

Curriculum Vitae

NAME : Dr. Vandana Bansal
Head of Mathematics Department and Associate Professor,
Ramgarhia College, Phagwara .
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FATHER'S NAME : Sh. V.P. Bansal
M.Sc (Hons), M.Ed., Ex-Asstt. Comdt. (BSF)
Principal (Retd.)

MOTHER'S NAME : Mrs. Nirmal Bansal
M.Sc (Maths) Gold Medalist
Principal (Retd.)

CARRER OBJECTIVE

To serve Humanity, Brotherhood and Motherland and to Motivate Students to excel in every strata of life through novel methods.

EDUCATIONAL QUALIFICATION :-

CLASS	SESSION	MARKS	%age	Univ/Board Position
Matriculation	1986-87	690/800	86.3%	Placed on Merit
S.S.C. Part-I	1987-88	389/450	86%	1st in P.S.E.B.
S.S.C. Part-II	1988-89	378/450	84%	1st in P.S.E.B.
B.A. Part-I	1989-90	671/800	84%	1st in G.N.D.U.
B.A. Part-II	1990-91	1277/1600	80%	2nd in G.N.D.U.
B.A. Part-III	1991-92	1857/2400	77%	3rd in G.N.D.U.
M.Sc. (Maths)	1992-94	592/800	74%	3rd in G.N.D.U.

Ph.D (Mathematics) awarded

Joint CSIR - UGC Test for Lecturership (NET) Cleared

Screening Test and Interview for College Lecturership conducted by PPSC Cleared

PCS (Preliminary & Mains) Exam cleared & appeared in the interview.

OUTSTANDING PERFORMANCES :-

- * Joint CSIR - UGC Test Cleared
- * Selected as Government Lecturer through Punjab Public Service Commission.
- * Qualified PCS (Preliminary & Mains) Examination.
- * Merit National Scholarship holder Matric onwards.
- * Bagged 1st position in Punjab School Education Board in SSC Part I & II.
- * Gold Medalist of Guru Nanak Dev University, Amritsar.
- * Distinction in Mathematics & Punjabi in Matric & was awarded for the same.
- * Awarded following medals by S. D. College for Women, Jalandhar.
 - 1) Gold Medal for standing 1st in P.S.E.B. in S.S.C. Part-I .
 - 2) Gold Medal for standing 1st in P.S.E.B. in S.S.C.-II.
 - 3) Gold Medal for standing 1st in G.N.D.U. in B.A.-I.
 - 4) Medal for standing 2nd in G.N.D.U. in B.A.-II.
 - 5) Medal for standing 3rd in G.N.D.U. in B.A.-III.
- * Awarded shield for standing 1st in M.Sc.(Mathematics) in the Terminal Examination of D.A.V. College .
- * Received Award of Honour on Silver Jubilee Function of S.D. College for Women, Jalandhar.
- * Award of Excellency given by Technical Teachers Training Institute, Chandigarh.
- * Awarded Best teacher by PCTE Group of Institutes in Sep 2010.
- * Awarded Srinivas Ramanujan Award for Mathematics Popularization by VIPNET-VIGYAN PRASAR BHARTI NETWORK (DST, GOI) on Dec 22 2018.

CO-CURRICULAR ACTIVITIES :

- * Member of Board of Studies Of Guru Nanak Dev University, Amritsar.
- * Member of Faculty of Science Of Guru Nanak Dev University, Amritsar.
- * Member of Ramanujan Mathematical Society, Chennai.
- * Member of Board of Studies Of SBBS University.
- * Member of Selection Committee for Mathematics of SBBS University.

