*Curriculum Vitae*

**Dr. Chetna**

Assistant Professor

PG Department of Mathematics

M.M. Modi College, Patiala 147001, Punjab.

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## Education

**Doctor of Philosophy (Ph.D.)**
2017, Punjabi University, Patiala.

**Master of Philosophy (Mathematics)**
Chaudhary Devi Lal University, Sirsa (2006-07)

**Master of Science (Mathematics)**
Himachal Pardesh University, Shimla (2000-02)

**Bachelor of Arts (Mathematics)**
(With Economics and Pub.Ad.)
Punjab University, Chandigarh (1998-00)

## Work Experience

Total work experience till date is more than Sixteen years. The major details are as under:
•    Presently working as Assistant Professor in the Department of Mathematics, M.M. Modi College, Patiala since August, 2008.
•    Worked as Lecturer in the Department of Applied Sciences, Govt. Polytechnic for Women, Chandigarh from August, 2004 to June 2008.
•    Worked as Lecturer in Regional Institute of Management & Technology, Mandi Gobindgarh, Punjab from 15$^{th}$ September, 2003 to 22$^{nd}$ July, 2004.

- Taught as visiting faculty in Thapar Polytechnic, Patiala and Yadvindra Public School, Patiala in the year 2003.

**Teaching Interest:** Some of the frequently taught papers are: Discrete Mathematics, Topology, Geometry, Differential Equations, and Number Theory.

**Research Interest:** Quadratic Forms, Number theory, Mathematical Finance, Cryptography.

## Publications:

*Papers:*

1. Dr. Dhiraj Sharma and Dr. Chetna "An Evaluation of Shannon and Weaver's Mathematical Theory and its Applications in Human Communication" RIMT Journal of Strategic Management and Information Technology, (2005) 2(3,4): 23-35.

2. Dr. Chetna and Dr. Hardeep singh "Representations by Quadratic Forms: A Review of Significant Developments" International Journal of Education and applied research (IJEAR), (2015) 5(2):14-16.
http://ijear.org/vol5/aetm2015/2-Ms-Chetna.pdf

3. Dr. Chetna, Dr Gurmeet Singh and Dr. Hardeep Singh "Linkage between the integral representation of the elements by quadratic forms and their solutions" Mathematical Sciences International Research Journal, (2015) 4(1): 11-13.

4. Dr. Chetna and Dr. Hardeep Singh "Representation of Numbers Divisible by Sufficiently Large Squares" Engineering Sciences International Research Journal, (2015) 3(2):73-75.

5. Dr. Chetna "Representation by Quadratic Forms over Field of the P-adic Numbers" International Journal of Computer Science and Technology, (2016) 7(1): 36-39.
http://www.ijcst.com/vol71acsect/3-ms-chetna.pdf

6. Dr. Chetna "Representation of Quadratic Forms: A Tool for Coding and Cryptography". International Journal of Electronics and Communication Technology, (2017) 8(2): 96-98.http://www.iject.org/vol8/issue2/21-ms-chetna.pdf

7. Dr. Chetna "Representation by The Form with Odd Prime Invariants" International Journal of Creative Research Thought, 2018 6(2):2098-2100.
http://www.ijcrt.org/papers/IJCRT1892322.pdf

8. Dr.Chetna "Representation By The Form $f(x_1,x_2,x_3)$ With Mutually Simple Odd Invariants [d,k]"International Journal of Research and Analytical Reviews,(2018) 5(2):330-333. http://ijrar.com/upload_issue/ijrar_issue_796.pdf

9. Dr. Chetna "Cryptography for Online Security: Applications of Number Theory" PIMT Journal of Research, (2018) 10(2):61-63.

10. Dr. Chetna "Representation of Integers By Form $f(x_1,x_2,x_3)$ Over The Field $\Delta_{(f,m)}$" Mathematical Journal for Interdisciplinary Sciences, (2018) 6(2):119-121. https://mjis.chitkara.edu.in/index.php/mjis/article/view/18

11. Dr. Chetna "Evaluation of Options using The Cox-Ross-Rubinshtein Mathematical Model" Research & Reviews: Discrete Mathematical Structures, (2018) 5(3):56-58.

