




**ZAKIR HUSAIN DELHI COLLEGE**  
**(University of Delhi)**

**Faculty Details**

<b>Mr.</b>	<b>Yograj</b>	<b>Singh</b>	<b>Photograph</b>
<b>Designation</b>	Assistant Professor		
<b>Address</b>	Department of Mathematics, Zakir Husain Delhi College (University of Delhi)		
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<b>Educational Qualification</b>			
<b>Degree</b>	<b>Institution</b>	<b>Specialization</b>	
PhD (pursuing)			
M.Tech.	ISI (Indian Statistical Institute) Kolkata	Computer Science	
M.sc.	CCS University Meerut	Mathematics	
B.Sc.	CCS University Meerut	Mathematics, Physics, Chemistry	
XII	UP Board	Mathematics, Physics, Chemistry	
<b>Career Profile</b>			
<ul style="list-style-type: none"><li>• Presently Working as Assistant Professor in the Dept. of Mathematics, <b>Zakir Husain Delhi College, University of Delhi.</b></li><li>• Worked as Assistant Professor in the Dept. of Mathematics, <b>Lady Shri Ram College for Women, University of Delhi. (more than 10 Years)</b></li></ul>			
<b>Administrative Assignments</b>			
<ul style="list-style-type: none"><li>• Member of Institution Innovation Council an initiative of <b>MOE's</b> Innovation Cell for the sessions 2018-19, 2019-20, 2020-2021. 2021-2022, 2022-2023 at LSR College.</li><li>• Single point of contact (SPOC) of the LSR college for <b>Smart India Hackathon</b> an initiative of <b>MOE.</b></li></ul>			

- Worked as NAAC committee member at LSR college two times.
- Editorial Board Member (5 years) of the LSR annual Mathematical Journal, **ECLAT**, for **Vol-4, 2013; Vol-5, 2014; Vol-6,2015; Vol-7,2016 and Vol-8,2017.**
- Internal **Assessment Committee In-Charge** (4 years) at LSR College for the session 2013-2014, 2014-2015, and 2015-2016, 2022-2023.
- Mathematics Department, **Co-Association In-Charge** (2 years) at LSR College for the session 2013-2014, 2014-2015.
- Mathematics Department, **Association In-Charge** (4 years) at LSR College for the session 2016, 2017, 2018 and 2022.
- Internal **Assessment Committee Co-Convener** (2 years) at LSR College for the session 2020-2021 and 2021-2022.
- Member of **Prize Committee** (2 years) at LSR College for the session 2021-2022 and 2022-2023.

#### Areas of Interest / Specialization

Soft Computing: Multi-criterion decision making, Optimization Techniques, Fuzzy Sets

#### Subjects Taught

Real Analysis, Algebra, Differential Equation, Cryptology, Software-R, Mathematical Modelling, Discrete Mathematics, Linear Algebra, Basic IT Tools, Network Flow Problems and Graph Theory, Complex Analysis

#### Research Guidance

Guided six undergraduate students and got publications too.

#### Publications Profile

1. **Singh Y.**, Chauhan P.(2012), “Analyzing Constrained Machining Conditions in Multi-Pass Turning by Differential Evolution”, Nature Inspired Computing and their Applications (NICA, Advances in Mechanical Engineering and its Applications), **ISSN: 2167-6380**, Vol. 2, Issue 3, pp. 201-206.
2. **Singh Y.** and Chauhan P.(2012), “New Mutation Embedded Generalized Binary PSO”, In Proc. of International Conference on *Emerging Trends in Science, Engineering and Technology (INCOSET 2012)*, Trichy, India, December, 2012, Lecture Notes in Mechanical Engineering, Springer, pp. 705-715. **ISBN: 978-81-322-1006-1** (Print) 978-81-322-1007-8 (Online) [**SCOPUS**]
3. **Singh Y.** and Chauhan P.(2014), “Selection of Optimal Machining Conditions in Multi-pass Turning Operations using Real Coded Genetic Algorithm”, International Journal of Applied Mathematics and Mechanics (IJAMM), **ISSN: 0973-0184**, 10(4), pp 73-83.
4. Arya S., Chitranshi M. and **Singh Y.** (2021), “Analysing Distance Measures in TOPSIS: A Python Based Tool”, In Proc. of International Conference on *Scientific and Natural Computing (SNC 2021)*, India, February 2021, Algorithms for Intelligent Systems,

Springer Nature, Singapore, pp. 275-292. **ISBN: 978-981-16-1527-6** (Print) 978-981-16-1528-3 (Pnline).