- * Assistant Secretary of Human Rights Watch Organisation.
- * Nodal officer Of AISHE by Ministry of Human Resource Development of Higher Education.
- * Bursar of Ramgarhia College.
- * UGC Coordinator of College Activities.
- * NAAC Coordinator.
- * Finance Secretary of College.
- * Time - Table Incharge of the College.
- * Incharge Internal Quality Assurance Cell (IQAC)
- * Incharge National Academic Depository (NAD) Cell of GNDU, Amritsar.
- * Dean, Alumni Association.
- * Career Counseling Cell–Incharge.
- * Member Grievance Cell under UGC (Redress of Grievances of Students) Scheme
- * Active member of Admission Committee, Campus Beautification Committee, Students Welfare Committee & Discipline Committee of the College.
- * Performed Duty as Assistant Presiding Officer in Parliamentary and Assembly Elections held on 30April, 2014 , 2018, 2019, 2022.
- * Performed Duty as Presiding Officer in Parliamentary Elections
- * Examination duty as Superintendent assigned by Guru Nanak Dev University, Amritsar.
- * Evaluation of University Examination Answer sheets as Examiner and Head Examiner.
- * Delivered Extension Lecture in various Colleges.
- * Paper-setter and Head Examiner in University Examinations.
- * Paper setter and Evaluator in KMV (Autonomous) College Examinations in various Semesters.
- * External Examiner in I K G P T University Examination.
- * Conducted Interview as Expert in Other Colleges and Universities.
- * Incharge of the Student team for Intercollege Mathematics Competition held at KMV College, Jal on 31st Oct 2012.
- * Educational visit of Students to Science City.

- * Incharge of the Student team for Intercollege Mathematics Competition held at APJ College, Jal.
- * Incharge of the Student team for Intercollege Mathematics Competition held at Lyallpur Khalsa College, Jalandhar on 15 March 2019.
- * Incharge of the Student team for Inter-College Mathematics Competition held at Hindu College, Kapurthala.
- * Incharge of the Student team for Inter-College Mathematics Competition held at Lyallpur Khalsa College, Jalandhar on 17 March 2022.
- * Captain of Nehru Sadan of Shiv Devi School, Jalandhar.
- * Secretary of SD College Kalidas Sanskrit Parishad for the session 1990-91 and conducted the stage in the function of Kalidas Sanskrit Parishad.
- * Active members of SD College Central Association for Consecutive five Years (i.e. from 1987-1992).
- * N.S.S. Volunteer.
- * Student Editor of Sanskrit Section of SD College Magazine "The Govind".
- * Participated in Sanskrit Drama Organised by Bhasha Vibhag, Punjab at Nabha. Drama was declared 1st in State level Drama Competition.
- * Staff Editor of News Section of Ramgarhia. College Magazine "The Jyoti".
- * Stage Secretary of the function of Devi-Dyal Mathematical Society, D.A.V. College, Jalandhar.
- * Secretary of Alumni Association of S.D. College for Women, Jalandhar.
- * Appeared as an Expert in All India Radio and Doordarshan programs on Maths/General Topics.
- * Published various Articles in leading Newspapers like "The Tribune", "Dainik Jagran", "AJIT" & "Dainik Bhaskar".
- * Authored and Co-Authored various Books in Mathematics.
- * Published Articles in Leading Magazines like "Naritav" and "National Open Learning" Magazine published by National Institute of Open Schooling (NIOS).
- * Presented papers in numerous National Conferences, International conferences and Seminars.

- * Published various papers in International journals of Mathematical Sciences and Journal of Advance Studies.
- * Motivates Students to excel in every strata of life through novel methods of teachings.

TEACHING EXPERIENCE :-

- * Worked as a Lecturer in Mathematics in Kamla Nehru College for Women, Phagwara for session 1994-95.
- * Worked as a Lecturer in Mathematics in B.D. Arya Girls College, Jalandhar Cantt. for the session 1995-96.
- * Worked as a Lecturer in Mathematics in Govt. Polytechnic College for Women, Amritsar from May 96 to July 2000.
- * Worked as a Lecturer in Mathematics in S.D. College for Women, Sultanpur Lodhi from Aug 2000 to Oct' 2000.
- * At Present, Working as Lecturer in Mathematics in Ramgarhia College, Phagwara since Oct 2000 till date.

