Personal Profile

Name	:	**DR. PRASUN KUMAR NAYAK**
Designation	:	**Assistant Professor(Stage-III)**
		Department of Mathematics(UG & PG),
		Midnapore College (Autonomous),
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Date of Birth	:	24-07-1972.
Educational Qualification	:	**M.Sc., B.Ed., NET, Ph.D.**
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Date of joining	:	01.04.2015 (at Midnapore College(Autonomous))
		01–09-2003 to 31.03.2015 (Bankura Christian College)
		01-08-2002 to 31-08-2003 (P.K.College, Contai **)**
		30.08.1996 to 31.07.2002 (K.T.P.P. High School)

Degree	Subject	Institution	Year
Ph. D.	Topic: A Study on Fuzzy Games	Vidyasagar University	2009
M.Sc.	Applied Mathematics	Calcutta University	1996
B.Sc.	Hons in Mathematics	R. K. Mission Residential College, Narendrapur (under Calcutta University)	1994

1. Solution of rectangular interval games using graphical method, *Tamsui Oxford Journal of Mathematical Sciences*, 22(1)(2006) 95-115
2. Intuitionistic Fuzzy bi-matrix games, *Notes on Intuitionistic Fuzzy Sets*, 13(3), 2007, 1-10
3. Solution of Rectangular Fuzzy Games, *OPSEARCH*, 44(3), 2007, 211-226
4. Triangular Fuzzy Number in Intuitionistic Fuzzy Environment, *Journal of Fuzzy Mathematics*, Vol. 17, No. 2, (2009) 365-375.
5. Bi-Matrix Games with Intuitionistic Fuzzy Goals, *Iranian Journal of Fuzzy Systems*,7(1), (2010), 65-79
6. The Bi-matrix Games with Interval Pay-offs and its Nash Equilibrium Strategy, *Journal of Fuzzy Mathematics*, Vol 17, No. 2, (2009) 421-435
7. Linear programming technique to solve two person matrix games with interval pay-offs, *Asia pacific Journal of Operational Research*,Vol. 26(2) (2009) 285-305
8. Solution of Interval-valued Manufacturing Inventory Models With Shortages, World *Academy of Science, Engineering and Technology*, 68, 2010, 293-298
9. Multisection Technique to Solve Interval-valued Purchasing Inventory Models without Shortages, *Journal of Information and Computing Science*,Vol. 5, No. 3, 2010, pp. 173-182
10. Basic Fibonacci Series from a Mathematical Oddity, *Wesleyan Journal of Research*, 2(2), 2010, pp. 48-49
11. Intuitionistic Fuzzy Optimization Technique for the Solution of an EOQ model, *Notes on Intuitionistic Fuzzy Sets*, 17(2), 2011, 52-64
12. Intuitionistic Fuzzy Optimization Technique for Nash Equilibrium Solution of Multi-objective Bi-Matrix Games, *Journal of Uncertain Systems*, 5(4), 2011, 271-285
13. Intuitionistic Fuzzy Optimization Technique for Pareto Optimal Solution of Manufacturing Inventory Models with Shortages, *European Journal of Operational Research*, 2013,Vol. 228pp 381-387.
14. Non-normal Triangular Fuzzy Numbers, Its operations, Inequalities and Optimization Techniques, *The Journal of Fuzzy Mathematics* Vol. 20, No. 4, 2012, pp.
15. Multisection Technique to Solve Interval-valued Purchasing Inventory Models without Shortages, *Journal of Information and Computing Science*, Vol. 5, No. 3, 2010, pp. 173-182
16. Application of Triangular Intuitionistic Fuzzy Numbers in Bi-matrix Games, *International Journal of Pure and Applied Mathematics* Volume 79 No. 2 2012, 235-247
17. Notes On Triangular Intuitionistic Fuzzy Numbers, *Int. J. Mathematics in Operational Research*, vol.5 no.4 , 2013, pp.446-465
18. Matrix Games in Intuitionistic Fuzzy Enviornment, *Int. J. Mathematics in Operational Research*, vol.5 no.6 , 2013, pp.693-708
19. An Algorithm for Solution of an Interval Valued EOQ Model, *An International Journal of Optimization and Control: Theories & Applications*, Vol1(1),2013, pp. 1-10
20. Solution of Matrix Game With Triangular Intuitionistic fuzzy Pay-off Using Score Function, Open Journal of Optimization(Scientific Research), Vol. 2 No. 1, 2013, pp. 9-15
21. Matrix Games with Fuzzy Goals, *International Journal of Engineering and Development*, Volume 4, Issue 1(January 2012), pp.1-10

