

# SHYAM LAL COLLEGE (EVE.)

## UNIVERSITY OF DELHI

### Faculty Proforma



Title	<b>DR.</b>	First Name	<b>BHARTI</b>	Last Name		Photograph
Designation	<b>ASSOCIATE PROFESSOR</b>					
Email	<b>bharti@shyamlale.du.ac.in</b>					
Web-Page						
Educational Qualifications						
Degree	Institution				Year	
Ph.D. (Mathematics)	<b>University of Delhi, Delhi</b>				<b>2011</b>	
M.Sc.(Mathematics) (Gold Medalist)	<b>Guru Jambheshwar University of Science &amp; Technology, Hisar, Haryana</b>				<b>2005</b>	
Bachelors in Arts (College Topper)	<b>Maharshi Dayanand University, Rohtak</b>				<b>2003</b>	
NET	<b>CSIR</b>				<b>2006</b>	
One Year Computer Course on 'Computer Operations and Applications'	<b>HARTRON, Ministry of Haryana, Govt. of India.</b>				<b>2001</b>	
Career Profile						
<ul style="list-style-type: none"> <li>• Associate Professor, Department of Mathematics, Shyam Lal College (Evening), University of Delhi – September 2019 to till date.</li> <li>• Assistant Professor, Department of Mathematics, Shyam Lal College (Evening), University of Delhi – November 2008 to September 2019.</li> <li>• Assistant Professor, Department of Mathematics, Zakir Husain Delhi College, University of Delhi – November 2006 to November 2008.</li> </ul>						
Administrative Assignments						
<ul style="list-style-type: none"> <li>• <b>Core Committee NAAC</b>, December 2024 to till date</li> <li>• <b>Teacher in charge</b>, Department of Mathematics, Shyam Lal College (Eve), University of Delhi in academic session 2010-11, 2012-13, 2014-15, 2016-17, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23, 2023-24, 2024-25, 2025-26.</li> <li>• <b>Convener, Computer Software &amp; Website Committee</b>, Shyam Lal College (Evening), University of Delhi in academic session 2019-20, 2020-21, 2021-22 and 2025-26.</li> </ul>						

- **Co-Coordinator, Prize Distribution Committee, Annual Prize Distribution Day 2025**
- **Staff Council Secretary, SLCE:** July 5, 2023- July 4, 2025
- **Co-Coordinator, Internal Quality Assurance Cell (IQAC)**, Shyam Lal College (Evening), University of Delhi in academic session 2020-21, 2021-22, 2022-23, 2023-24, 2024-25.
- **Coordinator, Vigilance Awareness Campaign:** August 16, 2024- November 15, 2024
- **Convener, Time-Table Committee**, Shyam Lal College (Evening), University of Delhi in academic session 2021-22, 2023-24, 2024-25.
- **Convener, Alumni Committee**, Shyam Lal College (Evening), University of Delhi in academic session 2022-23, 2023-24
- **Convener, B.A.(Prog.) Admission Committee**, Shyam Lal College (Evening), University of Delhi in academic session 2016-17 and 2021-22.
- **Convener, W.U.S. & Health Awareness Committee**, Shyam Lal College (Evening), University of Delhi in academic session 2013-14, 2014-15 & 2015-16.
- **ANO/Caretaker, NCC Girls Unit**, Shyam Lal College (Day & Evening), University of Delhi in academic session 2014-15 & 2015-16.
- **Convener, Day-Care Center Committee**, Shyam Lal College (Evening), University of Delhi in academic session 2012-13 & 2013-14.
- **In-Chagre, NSS**, Shyam Lal College (Evening), University of Delhi in academic session 2014-15.
- **Secretary, Staff Association**, Shyam Lal College (Evening) in the academic session 2010-11 and 2011-12.
- **Member**, Lodging Committee, International Conference on Operator Theory and Related Areas(ICOTRA) organized by the Department of Mathematics, University of Delhi, during January 9 – 12, 2008.
- **Secretary, Student's Union** (November 2005 to October 2006), Meghdoot Hostel, University of Delhi.