12. Dr. Chetna, Ms. Rajvinder Kaur, Ms. Chetna Rani Gupta (2023) "ICT in mathematics education: A Case study of undergraduate Students at Patiala City, Punjab" Scandinavian Journal of Information Systems. Scopus indexed, SJIS-P, 35(1), 1413–1419. https://www.scopus.com/sourceid/21100199731

13. Anwar, A., Patil, A.A., Choudari, S., Chetna, & Kiran, C.S. (2024), "Machine Learning Insights for Stock Market Trend Identification". International Journal of Intelligent Systems and Applications in Engineering, 12(10s), 567–575. Retrieved from https://ijisae.org/index.php/IJISAE/article/view/4409

*Book:*

Applied Mathematics II, India Publishing House, Jalandhar, 2004.

*Editor:*

Managing Editor for the Special Issue of Journal of Communication Engineering & systems, Volume 8, Issue 2, August 2018.


**Achievements, Awards and Recognitions:**

- Received Young Scientist Award from Cosmic Group of Journals on 7th June, 2018 at International Conference on Advancements in Engineering, Technology and Management, 2018, Bangkok, Thailand.

- Received Outstanding Paper Award for Paper entitled 'A Comparative study of select Indian Stocks before and during COVID 19 Using A Quadratic Approach' at 4th International Hybrid Conference on "Technology & Transformation: Pathway Towards A New Management Horizon" on 8th April, 2021, organized by Chandigarh Group of Colleges, Jhanjeri, Mohali.

- Received Outstanding Paper Award for the paper 'A Study of Optimal Portfolio selection using Quadratic Programming Modelling: Evidence from Indian Pharmaceutical Industry During COVID-19 times' at 3rd International Conference on "The Ecology of New Economy Post COVID-19" on 23rd & 24th April, 2021, organized by Chandigarh Group of Colleges, Jhanjeri, Mohali.

## Resource Person / Invited Talks:

- Invited talk on 'Mathematics in Business Life' on 28th April 2012 at RIMT, Mandi Gobindgarh, Punjab.

- Invited talk on 'Business mathematics' on 28th September 2013 at RIMT, Mandi Gobindgarh, Punjab.

- Invited talk on 'Number Theory' on 3rd April, 2014 at RIMT, Mandi Gobindgarh, Punjab.

## FDPs/STPs/Refresher/Induction Programs:

1. Attended UGC-Sponsored Faculty Development Programme on 'NEP 2020 Orientation & sensitization Programme' at Punjabi University Patiala under the Malaviya Mission Teacher Training Centre. (January 16 - 25, 2024)

2. Attended UGC-Sponsored Refresher Course on 'Mathematics & Statistics Sciences' at Punjabi University Patiala under the Malaviya Mission Teacher Training Centre (HRDC). (December 4 - 16, 2023)

3. Attended 5 Days FDP on 'FinTech & Financial Blockchain- Evolving Technology in FinTech Space' organised by Chandigarh Group of Colleges, Jhanjeri, Mohali in collaboration with FinTech & Block Chain Association, Cambridge, USA. (June 20-24, 2022).

4. Attended UGC-Sponsored Faculty Induction Programme/Orientation Programme at Punjabi University Patiala under the aegis of (HRDC). (February 14 - March 03, 2022)

5. Attended 7 Days Virtual National Level capacity Building Programme on "Integration of Pedagogy & Technology in Teaching-Learning" organised by M.M. Modi College, Patiala, Punjab in collaboration with CTEF. (July 13-19, 2021).

6. Attended AICTE Recognized One Week Short Term Course On "Cyber security" at NITTR, Chandigarh. (27/05/2019 to 31/05/2019).

7. Attended UGC sponsored 7 days FDP on Academic Writing from Critical Appreciation to Publication organized by IQAC, M. M. Modi College, Patiala. (Jan 09-16, 2017).

