Title	Prof.	First Name	NARENDER KUMAR	Last Name		Photograph
Designation		Professor				
Office Address		Department of Mathematics, Aryabhatta College,				
		University of Delhi,				
5 11 411		New Delhi-110021.				
Residence Address		S.U. 30, Pitam Pura,				
		Delhi-110034				
Phone	Office	e 24110490				
No	Residence					
Mobile		9891200143				
Email		nkbudhraja@aryabhattacollege.ac.in				
Web-Page			·			

### **Educational Qualifications**

Degree	Institution	Year
B. A. (Hons.)	Sri Venkateswara College, University of Delhi	1990
Mathematics		
M. A. (Mathematics)	Hans Raj College, University of Delhi	1992
M. Phil.	University of Delhi	1994
Ph. D.	University of Delhi	2009

#### Career Profile

Working as Professor in the Department of Mathematics, Aryabhatta College, University of Delhi with more than 26 years of teaching experience.

Worked as Lecturer on Adhoc basis in the Department of Mathematics, Rajdhani College, University of Delhi from 16.01.1994 to 30.04.1995.

Worked as Lecturer on Temporary Basis (Against Leave Vacancy) in the Department of Mathematics, Sri Venkateswara College from 16.07.1995 to 08.08.1995.

### **Administrative Assignments**

Teacher-in-Charge, Department of Mathematics 2012-2016, 2023-24.

Convener, Time Table Committee 2012-2015, 2018-2019. Convener, Extra Curricular Activities Admission Committee & ECA Committee, 2018-2019

Convener, Dance Society 2017-2019.

Convener, Function Committee 2017-2019. Convener, Sports Admission Committee and Sports Committee 2019-20, 2020-21, 2022-23, 2023-24, 2024-25

Member, IQAC 2020-Till Date

### Areas of Interest / Specialization

Mathematical Programming and Optimization

Subjects Taught

- B. Sc. (Hons) Mathematics I Semester Core Course: C-1 "Calculus"
- B. Sc. (Hons) Mathematics II Semester Core Course: C-4 "Differential Equations".
- B. Sc. (Hons) Mathematics III Semester BMATH 305 "Theory of Real Functions",
- B. A./B. Sc. (Hons) III Semester General Elective: GE-3 "Linear Programming and Game Theory".
- B. Sc. (Hons) Mathematics IV Semester BMATH 409 "Riemann Integration and Series of Functions".
- B. Sc. (Hons) Mathematics VI Semester DSE-IV (ii): "Linear Programming and Applications"
- B.Sc. (Hons.) Mathematics III Semester (NEP) DSC-8: "Riemann Integration"
- B.Sc. (Hons.) Mathematics IV Semester (NEP) DSC-10: "Sequences and Series of Functions"
- B.A./B.Sc. (Hons.) Mathematics IV Semester (NEP) GE-4(ii): "Linear Programming"
- B.Sc. (Hons.) Mathematics III Semester (NEP) DSC-8: "Riemann Integration"
- B.Sc. (Hons.) Mathematics V Semester (NEP) DSE-3 (ii): "Linear Programming and Applications"

#### Research Guidance

Not Applicable

### **Publications Profile**

DUALITY THEOREMS FOR NONDIFFERENTIABLE MULTIOBJECTUVE PROGRAMS
 Davinder Bhatia, Narender Kumar and R.K. Budhraja

Published in Indian Journal of Pure and Applied Mathematics, Vol. 28 (8), August, 1997, 1031-1042 (ISSN 0019-5588)

2. DUALITY FOR NONSMOOTH MULTIOBJECTIVE FRACTIONAL PROGRAMS UNDER GENERALIZED  $(\mathfrak{T}, \rho)$ -CONVEXITY

Davinder Bhatia, R.K. Budhraja and Narender Kumar

Published in Opsearch, Vol. 35, No. 2, 1998 (ISSN 0030-3887)

3. APPROXIMATE EFFICIENCY FOR n-SET MULTIOBJECTIVE FRACTIONAL PROGRAMMING Narender Kumar, R. K. Budhraja and Aparna Mehra

Published in Asia Pacific Journal of Operational Research, Vol.21, No. 2, June 2004, 197-206 (ISSN 0217-5959)

4. 3-UNICONVEXITY AND n-SET OPTIMIZAION

Davinder Bhatia and Narender Kumar

Published in Journal of Decision and Mathematical Sciences, Vol. 10, No.1-3, 2005, 21-36.