#### Areas of Interest / Specialization

- **Nonlinear Dynamical Systems**
- **Chaos Theory**

#### Subjects Taught

- **Elementary Linear Algebra**
- **Differential Equations**
- **Linear Programming**
- **Network Flows**
- **Statistics**
- **Computer Algebra Systems**
- **Transportation and Network Flow Problems**
- **Latex Typesetting for Beginners**
- **Statistical Software R**
- **Analytic Geometry and Applied Algebra**
- **Calculus**
- **Algebra**
- **Analysis**
- **Boolean Algebra**

Publications
<ol style="list-style-type: none"> <li>1. Saha, L.M., Mohanty, R.K. &amp; Bharti (2009). Hyperbolicity and Chaos in Discrete Systems. <i>International Journal of Applied Mathematics and Mechanics</i>, 5(5), 48 – 56.</li> <li>2. Saha, L.M., Bharti &amp; Yuasa, Manabu (2010). Energy Variability in Chaotic Dynamical Systems. <i>Science and Technology</i>, 22, 1 – 8.</li> <li>3. Saha, L.M., Bharti &amp; Mohanty, R. K. (2010). Study of Bifurcations and Hyperbolicity in Discrete Dynamical systems. <i>Iranian Journal of Science &amp; Technology</i>, transaction A, 34(A1), 1-12.</li> <li>4. Yuasa, M., Bharti &amp; Saha, L.M. (2011). Energy Variability and Chaos in Ueda oscillator. <i>Science and Technology</i>, 23, 1-10.</li> <li>5. Bharti (2014). Concept of Transient Chaos and Energy Variability in Double Well Duffing Oscillator. <i>Excellence International Journal of Education and Research</i>, 2(4), 474-482.</li> </ol>
Conferences/Seminars/Lectures Organization
<ol style="list-style-type: none"> <li>1. March 5, 2025, Organized as Convener of Mathematical Society “EUREKA”, the annual fest MATHEMATICA, featured two events Chess Competition ‘<b>Checkmate Champions</b>’ and Quiz Competition ‘<b>Brain Bash</b>’ each designed to challenge and showcase participants’ mathematical skills.</li> <li>2. November 12, 2024, organized as Coordinator of Vigilance Awareness Campaign, organized a Speech Competition in collaboration with Debating Society, SLCE on the theme “<i>Building a Culture of Integrity: The Path to Nation’s Prosperity</i>,” for students.</li> <li>3. November 6, 2024, organized as Coordinator of Vigilance Awareness Campaign, a workshop titled “<i>Revisiting Ethics and Governance: Code of Conduct, Rules, and Procedures</i>.” by Dr. Bhuwan Kumar Jha, Associate Professor, Department of History, University of Delhi.</li> <li>4. October 21, 2024, organized as Coordinator of Vigilance Awareness Campaign, a Citizen Oath-taking ceremony and conducted Poster-making and Slogan-writing competitions.</li> <li>5. April 24, 2024, Organized as Convener of Mathematical Society “EUREKA”, <b>Math Mania</b>, MCQs based challenge covering maths, reasoning, English and GK for college students.</li> <li>6. April 24, 2024, Organized as Convener of Mathematical Society “EUREKA” a Seminar on “<b>Exploring Career after Graduation</b>” by Mr. Navneet Anand in collaboration with Career Launcher.</li> <li>7. February 27, 2024, Organized as Convener of Mathematical Society “EUREKA”, <b>Mathematical Carnival</b>, the annual fest featured three events <b>Brain Battle</b>, <b>Checkmate Champions</b> and <b>Play with Maths</b>, each designed to challenge and showcase participants’ mathematical prowess.</li> <li>8. December 5, 2023, Organized as Convener of Mathematical Society “EUREKA”, an event <b>Apti-Mind Challenge</b>, for under-graduate college students for showcase their mathematical skills.</li> <li>9. November 12, 2021, Organized as Convener &amp; TIC of Mathematical Society “EUREKA” The Webinar on “<b>Career in Mathematics</b>” by <b>Prof. C.K. Jaggi</b>, Department of Operation Research, DU organized by Department of Mathematics, Shyam Lal College (Eve.), DU</li> <li>10. April 2-5, 2021, Organized as Convenor of Mathematics Society “EUREKA” <b>The Annual Mathematics Fest INFINITY’21</b> consisting Webinar, Inter-College Quiz Competition,</li> </ol>