22. Matrix Games with Intuitionistic Fuzzy environment, *International Journal of Mathematics in Operational Research*, Volume 5 No. 6, 2013, pp.693-708

23. Matrix Games with Intuitionistic Fuzzy Goals, *International Journal of Engineering and Development*, Volume 62 No. 2 2012,

24. An Algorithm for Solution of Interval Games, *International Journal of Operational Research*, Volume x No. x, xxxx, pp.xx-xxx

25. Non-normal Triangular Fuzzy Numbers, Its Operations, Inequalities and Optimization Techniques, *Journal of Fuzzy Mathematics*, Vol. 20, No.4,2012

26. Nash Equilibrium Solution In Trapezoidal Fuzzy Environment, *IOSR Journal of Engineering (IOSRJEN)*,Vol. 3, Issue 1 (Jan. 2013), ||V2|| PP 07-14

27. Generalised Triangular Fuzzy Numbers in Intuitionistic Fuzzy Enviornment, *International Journal of Engineering and Development*, Volume 5, Issue 1(November2012), pp. 08-13

28. Intuitionistic fuzzy optimization technique in EOQ model with two types of imperfect quality items, *AMO-Advanced modelling and optimization*, 16(1), 2014,pp. 33-50

29. Matrix Games with Trapezoidal Fuzzy Pay Offs, *International Journal of Engineering and Development*, Volume 5, Issue 7(January 2013), pp. 21-29

30. Solution of EOQ model with Partial Back-ordering and Correlated Demand Caused by Cross-selling in Imprecise Enviornment, *International Journal of Modelling in Operations Management*, Vol. x, No. x, 2014 pp.

31. Application of Intuitionistic Fuzzy Mathematical Programming with Exponential membership and Quadratic Non-membership Functions in Matrix Games, *Annals of Fuzzy Mathematics and Informatics*, FMI, Vol.9,No.2(2015):,pp. 183-195

32. An Approach for Solving Matrix Games with Fuzzy Pay-offs, *International Journal of Computational and Intelligent Systems, Taylors and Francis*, Vol.36,No.:1 & 2, 2015 pp.159-181

33. Solving Interval Matrix Games by Using Fuzzy Programming Approach, *Wesleyan Journal of Research*, 7(1), 2014, pp. 189-198

34. An alternative approach for solving fuzzy matrix games, *International Journal of Mathematics and Soft Computing*, Vol 5, No. 1(2015), pp.79-92

35. Solution of an Interval Valued EPQ Model of Perishable Items with Two Production Rates, Shortages and Variable Production Cycle Using Genetic Algorithm, *Iranian Journal of Operations Research*, Vol. 5, No. (2015), pp. 1-12

36. Profit Allocation Among Rational Players in A Co-operative Game Under Uncertainty, *SADHNA(Springer)*, Vol. 15, No.1 (2015), pp.60-71

37. Matrix game with Z-numbers, *International Journal of Fuzzy Logic and Intelligent System*, Vol. 15, No.1 (2015), pp.60-71

38. Solving Bi-matrix Games with Pay-offs of Triangular Intuitionistic Fuzzy Numbers, *EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS*, Vol. 8, No. 2, 2015, pp.153-171

39. Aspiration level approach to solve matrix games with I-fuzzy goals and I-fuzzy pay-offs, *Pacific Science Review A: Natural Science and Engineering (Elsevier)*, Vol. , No. (2016), pp.1-9

40. An interval valued EPQ model in imperfect production system with rework of regular production, shortages and sales return via particle swarm optimization, International Journal of Pure and Applied Mathematics, Vol. 113, No. 6(2017), pp. 1-9

41. Intuitionistic Fuzzy Programming Technique for Solving Interval Valued Matrix Games, International Journal of Pure and Applied Mathematics, Vol. 113, No. 6(2017), pp. 1-8

42. Interval valued EOQ model with two types of defective items, Communicated.

Full papers in conference proceedings

1. Solution of $m \times n$ rectangular Fuzzy games by Dominance Convey, FLeEM, IIT, KGP, 145-149
2. Bimatrix games with Intuitionistic Fuzzy Goals, MART, B.U., 157-164