PUBLICATIONS/ BOOKS PUBLISHED :-

Published following Mathematics Books :-

- ❖ Calculus II
- ❖ Coordinate & Solid Geometry
- ❖ Algebra
- ❖ Calculus (2016)
- ❖ Analytical Geometry
- ❖ Calculus (2017)
- ❖ Ankon ka adbhut khel
- ❖ Calculus (2018)
- ❖ A text book of Analysis (2019)
- ❖ Vector Analysis and Geometry
- ❖ A text book of Analysis (2020)

- ❖ Commerce Mathematics for +1 (Commerce)
- ❖ Fundamental Mathematics for +1 (Non– Medical & Arts)

REVIEWER OF PAPERS IN JOURNALS

Reviewed various manuscripts in the following journals

- * Asian journal of Probability and Statistics
- * Journal of Advances in Mathematics and Computer Science
- * Current Journal of Applied Science and Technology
- * Asian Journal of Advances in Research
- * Asian Research Journal of Mathematics

REVIEWER OF BOOK CHAPTER IN BOOK

Reviewed Book chapter in the **Book titled ‘Research Developments in Science and Technology’** by BP International at London (U.K.).

EDITOR IN JOURNAL

Member Editorial Board of GreenField Advanced Research Publishing House, UK.

PAPERS PUBLISHED IN INTERNATIONAL JOURNALS

- * Regular Intuitionistic Fuzzy Graph Structure, International Journal for Research in Applied Science & Engineering Technology, Volume 6, Issue IV, April 2018, pp. 3722 - 3729.
- * On Intuitionistic fuzzy Graph Structures, IOSR Journal of Mathematics, (IOSR-JM), Vol. 12, Issue 5 Ver. I (Sep. - Oct.2016), pp.28-33.
- * ϕ -complement of Intuitionistic fuzzy Graph Structures, International Mathematical Forum, HIKARI Ltd, Bulgaria, Vol. 12, 2017, no. 5, pp.241 – 250.

- * Some elementary operations on Intuitionistic Fuzzy Graph Structures, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 5, Issue VIII, August 2017, pp.240-255.
- * Self-Centeredness in Intuitionistic Fuzzy Graph Structure, International Journal of Engineering, Science and Mathematics ,Vol. 6 Issue 5, September 2017, ISSN: 2320-0294 Impact Factor: 6.765, pp.124-134.
- * Bridges and cut-vertices of Intuitionistic Fuzzy Graph Structure, International Journal of Engineering, Science and Mathematics ,Vol. 6 Issue 8, December 2017, ISSN: 2320-0294 Impact Factor: 6.765, pp.349-358.
- * Level cut of Fuzzy Graphs, IMTC on Sciences, Engineering & Technical Innovations, Vol. 2, 2014, pp.453-459.
- * Spectrum of Intuitionistic Fuzzy Graph Structure, International Journal of Engineering, Science and Mathematics, Vol. 7 Issue 1, January 2018, ISSN: 2320-0294 Impact Factor: 6.765, pp. 608-614.
- * Energy in Intuitionistic Fuzzy Graph Structure, International Journal of Engineering, Science and Mathematics ,Vol. 7 Issue 2, February 2018, ISSN: 2320-0294 Impact Factor: 6.765, pp.502-515.
- * Effect of Regularization on Fuzzy Graph, International Journal of Applied Science-Research and Review (IJAS), Feb 2016, pp. 17-20.
- * Max- Min Matrix of Intuitionistic Fuzzy Graph Structure, International Journal of Engineering, Science and Mathematics ,Vol. 7 Issue 3, March 2018, ISSN: 2320-0294 Impact Factor: 6.765, pp.616-623.
- * On Intuitionistic Anti-Fuzzy Ideals in Rings, International Journal of Mathematical Sciences , Vol 11, No. 3-4, July –Dec 2012
- * Anti-homomorphism of Intuitionistic Magnified Translation in Groups, International Journal of Mathematical Sciences and Applications , Vol2 , No. 1,Jan 2012