<p>Presentations etc. organized by Department of Mathematics, Shyam Lal College (Eve.), DU</p> <ol style="list-style-type: none"> <li>11. March 4, 2021, Organized as Convener, Computer Software and Website Committee, a <b>One Day Faculty Development Programme</b> on ‘<b>Microsoft Teams</b>’ in Shyam Lal College (Eve.), University of Delhi.</li> <li>12. August 10-17, 2020, Organized as Convener, Computer Software and Website Committee, a One Week Faculty Development Programme on ‘Online Teaching Platforms’ in Shyam Lal College (Eve.), University of Delhi.</li> <li>13. February 13, 2020, Organized as TIC, Dept. of Mathematics a Memorial Lecture of Dr. V.K. Tyagi by Prof. Dinesh Singh, Ex. VC, DU on Gandhi and Life in collaboration with Eco-Club, Shyam Lal College(E), University of Delhi.</li> <li>14. September 9, 2019, Organized a One-Day Seminar on “Applications of mathematics in Day-to-Day Life” on behalf of Convener &amp; TIC, Department of Mathematics, Shyam Lal College(E), University of Delhi.</li> <li>15. Aug. 18, 2017, Organized and participated in a One Day seminar on ‘Recent Trends in Mathematics’ by Department of Mathematics, Shyam Lal College(e), University of Delhi</li> <li>16. August 29, 2014, Organized a Lecture on ‘Stress Assessment and Management’ by Dr. Mina Chandra, Psychiatrist, RML Hospital, New Delhi as Convener, WUS and Health Awareness Committee, Shyam Lal College(E), DU.</li> </ol>
<b>Papers/Lectures Presentation</b>
<ol style="list-style-type: none"> <li>1. March 4, 2025, Resource Person at the Faculty Orientation Program for the Implementation of 4<sup>th</sup> year of the UGCF Program organized by Academic Planning Committee (APC), Shyam Lal College(E), University of Delhi.</li> <li>2. February 8-10, 2024, Participated and Presented a paper entitled ‘Energy Variability and Transient Chaos in Ueda Oscillator’ in the International Conference on Advances in Pure &amp; Applied Mathematics (ICAPAM) organized by Shyam Lal College, University of Delhi.</li> <li>3. August 16, 2020, presented a Lecture as Resource Person on ‘Insert Learning’ in the One Week Faculty Development Programme on ‘Online Teaching Platforms’ organized by Computer Software and Website Committee, Shyam Lal College (Eve.), University of Delhi.</li> <li>4. August 11, 2020, presented two Lectures as Resource Person on ‘Google Classroom’ in the One Week Faculty Development Programme on ‘Online Teaching Platforms’ organized by Computer Software and Website Committee, Shyam Lal College (Eve.), University of Delhi.</li> <li>5. December 19-21, 2019, Participated and Presented a paper entitled ‘Transient Chaos Phenomenon in a Double Well Duffing Oscillator’ in the International Conference on Applicable Mathematics (ICAM-2019) organized by Ramanujan College, University of Delhi.</li> <li>6. November 8-10, 2019, Participated and Presented a paper entitled ‘Energy Variability Leading to Chaos in a Double Well Duffing Oscillator’ in the National Conference on Advances in Mathematical Analysis and its Applications (NCAMAA-2019) organized by PGDAV College, University of Delhi.</li> <li>7. September 9, 2019, Participated and Presented a paper entitled “Mathematical Modelling: Connection of Mathematics with Real World” in the seminar on Applications of Mathematics in Day-to-Day Life organized by the Department of Mathematics and IQAC, Shyam Lal College(E), University of Delhi.</li> </ol>

<p>8. March 17-19, 2010, Participated and Presented a Paper entitled ‘Transient Chaos and Energy Variability in Nonlinear Dynamical Systems’ in the Workshop cum training programme on Modern Trends in Celestial Mechanics and Astronomy (WMTCMA) held at Conference Centre, University of Delhi, organized by Deshbandhu College (University of Delhi), Delhi – 110019.</p> <p>9. March 31-April 2, 2008, presented a talk entitled Fractal Structure of Discrete Maps and Construction of Hyperbolic Sets in the Research Scholars’ Seminar organized by the Department of Mathematics, University of Delhi, Delhi – 110007.</p> <p>10. January 9-12, 2008, presented a research paper entitled Hyperbolicity and Chaos in Discrete Systems in the International Conference on Operator Theory and Related Areas organized by Department of Mathematics, University of Delhi, Delhi – 110007.</p>		
Refresher/ Orientation / FDP/ Workshop		
August 2 & 4, 2025	Successfully completed “Two Days Enrichment Workshop for College Teachers” on the new courses of UGCF under NEP-2020 organized by Department of Mathematics, University of Delhi, Delhi-110007.	
July 10-16, 2025	Successfully completed the One Week (Online) Faculty Development Programme on “Cryptography and Information Security” under MM-TTP, UGC organized by MH-MMTTC, Hansraj College, University of Delhi in collaboration with Department of Mathematics, Hansraj College.	
January 16-17, 2025	Successfully completed two days offline workshop on “Business Analytics” organized by Department of Commerce & IQAC, SLCE, DU.	
March 1-14, 2024	Successfully Completed the Online Training Programme on “ <b>NEP 2020 Orientation &amp; Sensitization Programme</b> ” under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC organized by Mahatma Hansraj Malaviya Mission Teacher Training Centre(MH-MMTTC), Hansraj College, University of Delhi.	
July 13-26, 2023	Completed Two-Week “ <b>REFRESHER COURSE IN MATHEMATICS (Theme: Python &amp; Vedic Mathematics)</b> ” organized by Teaching Learning Centre & Dept. of Maths, Ramanujan College in collaboration with Department of Mathematics, Sri Jayachamarajendra College of Engineering(SJCE), JSSS & TU, Mysuru and sponsored by Ministry of Education, PMMMNMTT and obtained grade A+.	
April 24-May 7, 2023	Completed two weeks International Faculty Development Program on “ <b>R-Programming For Data Science</b> ” organized by Mizan-Tepi University, Ethiopia in collaboration with Poornima University,	