Books published as single author or an editor

1. **Numerical Analysis**: Theory and Applications, Asian Books (P) Limited, New Delhi, 2006 & 2013(2e).
2. **Mechanics: Newtonian, Classical, Relativistic (Theory, Problems and Applications),** Asian Books (P) Limited, New Delhi, 2007.
3. **Linear Algebra: Concepts and Applications** Books and Allied (P) Limited, Kolkata, 2010.
4. **A Text Book of Tensors calculus with Differential Geometry**, PHI, New Delhi, 2010 & 2014(2e).
5. **A Text Book of Mechanics**, Narosa Publishing House , New Delhi and Alpha Science, UK, 2016
6. **Vector Algebra and Analysis with Applications**, Universities Press, Hydrabad, 2017.
7. Generalised Functions: Concepts and Applications, Accepted For Publication in SPRINGER
8. **A Course on Continuum Mechanics**, **Manakin Press, UK**
9. A Text Book of Complex Analysis, Communicated
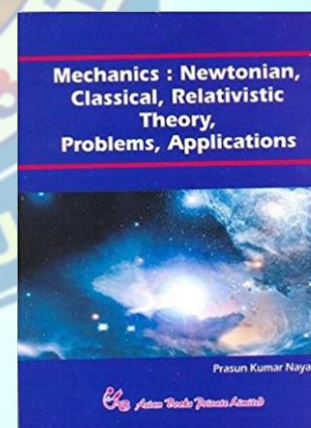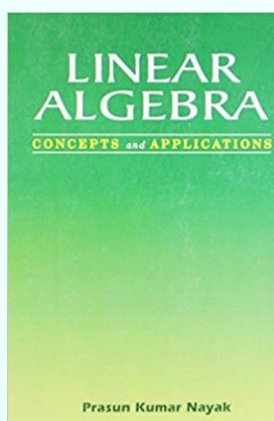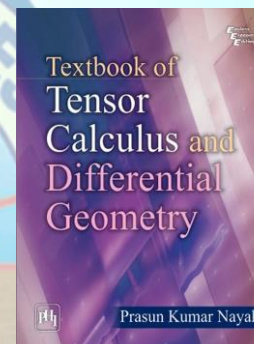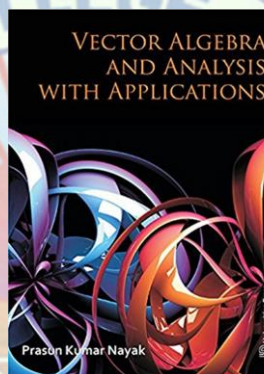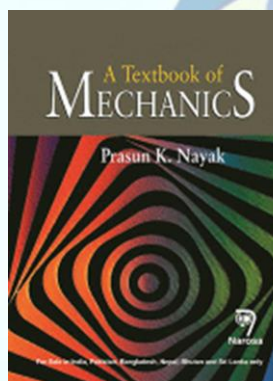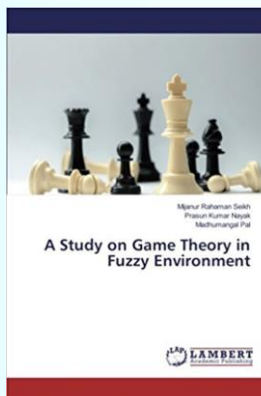
Ongoing Projects/Consultancies

1. Optimization in Fuzzy Environment and Applications, UGC (PSW-004/10-11(ERO), Dt. 20-10-2010) October, 2010 to April, 2012, Grant Amount   Rs. 112,000.00

Research Guidance (Ph. D.)

1. **Mijanur Rahaman Seikh**, *A Study on game theory in fuzzy environment*, Awarded at Vidyasagar University, 2015
2. **Sibasis Bandyopadhyay**, *A Study on games with uncertainty*, Awarded at Visva-Bharati University, 2016
3. **Susovan Chakrabortty**, *A Study on EOQ and EPQ Models in inexact environments*, Awarded at Vidyasagar University, 2016
4. Arpita Kabiraj, Optimization Through Approximate Reasoning, Registered at Visva-Bharati University.
5. Subhendu Ruidas, Particle Swam Optimization Technique to Solve Different inventory models in inexact environment.

Project Guidance

1. Suvendu Das, A study on Genetic Algorithms and its application, for completion of P.G. Degree, 2016
2. Sumanta Patra, A study on Genetic Algorithms, for completion of P.G. Degree, 2016.