PAPERS PUBLISHED IN NATIONAL JOURNALS

- * Intuitionistic Aspect of operations in the Structure of Graphs having Fuzziness, Charankanwal: A Journal of Advance Studies, Vol. 3(2016), 36-40.
- * Some Analogues of S-homeomorphism, Charankanwal: A Journal of Advance Studies, Vol. 1(2014-15) , 47-51
- * Nari tum shradey ho, Gita Sandesh, Jan-Feb2018, 62 Vol 1-2 82-84
- * Swami Dayananda: A true crusader and great reformer, Swami Dayananda darshan: Adunik paripeksh main, 185-187
- * Properties of Graph Structure having Fuzziness, Charankanwal: A Journal of Advance Studies, Vol. 4(2017) 36-40
- * A perspective of the sayings of Guru Nanak Dev Ji, Sachiaar 2, Dec, 2015,, 46-49
- * Characterization of Fuzzy Graph, Charankanwal: A Journal of Advance Studies, Vol. 2(2015) 71-76
- * Vedic Sahitya main Swachta ka Mulay, Sahityavlokan, Vol 6, 2015-16 , 84-86.
- * Metric Aspect of Intuitionistic Fuzzy Graph Structure, Charankanwal: A Journal of Advance Studies, Vol. 5(2018), 34-38
- * Vivah ek Mahatavporn Sanskar, Gita Sandesh, Jan-Feb2020, 64 Vol 1-2, 55-56
- * Nitishatkam Main Manviya mulya, Sanskrit Sahitya Main Manviya mulya, 210-214.
- * Apratim Kavi Ganitagya: Bhaskaracharya, Sahityavlokan, , 2017-18 76-79
- * Teaching and Learning of Mathematics , National conference on Recent Advances and Methods in Mathematics Education, Feb, 2012
- * Ramanujan – A born Genius, Open Learning, An Awareness Magazine for The Nation Institute of open Sciences (NIOS) Learners, Jan- Dec 2008, 34-36
- * Human Rights, Open Learning, An Awareness Magazine for The Nation Institute of open Sciences (NIOS) Learners, Jan 2006, 51-52
- * A Conceptual Study on Corporate Social Responsibility with reference to RIL, BRICS Journal of Educational Research , Vol. 9 , Issue 1 & 2, January-June 2019, 1-4.

INVITED LECTURES / RESOURCE PERSON

- * Importance of Vedic Mathematics in today's Competitive World for Celebrating Statistic Day on Nov7, 2017 at PCM SD College, Jal.
- * Beauty of mathematics on April 14 at SN College, Banga
- * Studying some properties of Regularity Of AFG on 30 March, 15 at MM University, Mullana.
- * Ethics in Education on 29 Jan, 2011 at Ramgarhia College, Phagwara.
- * Guru Nanak Dev Ji Transformation of Philosophical, Political, Social tradition and Guru Nanak Dev Ji on 16 March,2011 at PCMSD College , Jal.
- * Fuzzy Graph Structure on 18-19 Feb, 16 at GGMS College, Jammu.
- * Teaching Methodology Scenario amid Covid -19 on 8 Aug, 2020 organised by Bridges Learning Vidayalya Higher Sr. Sec. School , Puducherry in association with Puducherry UTS teachers Association, Puducherry.
- * Creating Assignment and Documents via MATHTYPE on 17 Sep, 2020 conducted by Central Institute of Educational Technology (CIET) – NCERT, New Delhi.
- * Review of Mathematics Syllabi at Primary, Upper primary, Secondary and Higher Secondary Stage from 23.11.2020 to 27.11.2020 by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi.
- * Review of Mathematics Syllabi at Primary, Upper primary, Secondary and Higher Secondary Stage from 1.2.2021 to 3.2.2021 by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi.
- * Development of Learning outcome based Activities under Roadmap in Mathematics at Higher Secondary Stage from 22.11.2021 to 28.11.2021 by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi.