	Jaipur, India, Baba Farid College, Bathinda, India, and MathTech Thinking Foundation, India.
March 8-14, 2023	Completed One week Online Faculty Development Programme Jointly organized by International School of Business Management, Suresh Gyan Vihar University, Jaipur & Pinaki Techno, India.
December 16-21, 2022	Participated in five-day National Workshop (Hybrid Mode) on <b>“Manipulation and Realization of Data through R”</b> organized by IQAC, Zakir Husain Delhi College, University of Delhi.
November 9, 2022	Participated in the National Level Workshop on <b>“Cryptography: A Recent Trend in Mathematics”</b> organized by the Department of Mathematics, Ram Lal Anand College, University of Delhi.
September 12-14, 2022	Participated in Three days National Workshop on <b>“Research Methodology and Research Ethics”</b> organized by Society of Commerce and Management Lecture Series, Rajdhani College, University of Delhi.
July 26-August 8, 2022	Completed Two-Week <b>“REFRESHER COURSE IN APPLICABLE MATHEMATICS”</b> organized by Teaching Learning Centre, Ramanujan College in collaboration with Department of Mathematics, Sri Jayachamarajendra College of Engineering(SJCE), JSSS & TU, Mysuru and sponsored by Ministry of Education, PMMMNMTT and obtained grade A+.
January 27-29, 2022	Participated in Three Days Lecture Series on <b>‘NEP 2020: Delhi University Undergraduate Curriculum Framework 2022’</b> organized by ILL, DU in collaboration with MHFDC, Hansraj College, DU.
August 31-September 14, 2021	Completed Two-Week <b>“REFRESHER COURSE IN MATHEMATICS”</b> organized by Teaching Learning Centre, Ramanujan College in collaboration with Department of Mathematics, Ramanujan College, University of Delhi sponsored by Ministry of Education, PMMMNMTT.
August 10-17, 2020	Completed One Week Faculty Development Programme on <b>‘Online Teaching Platforms’</b> organized by Computer Software and Website Committee, Shyam Lal College(Eve.), University of Delhi.
July 02-17, 2020	Completed Two Weeks Faculty Development Programme on <b>‘ADVANCED CONCEPTS FOR DEVELOPING MOOCS’</b> organized by Teaching Learning Centre, Ramanujan College, University of Delhi sponsored by MHRD, PMMMNMTT.



June 08-14, 2020	Completed One Week Faculty Development Programme on ' <b>Open Source Tools for Research</b> ' organized by Teaching Learning Centre, Ramanujan College, University of Delhi sponsored by MHRD, PMMMNMTT.
May 18- June 03, 2020	Completed Two Weeks Faculty Development Programme on ' <b>MANAGING ONLINE CLASSES and CO-CREATING MOOCS:2.0</b> ' organized by Teaching Learning Centre, Ramanujan College, University of Delhi sponsored by MHRD, PMMMNMTT.
December 17-23, 2019	Completed one week Faculty Development Programme No. 20 on " <b>Recent Trends in Research Methodology, E- Content, Mathematical and Statistical Methods in Open Education World</b> " being organized by Mahatma Hansraj Faculty Development Centre (MHRFDC) under PMMMNMTT, Hansraj College in collaboration with Kalindi College, University of Delhi.
October 14, 2019	Participated in a Workshop on " <b>Search, Research, Effective Research Writings and Academic Integrity</b> " jointly organized by Skill Development Committee, Shyam Lal College (E), University of Delhi in collaboration with Indira Gandhi National Centre for the Arts(IGNCA), New Delhi, Ministry of Culture, Government of India.
September 17-23, 2019	Completed one week Faculty Development Programme No. 14 on " <b>Revisiting Gandhi Today: Questions of Caste, Class, Gender, Religion and Environment</b> " being organized by Mahatma Hansraj Faculty Development Centre (MHRFDC) under PMMMNMTT, Hansraj College in collaboration with Zakir Husain Delhi College, University of Delhi, Delhi-110002.
June 20-26, 2019	Completed one week Faculty Development Programme No. 10 on " <b>Understanding the Connection of Mathematics with the world around us: An Application Based Learning</b> " being organized by Mahatma Hansraj Faculty Development Centre (MHRFDC) under PMMMNMTT and Department of Mathematics, Hansraj College, University of Delhi, Delhi-110007.
March 30-31, 2017	Participated in National Workshop ' <b>Mathematical Modelling and Computational Techniques using Mathematica (MMCTUM) - 2017</b> ' organized by department of Mathematics, Zakir Husain Delhi College, University of Delhi.
April 7-13, 2016	Participated as Member in one week workshop on ' <b>Skill Development for Career Enhancement</b> ' organized by Shyam Lal College(E), university of Delhi.