Papers presented in Conference, Seminar, Workshop, Symphosia

1. Solution of mxn Fuzzy Games, FLATeM, IIT (KGP) and UNESCO
2. Bi-matix Games with Intuitionistic Fuzzy Pay-offs, Mathematics and Applications, Dept of Math, B.U.
3. Bi-matix Games with Interval Pay-offs, Advances in Mathematics and Application, Dept of Math, B.U.
4. Assignment problem in Imprecise Cost Constraints, National Symposium on Mathematics and its application, Dept of Math, B.U.
5. Matrix Games with Intuitionistic Fuzzy Goals, Recent advance in operational research and related computational aspects, Dept of Applied Mathematics, C.U.
6. A Technique to Multiobjective Bi-matrix Games with IF Goals, ICFMA, 2008, Dept of Math, B.U.
7. Optimization Techniqe IF Sets and NES for Bi-matrix Games, MTOR, 2011,Dept. of Mathematics, NIT, Durgapur
8. Notes on Triangular Fuzzy number in Intuitionistic Fuzzy Enviornment, Some Approaches in Mathematics Diciplne, Dept. of Mathematics, Ramananda College, Bishnupur, Bankura
9. Solution of a interval valued EPQ model of penishable items with two production rates shortages and variable production cycle using multi-section technique, Emerging Treds in Mathematics((19-20,December, 2012), Vidyasagar University, Midnapore, in collaboration with Calcutta Mathematical Society
10. Multisection Techique and Genetic Algorithm method for solution of an Interval valued EOQ model, 2nd International Conference on Rough Sets, Fuzzy Sets and Soft Computing (17-19,January, 2013), Dept. of Mathematics, Tripura University, in collaboration with Fuzzy and Rough Sets Association

11. A new solution concept of Intuitionistic fuzzy matrix games, National Seminar on Mathematics to commemorate sesquicenetary of Sir Asutosh Mookerjee(25 th April, 2014), Dept. of Mathematics, Sidho-Kanho-Birsha University, Purulia

12. An approach for solving matrix games in intuitionistic fuzzzy enviornment, 5-Day National Workshop on "Optimization and Fuzzy Mathematics", 9-13 Serptember, 2014,Dept. of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore

13. Genetic Algorithm to solve Interval Game, "International Conference on "Mathematics & Computer Science" organized by International Multidisciplinary Research Foundation (**IMRF**), Nirmala College of Women, Coimbatore, Tamil Nadu, during Dec 15-17, **2016**.

14. An interval valued EPQ model in imperfect production system with rework of regular production, shortages and sales return via PSO, "National Conference on Mathematical Techniques and their Applications (NCMTA 2017)", 27-28 January, 2017, SRM University, Kattankulathur, Chennai.

Invited lectures and Chairmanships at National/ International Conference/Seminar etc.

1. Modern Approaches of solving Mathematical Problems with some applications, Mathematics and Discipline, Laulara College, Purulia.
2. Computational Complexity in Different Directions, National Conference of Computational Mathematics and non-linear Dynamics, Visva-Bharati University,   Dt. 19-21 Feb 2016

3. Laplace Transforms in Complex Domain, One week short term training programme on Transform methods in science and engineering, SVNIT, Surat, Gujrat

Editorial Board Member

1. Wesleyan Journal of Research, ISBN 0975-1386.
2. International Journal of Fuzzy Mathematical Archive, ISBN

Training

1. Computer application in Mathematics Teaching, 04-01-2000 to 18-01-2000, IIT (KGP) and UNESCO
2. Microcontrollers, 02-02-2004--07-02-2204, USIC, University of Burdwan and WRIC, University of Mumbai
3. Workshop on Techniques in Applied Mathematics, 18-01-2005 to 28-01-2005, Dept. of Applied Mathematics, Calcutta University
4. Orientation Programme, 06-06-06 to 03-07-06, ASC, The University of Burdwan
5. Refresher Course, 17-11-2009 to 08-12-2009, ASC & Dept. of Pure Mathematics, Calcutta University
6. Three Day National Workshop on Discrete Structures, 17-03-2010 to 19-03-2010, Dept. of Applied Mathematics with Oenology and Computer Programming, Vidyasagar University
7. Refresher Course, 14-11-2011 to 03-12-2011, ASC & Dept. of Mathematics, Jadavpur University
8. One week short term training programme on Transform methods in science and engineering, SVNIT, Surat, Gujrat, 6-03-2017 to 10-03-2017

Area of Teaching

- **U.G. Level:** Real Analysis, Vector & Tensor Analysis, PDE, Integral Transformation, Complex Analysis, Linear Algebra, Mechanics, Computer Programming.

- **P.G. Level:** Classical Mechanics, Complex Analysis, Integral Equations, Integral Transforms, Differential Geometry and manifold, Calculus of Variations, Generalised Functions, Operations Research, Soft Computing