5. APPROXIMATE OPTIMIZATION OF CONVEX SET FUNCTIONS

Davinder Bhatia, Narender Kumar and Aparna Mehra

Published in International Journal of Pure and Applied Mathematics, Vol. 51, No. 3, 2009, 383-398 (ISSN 1311-1728)

6. THE 0-1 TEST APPLIED TO PETER-DE-JONG MAP

Mridula Budhraja, Narender Kumar and L.M. Saha

Published in International Journal of Engineering and Innovative Technology, Vol. 2 (6), Dec 2012, 1-8 (ISSN 2277-3754)

7. COMPLEXITY STUDY IN GUMOWSKI-MIRA MAP: THE USE OF 0-1 TEST Aysha Ibraheem and Narender Kumar

Published in Journal of Advances in Mathematics, Vol. 6, No. 2, 2014, 923-930 (ISSN 2347-1921)

8. ATTRACTORS OF DUFFING MAP: APPLICATION OF DLI AND 0-1 TEST Aysha Ibraheem and Narender Kumar

Published in International Journal of Engineering and Innovative Technology, Vol. 4, Issue 11, May 2015, 1-6

9. A NOTE ON NONSMOOTH PARTIAL VECTOR INVEXITY IN n-SET OPTIMIZATION Narender Kumar and R.K. Budhraja

Published in International Journal of Mathematical Sciences, Vol. 15, No. 3-4, 2016, 221-228

10. MULTI-SWITCHING SYNCHRONIZATION OF NON-IDENTICAL CHAOTIC SYSTEMS

Narender Kumar

Published in International Journal of Applied Mathematics and Physics, Vol. 9, No. 1 (2017), 69-80.

11. DUAL COMBINATION-COMBINATION SYNCHRONIZATION OF TIME DELAYED DYNAMICAL SYSTEMS VIA ADAPTIVE SLIDING MODE CONTROL UNDER UNCERTAINTIES AND EXTERNAL DISTURBANCES

Aysha Ibraheem and Narender Kumar Published in International Journal of Dynamics and Control, Springer, Vol. 9(2) (2021), 1-18.

12. MATHEMATICAL APPROACH TO TRADING: DISCOVERING A SHORT-TERM HIGH PROBABILITY, LOW RISK, HIGH RETURN TRADING STRATEGY

Narender Kumar and Khushwant Pahwa Published in Res Militaris, Social Science Journal,

13. SOLVING HESITANT FUZZY LINGUISTIC MATRIX GAME WITH REGRET THEORY Imran Khan and Narender Kumar Published in Granular Computing (2023) 1325–1340

### Conference Organization/ Presentations

- Participated in the Sixth International Conference of the Association of Asia Pacific Operational Research Societies within IFORS "APORS 2003" held at Hotel Grand Intercontinental, New Delhi, during December 8-11, 2003 and presented a paper entitled "MIXED LAGRANGIAN AND MULTIOBJECTIVE FRACTIONAL PROGRAMMING DUALITY WITH GENERALIZED 3-CONVEX n-SET FUNCTIONS".
- 2. Participated in the National Symposium on Recent Advances in Optimization Theory and Applications "RAOTA-2006" held at Academic Research Center, University of Delhi, during October 27-28, 2006.
- 3. Participated in the International Conference on Operator Theory and Related Areas "ICOTRA-2008" held at the Department of Mathematics, Delhi University, during January 9-12, 2008.

Research Projects (Major Grants/Research Collaboration)

Not Applicable

#### **Awards and Distinctions**

 $\label{lem:qualified CSIR-UGC scholarship-cum-lectureship examination in June, 1993.$ 

Got Teaching Excellence Award on 1st May, 2014 from University of Delhi.

#### **Association With Professional Bodies**

Not Applicable

Other Activities