8. Attended 4-Week Induction/Orientation Programme at Ramanujan College University of Delhi under the aegis of MHRD. (June 26 - July 24, 2020)

9. Attended 7 Days FDP on "Research Methodology For Social Sciences" organised by M.M.Modi College, Patiala, Punjab in collaboration with CTEF( Pb.& Chd. Chapter). (June 20-26, 2020).

10. Attended UGC sponsored 15 days Faculty Development Programme organized by M. M. Modi College, Patiala.(1st July to 15th July 2014).

11. Attended Advanced Instructional School on Quadratic Forms held at IISER, Mohali. (2nd June, 2014 to 20th June, 2014).

12. Attended Short Term Training Programme on 'Demonstrative Entrepreneurship Awareness' Conducted by Entrepreneurship Development & Industrial Coordinator, at Govt. Polytechnic for Women, Sector-10 Chandigarh. (26/10/2004 to 26/10/2004)

13. Attended Short Term Training Programme on 'Setting Question Papers' conducted by Govt. Polytechnic for Women, Sector-10 Chandigarh. (02/09/2004 to 06/09/2004)

## Conferences Attended and Papers Presented:

1. Paper Presented titled "A Comparative study of select Indian Stocks before and during COVID 19 Using A Quadratic Approach" at 4th International Hybrid Conference on "Technology & Transformation: Pathway towards a New Management Horizon" on 8th April, 2021, organized by Chandigarh Group of Colleges, Jhanjeri, Mohali.

2. Paper Presented titled "A Study of Optimal Portfolio selection using Quadratic Programming Modelling: Evidence from Indian Pharmaceutical Industry During COVID-19 times" at 3rd International Virtual Conference on "The Ecology of New Economy Post COVID-19" on 23rd & 24th April, 2021, organized by Chandigarh Group of Colleges, Jhanjeri, Mohali.

3. Paper Presented entitled, 'Mathematical Models for Finance', at IKG PTU Sponsored National Seminar on 29th March, 2017, at Chandigarh Group of Colleges, Jhanjeri, Mohali.

4. Paper Presented entitled, 'Applications of Number theory in Information Security' at International Conference on 1-2nd December, 2016 at NITTTR Chandigarh.

5. Paper Presented entitled, 'Representation by Quadratic Forms over Field of P-adic Numbers' on 22nd January, 2016 on Advances in Computer Science, Electronics and Communication Technologies at Thailand.

6. Paper Presented entitled, 'Representation of Numbers Divisible by A Sufficiently Large Squares' held on 9-10th October, 2015 at Vijayawada, Andhra Pradesh.

7. Paper Presented entitled, 'Representations by Quadratic Forms: A Review of Significant Developments' at International Conference on Advancements in Engineering, Technology and Management on 23rd July 2015 at Thailand.

8. Paper Presented entitled, 'Linkage between the Integral Representation of the Elements by Quadratic Forms and their Solutions' at International conference on Advances in Mathematical Science on 19-21st March, 2015 held at GSSDSG Khalsa College, Patiala.

9. Paper Presented entitled, 'Integral Representation of n-ary Quadratic Forms: A Review' at 18th Punjab Science Congress on 9th February, 2015 held at Desh Bhagat University, Mandi Gobindgarh, Punjab.

10. Paper Presented entitled, 'Security Issues in E-banking in 2nd National Conference' held at Chandigarh University, Punjab on 7th February 2015.

11. Paper Presented entitled, 'Integral Representation by Ternary Quadratic Forms at the International Conference' at Advances in Computer Science, Electronics and Communication Technologies on 17th January, 2015 at Thailand.

12. Paper Presented entitled, 'Applications of Quadratic Forms in Secured Communication' at the International Conference on 1st November, 2014 at ICSSR North Western Regional Centre, Panjab University, Chandigarh.

13. Paper Presented entitled, 'Mathematics for Option Pricing' at one day National Seminar on 10th April, 2014 organized by the Institute of Cost Accountants of India at Thapar University, Patiala.

14. Paper Presented entitled, 'Mathematical Theory of Communication: An Assessment' at AICTE Sponsored National Seminar on 'Service Sector Management' held on 09th-11th March, 2006, Regional Institute of Management & Technology, Mandi Gobindgarh.

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