5. Arya S., Chitranshi M. and **Singh Y.** (2020), “Analyse Women Suicides using Multi-Criteria Decision Making”, In Proc. National Conference on Application of Mathematical Tools in Social Sciences and Sciences (AMTSSC 2020). India, October 2020 **ISBN: 978-81-950791-7-9**, page : **90-106**. Publisher: Book Age Publications.

6. Arya S., Chitranshi M. and **Singh Y.** (2022), “Ranking Forecasting Algorithms using MCDM Methods: A Python Based Application”, Book Chapter in Computational Intelligence based Time Series Analysis, River Publishers partnered with IEEE and IEEE Xplore, **ISBN: 978-87-7022-417-8 [SCOPUS]**

7. **Singh Y.**, Bisht D. C. S. (2021), “A Hybrid Method for Multi-Criteria Group Decision Making under Pythagorean Fuzzy Environment”, International Journal of Modelling and Simulation, a journal of **Taylor & Francis**, Print **ISSN: 0228-6203** Online **ISSN: 1925-7082**. [Q1, ESCI, SCOPUS, IF: 3.1 ]

8. **Singh Y.**, Bisht D.C.S. (2022), “Novel Entropy Measure in Pythagorean Fuzzy Environment with real-life application”, Nonlinear Studies, **ELSEVIER**, vol 29 NO 3. **ISSN: 1359-8678**. [SCOPUS]

9. Khare, O., Ahmed, S. and **Singh, Y.**, (2023), “An Overview of Swarm Intelligence-Based Algorithms”. *Design and Applications of Nature Inspired Optimization: Contribution of Women Leaders in the Field*, pp.1-18.

10. **Singh Y.**, Kaushar A., Shamsi A., Arora G. (2023), “Python Based Multi Criteria Decision Making Tools with Real-Life Applications”, In Proc. of International Conference of AIP. (Accepted) [SCOPUS]

#### **Conference Organization/ Presentations (in the last five years)**

- Presented a paper “Integrated ANP-TOPSIS Methodology for MCGDM under Pythagorean fuzzy Environment” in 5<sup>th</sup> International Conference on Mathematical Techniques in Engineering Applications, 3-4 Dec, 2021.
- Presented a paper “Comparative Analysis of Informative Measures in Pythagorean Fuzzy Environment” in 5<sup>th</sup> International Conference on Mathematical Techniques in Engineering Applications, 3-4 Dec, 2021.
- For best paper presentation got free annual membership of the Soft Computing Research Society in 2021.

#### **Research Projects (Major Grants/Research Collaboration)**

Worked on Delhi University Innovation project as **Principal Investigator**.

Project code – LSR 202.

Project title- “**Reverse Logistics- An Innovative approach to a Sustainable Green Environment**”.

Grant: Rs. 6,00,000/-

## Awards and Distinctions

- Qualified **IIT-GATE (Computer Science)** in 2012.
- Qualified **CSIR-NET- JRF (Mathematics)** in June 2009.
- Qualified **IIT-GATE (Mathematics)** in 2009.
- Qualified **IIT-JAM (Mathematics)**
- Qualified **M.Tech. (CNS) entrance exam of IIT Hyderabad** in 2009.
- Qualified **ISI M.Tech. (CS) entrance exam** in 2009.
- College topper in **graduation.**
- Got campus placement from ISI Kolkata in **IBM (R&D), INDIA** for the post of Associate Researcher.

## Association With Professional Bodies

- Life Time member of **Alumni of ISI Kolkata.**
- Life Time member of **Cryptology Research Society of India.**
- Life Time member of **Environment & Social Development Association.**

## Other Activities

- Successfully Completed **Advanced IIC Innovation Ambassador** Training Series Organized by Institution's Innovation Council of Ministry of Education's Innovation Cell, AICTE during the period from 30th June - 30th July 2021 in online mode
- Successfully Completed **IIC Innovation Ambassador** Training Series Organized by Institution's Innovation Council of Ministry of Education's Innovation Cell, AICTE held at Lovely Professional University, Jalandhar, Punjab, January 2020.
- Participated in 5 days online Short-Term Training Programme (STTP) on "MATLAB based Teaching-Learning in Mathematics, Science & Engineering" organised by Ramrao Adik Institute of Technology, Mumbai in collaboration with Design Tech Systems Pvt. Ltd., Mumbai during 18th to 22nd May 2020.
- Participated in one week, **Faculty Development Programme (FDP)** on "R Programming" online organized by BIT Mesra in Association with Spoken Tutorial Project, IIT Bombay from May 11 to May 15, 2020.
- Participated in 5 days online **International Faculty Development Programme (FDP)** on "Advances in new technologies, evolving in new dimensions in e- society" organized by JIS College of Engineering West Bengal from Sep 2 to Sep 6, 2020.