PAPERS PRESENTED IN INTERNATIONAL CONFERENCES

- * “Intuitionistic Fuzzy Graph Structure: A Novel Concept for Society” at GGNIMT, Ludhiana on 29 Oct 2017.

- * “Degree in Intuitionistic Fuzzy Graph Structure” at Gujranawala Guru Nanak Khalsa College, Ludhiana on 16-17 April, 2018.
- * “Applications of Intuitionistic Fuzzy Sets to Graph Structure” at GGN Khalsa College, Ludhiana on 16-17 April, 2018.
- * “Fuzzy graphs: Modelling the impact on arcs and vertices” in Conference on Modelling, Simulation and Optimization Techniques at DAV College, Jalandhar on 2015.
- * “Level cut of Fuzzy Graphs” in International conference on Sciences, Engineering & Technology at CT institute, Jalandhar On 3- 4 June, 14.
- * “Application of Intuitionistic approach of Fuzzy Sets in the field of Structure of Graph” on 20 June 2020 organised by Shivalik College of Engineering, Dehradun in association with Society of Scientific Research and Education (SSRE).
- * Participated in International webinar on "Empowering Diversity in Science " on 16 Feb, 2022..

PAPERS PRESENTED / ATTENDED IN NATIONAL CONFERENCES AND SEMINARS

- * “Intuitionistic Fuzzification of the Structure of Graph” in National Conference on 23-24 Feb, 2018 held at DAV College, Jalandhar.
- * “Analysis of Intuitionistic aspect of fuzziness in the Structure of Graphs” in National Conference on 11 Mar 2017 held at APJ College, Jalandhar.
- * “Role of eccentricity in Intuitionistic Fuzzy Graph Structure” in National Seminar on 22 March, 2017 at DAV College, Jalandhar.
- * “Implication of Intuitionistic fuzziness over Graph Structure” in National Conference on 11 Mar 2017 at APJ College, Jalandhar.
- * “Eccentricity in Fuzzy Graphs” in National Conference on 5-6 Apr, 2016 held at MSKG College, Talwandi Sabo.
- * “Fuzzy Graph Structure- Some elementary Concepts” in National Conference on Topological Algebra & Analysis on 18-19 Feb, 16 held at GGMS College , Jammu.

- * “Some concepts of Intuitionistic Fuzzy Graph Structure” in National Conference on 5-6 Apr, 2016 held at MSKG College , Talwandi Sabo.
- * “Studying some properties of Regularity of AFG” in National conference on Innovative Trends in Mathematical Sciences on 30 March, 2015 held at MM University, Mullana.
- * “Metric in Intuitionistic fuzziness Graph Structure” in National Conference on 13-14 Dec, 2018 at GGM Science College, Jammu.
- * “Study of t- cut in Fuzzy Graph” in National Conference on 13July, 2020 organized by Sant Baba Bhag Singh University.
- * Attended National level seminar in Mathematics on “THEORY OF PRIME NUMBER” held at Doaba college, Jalandhar on 21-11-2002 by Dr.T.D.Narang Department of Maths.
- * Attended State level seminar “TOWARD EXCELLENCE IN EDUCATION” organized by Mohan Lal Uppal D.A.V. College, Phagwara on 04-02-2005.
- * Attended National level seminar on “ Women Empowerment & Women Awareness” organized by Lyallpur Khalsa College, Jalandhar on 30/03/05.
- * Attended National Level Seminar on “Rain Water Harvesting : Need of the hour” held at Kanya Maha Vidyalaya, Jalandhar on 01-09-2006.
- * Attended Seminar on “Technological Issues in Computing & Communication held at Dr. B.R. Ambedkar National Institute of Technology (NIT), Jalandhar on 05-10-2007.
- * Attended National Conference on “Environmental Degradation – Challenges & Remedies” organized by Maharishi Markandeshwar University, Mullana on March 13-14, 2008.
- * Participated in the webinar on "Colonial Instinct and Quit India Struggle” Organized by Swami Premanand Mahavidyalaya, Mukerian on August 08, 2020.
- * Participated in the webinar on "Holistic Development of Human Brain through Vedic Mathematics” on June 16, 2020.
- * Participated in the webinar on "Essentials of Research Writing & Using Mendeley Reference Manager” at Jawaharlal Nehru University, on Friday 20 November, 2020.

