

RESUME



1. **Name** : Dr. P.L. Sharma
2. **Father's Name** : Shri R. D. Sharma
3. **Permanent Address** : House No. 51, Roura Sector -2,
Bilaspur (HP) Pin-174001
4. **E-mail Address** : plsharma1964@gmail.com , pl.sharma@hpuniv.ac.in
5. **Own Website Address** : www.plsharma.in
6. **Place of Birth** : Bilaspur (Himachal Pradesh), India
7. **Date of Birth** : 09-10-1964 (Ninth October One Thousand Nine Hundred
and Sixty Four)
8. **Present Designation** : Professor
9. **Department** : Mathematics and Statistics
10. **Institution** : Himachal Pradesh University, Shimla-5
11. **Contact No** : 94180-03066 (M), 0177-2833769(O)
12. **Areas of Interest** : Finite Fields , Cryptography, Rhotrices, Bent Functions.
13. **Qualification** : M. Phil., Ph. D. [Mathematics], MCA.

REMARKS: All the blocks of higher education i.e. Graduation, Post Graduation, M. Phil and Ph.D. in Mathematics are passed concurrently with my Govt. regular job responsibilities and after getting the degree of Ph.D. I also did CIC and 3 years Master Degree of “**Master in Computer Application**” (MCA) from IGNOU along with same conditions of my Govt. regular job responsibilities.

Qualified Departmental Examination in Financial Administrations conducted by Himachal Pradesh Institute of Public Administration, Fairlawn, Shimla.

DETAILS OF ACADEMIC ACTIVITIES DURING THE TENURE OF UNIVERSITY

(February 2010 to September, 2016)

[1] LECTURES DELIVERED:

Sr. No.	Date	No. of Lectures	Topic	Institution
1.	30-11-2010	2	Basics of Mathematics	SCERT, Solan, H.P.
2.	22-12-2010	2	Applications of Mathematics in other sciences	SCERT, Solan, H.P.
3.	3-01-2011	2	Groups & Rings	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat] Haryana.
4.	4-01-2011	2	Modules & Vector Spaces	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat] Haryana.
5.	5-01-2011	2	Semirings & Smarandache Semirings	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat] Haryana.
6.	6-01-2011	2	(i) How a teacher should be? And (ii) How teaching can be effective?	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat] Haryana.
7.	28-04-2011	1	Qualities of an ideal teacher	Academic Staff College, H.P. University, Shimla.
8.	3-05-2011	2	Fundamentals of Mathematics	SCERT, Solan, H.P.
9.	23-06-2011	2	(i) Challenges and Prospects of Higher Education And (ii) How a teacher should be?	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat] Haryana.
10.	24-06-2011	2	(i) Impact of ICT on Society And (ii) How to create your own website?	ASC-BPS Mahila Vishwavidyalaya, Khanpur, [Sonipat].
	25-06-2011		(i) Challenges and Prospects of Higher Education And	ASC-BPS Mahila Vishwavidyalaya,

11.		2	(ii)How a teacher should be?	Khanpur, [Sonipat] Haryana.
12.	29-06-2011	2	(i)Co-scholastic activities and their importance in Mathematics and (ii)Innovations and Creativity in Teaching of Mathematics	JNV Theog, Distt. Shimla for TGT(Maths.) of Chandigarh Region.
13.	1-07-2011	2	(i)Mathematics in day to day life and (ii)General Mathematical Techniques	JNV Theog, Distt. Shimla for TGT(Maths.) of Chandigarh Region.
14.	19-07-2011	1	Use of Lagrange Method for optimizations	Academic Staff College, H.P. University, Shimla.
15.	23-07-2011	1	Use of Kuhn-Tucker Method for optimizations	Academic Staff College, H.P. University, Shimla.
16.	30-05-2012	2	(i) How the teaching of a teacher can be effective (ii) Human Software and Computer Software	ASC-BPS Mahila Vishwavidyalaya, Khanpur, _ [Sonipat] Haryana.
17.	30-05-2012	1	Power of Human Mind	ASC-BPS Mahila Vishwavidyalaya, Khanpur, _ [Sonipat] Haryana.
18.	22-06-2012	2	(i) Symmetric Key Cryptography (ii) Public Key Cryptography	Rayat Bahara Institute of Engineering and Technology, Hoshiarpur (Punjab).
19.	20-07-2012 and 30-07-2012	2	(i) Quadratic Sieve (ii)Cryptography – RSA	Academic Staff College, H.P. University, Shimla.
20.	28-06-2013 and 3-07-2013	2	(i) Basics of Cryptography (ii)Discrete Logarithmic Problem	Academic Staff College, H.P. University, Shimla.
21.	12-05-14	1	“How a Teacher should be?”	ASC BPS Vishwavidyalaya, Sonapat
22.	13-05-14	1	Power of Mind and Teacher	ASC Kurukshetra University, Kurukshetra
23.	28-11-14	1	Power of Mind: Mathematics and Mathematicians	SCERT, Solan, (H. P.)
24.	1-12-15	2	1. Basics of cryptography 2. Some applications of Mathematics in	Department of Mathematics, NIT Jalandhar