November 24- December 13, 2014	Participated and presented a paper entitled <b>Chaos: A Contribution to Sciences</b> in the UGC sponsored <b>Refresher Course in Mathematical Sciences</b> organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi, Delhi – 110007.
March 20, 2014	Participated in the Workshop in “ <b>M<sup>3</sup> -Mathematical Modeling with Mathematica</b> ” organized by University School of Basic and Applied Sciences, Non-Linear Dynamics Research Lab, Guru Gobind Singh Indraprastha University in association with SCUBE Scientific Software Solutions, Wolfram Research Inc., USA at GGSIPU, Dwarka, New Delhi.
June 12-14 2013	Participated in the two day <b>Workshop on Foundation Course “Building Mathematical Ability”</b> introduced in Four year Undergraduate Programme (FYUP) organized by <b>CPDHE</b> , University of Delhi.
February 9-11, 2012	Participated in the <b>National Workshop and Training Program</b> on ‘ <b>Differential Equations and Mathematical Modeling</b> ’ organized by the Department of Mathematics, held at Lady Shri Ram College for Women, University of Delhi, Delhi.
November 18- December 15, 2010	Participated and presented a paper entitled <b>Applications of Graph Theory</b> in the UGC sponsored <b>Orientation Programme</b> organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi, Delhi – 110007.
April 12-May 14, 2010	Attended through all India selection, the <b>Department of Science and Technology (DST)</b> , Government of India sponsored <b>8<sup>th</sup> SERC School 2010</b> at CMS Pala Campus on <b>Matrix Variable Calculus and Statistical Distribution Theory and Applications in Data Analysis, Model Building and Astrophysics Problems (Stochastic Models)</b> , organized by DST Centre for Mathematical Sciences, Pala, Arunapuram P.O., Kerala – 686574.
January 11-23, 2010	Participated in the <b>ICT Workshop, Tier II, for Capacity Building of Delhi University Faculty</b> , Organized by Institute of Life Long Learning (ILLL), University of Delhi, held at Shyam Lal College (Evening), University of Delhi, Delhi – 110032.
December 22-24, 2009	Participated in the National Workshop on <b>Aspects of Dynamical Systems</b> organized by Department of Mathematics, Indian Institute of Technology, Delhi – 110016.



October 5-26, 2009	Participated and presented a paper entitled <b>Fractals and Fractal Dimension</b> in the UGC sponsored <b>Refresher Course in Mathematical Sciences</b> organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi, Delhi – 110007.	
<b>Awards and Distinctions</b>		
<ul style="list-style-type: none"> <li>• First prize for securing the highest marks in all the exams of SERC School 2010 sponsored by DST, Gov. of India, held at Centre for Mathematical Sciences (CMS), South Pala Campus, Pala, Kerala during April 12, 2010 to May 14, 2010.</li> <li>• Third prize in the LaTeX Software Training Programme held on weekends of SERC School 2010 sponsored by DST, Gov. of India, held at Centre for Mathematical Sciences (CMS), South Pala Campus, Pala, Kerala during April 12, 2010 to May 14, 2010.</li> <li>• Gold Medal for scoring the first position in M.Sc. (Mathematics) from G.J.U. Hisar (2003-05).</li> <li>• First prize for being the College topper in B.A. session 2000-2003.</li> </ul>		
<b>Association With Professional Bodies</b>		
<ul style="list-style-type: none"> <li>• <b>Life-Time Membership of MathTech Thinking Foundation (MTTF)</b></li> </ul>		

  
 Signature of Faculty Member