Fluid In A Hydrophobic Microchannel, ASME 2017 Fluids Engineering Division Summer Meeting (FEDSM), July 30 – August 3 in Waikoloa, HI, USA, Paper Number: FEDSM2017-69525.

Chapter in Edited Books:

1. Aameya kumar Nayak, Hydrogen from Natural Gas, CRC Press, Taylor & Francis Group, ISBN NO. DOI: 10.1201/978, 1315153292-5, 2017
2. R. Keval and S. Banerjee, (2017), Dynamics of Hepatitis C Viral Load with Optimal Control Treatment Strategy, Rubem P Mondaini (Ed.), World Scientific Europe, ISBN: 978-981-3227-87-3.
3. "Logistics, Supply Chain and Financial Predictive Analytics - Theory and Practices" in book series Asset Analytics - Performance and Safety Management, Editors: Kusum Deep, **Madhu Jain**, Said Salhi, Springer Nature, Singapore (2018)
4. "Decision Science in Action - Theory and Applications of Modern Decision Analytic Optimisation" in book series Asset Analytics - Performance and Safety Management, Editors: Kusum Deep, **Madhu Jain**, Said Salhi, Springer Nature, Singapore (2018)
5. "Performance Prediction and Analytics of Fuzzy, Reliability and Queuing Models - Theory and Applications" in book series Asset Analytics - Performance and Safety Management, Editors: Kusum Deep, **Madhu Jain**, Said Salhi, Springer Nature, Singapore (2018)
6. Jain M., Jain A. and Gupta R. (2018): Analysis of module-based software reliability growth model incorporating imperfect debugging and fault reduction factor. In: Kapur P., Kumar U., Verma A. (eds) Quality, IT and Business Operations. Springer Proceedings in Business and Economics. Springer, Singapore, pp. 69-80.

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