- * Participated in National Research Seminar on Science and Technology for Innovation and Sustainable India held on 24 January 2021.
- * Participated in Conference on "Digitally Skilled Teacher as a Transformational Leader" on 25-26 June, 2020.
- * Participated in National Conference on Challenges in the field of Education in the Present Context" held on June 28, 2020 at Gandhi Institute of Professional & Technical Studies, Meerut (U.P.), India in collaboration with the Society of Scientific Research and Education.
- * Participated in National Webinar on "Gadar Lehar: Historical Perspective" organised by Gujranwala Guru Nanak Khalsa College, Civil Lines, Ludhiana on 30 October 2021.
- * Participated in National Conference on May 30, 2020.
- * Participated in the Webinar on "Water Sampling Using Unmanned Autonomous Guided Vehicle" on May 31, 2020" organized by Department of Electronics and Communication Engineering, University School of Information and Communication Technology, Gautam Buddha University, Greater Noida.
- * Participated in National Webinar on "Dancing Girl From Mohenjodaro" organised by PCM SD College, Jalandhar on 19 Jan, 2022.
- * Participated in National Webinar on "Swami Viveananda" organised by PCM SD College, Jalandhar on 21 Jan, 2022.

WORKSHOP AND FACULTY DEVELOPMENT PROGRAM ATTENDED

- * Participation in National Workshop on "Rings & Modules" ,15-21April, 2014, National Centre for Mathematics (Joint centre of TIFR & IIT Bombay)
- * Participation in Faculty Development Program cum Workshop on "Numerical & Computational Techniques", 19-25 May, 2014, DAVIET, Jalandhar.
- * Participation in Faculty Development Program cum Workshop on "Contemporary practices in research methodology", 23-27 June, 2015 STIET, Jalandhar.

- * Participation in One Day Workshop on “Copy Right, Plagiarism and Research Productivity” on August 30, 2016 at I.K. Gujral Punjab Technical University, Jalandhar.
- * Participation in Faculty Development Program cum Workshop on “Research Method for Data Analysis for Engineers and Researchers” on 22-28 April 2017 organized by PITTTR, Jalandhar held at IKGPTU, Jalandhar.
- * Participation in One week STC on “Outcome Based Education” through ICT held at RIET, Phagwara from 5-9 March, 2018.
- * Participation in One Day Workshop on “Awareness on NAAC” on 12 Oct, 2018, Guru Nanak Dev University, Amritsar.
- * Participation in One Week Workshop on “Herbal Remedies” Oct24- 30, 2017, Ramgarhia College, Phagwara.
- * Participation in “National Teacher Training” Aug 9-10, 2020, Ramgarhia College, Phagwara.
- * Participation in One Week Faculty Development Program on “National Education Policy” Sep11-16, 2020.
- * Participated in the Three-Day Workshop on NBA Accreditation Process held from 29/08/2020 to 31/08/2020 at B K Birla Institute of Engineering & Technology, Pilani.
- * Participated in National One Week Faculty Development Program on ICT tools for Effective Teaching and Learning from May 23-28, 2022 held by Kamla Nehru Mahavidyalya, Nagpur.