			cryptography	
25.	16-12-15	2	1. Power of mind and Mathematician 2. Some applications of Mathematics in day to day life.	SCERT Solan, Himachal Pradesh
26.	12-06-16	2	1. Application of derivatives 2. How the teaching can be Effective?	Lecturer of Mathematics /Physics, Chemistry, Bio of DAV Schools of HP at Bilaspur
27.	14-06-16	1	Importance of Mathematics	Students of Manav Jyoti Anathalaya Ashram, Dehar, Distt. Mandi, HP
28.	14-06-16	1	How the Mathematics can be made more interesting?	Govt. Sr. Sec. School Dehar, Distt Mandi, HP
29.	10-09-16	1	How to teach Mathematics at 10+1 and 10+2 Levels	Lecturer of Mathematics of DAV Schools of HP at New Shimla
30.	23-09-16	2	1. How the teachers can motivate the students for Mathematics. 2. Role of Mathematics Teacher.	SCERT Solan, Himachal Pradesh

[2] WORK SHOPS/SCHOOLS ATTENDED:

Sr. No.	Period	Title of Workshop	Sponsoring Agency	Organising Institute
1.	15-03-2011 To 20 -03-2010	Symbolic Computation and use of Mathematica in Continuum Mechanics and Algebra	UGC	Department of Mathematics & Statistics, Himachal Pradesh University, Shimla-5.
2.	10-05-2011 To 16-05-2011	Analytical Techniques for research	UGC	ASC-BPS-Mahila Vishwavidyalaya, Khanpur Kalan, (Sonepat) Haryana.
3.	22-12-2011 To 6-01-2012	ATML on Number Theory	NBHM	Harish-Chandra Research Institute (HRI), Allahabad (UP).

**[3] INVITED TALKS / CHAIRED TECHNICAL SESSION IN
CONFERENCES /SEMINARS :**

Sr. No.	Date	Title of Paper	Title of Conference	Organising Institute
1.	21-10-2011 (Invited Talk)	Formulation of Some Standard Inequalities as Optimization Problems	National Conference on Role of Mathematical and Physical Sciences in Engineering and Technology	Karanprayag [Uttarakhand].
2.	22-10-2011	(Chaired Technical session)	National Conference on Role of Mathematical and Physical Sciences in Engineering and Technology	Karanprayag [Uttarakhand].
3.	23-25 October, 2013	Rhotrices, Finite Fields with Applications in Cryptography (Invited Talk)	National Conference on Recent Trends in Algebra and Analysis (Sponsored by DST, PU Chandigarh)	A.S. College for Women, Khanna, (Punjab)
4.	23-25 October, 2013	(Chaired Technical session)	National Conference on Recent Trends in Algebra and Analysis (Sponsored by DST, PU Chandigarh)	A.S. College for Women, Khanna, (Punjab)
5.	14-17 December, 2014		Indocrypt-2014	Cryptology Research society of India (CRSI) and DRDO- at Delhi
6.	13-17 July, 2015	Contributed Talk On Identification of Irreducible Polynomials over Finite Fields	International Conference on Finite Fields and Their Applications (Fq12)	New York, USA
7.	6-9 December, 2015		Indocrypt-2015	Cryptology Research society of India (CRSI) IISc Bangalore
8.	27-1-2016 to 7-02-2016	Visiting Professor	Cryptology and Security Research Unit(CSRU)	ISI Kolkata

[4] BOOKS :

Sr. No.	Title of Book	Publisher	ISBN	Year of First Edition
1.	IIT-JEE Mathematics	Satya Prakashan Publication ,New Delhi	81-7684-402-0	March, 2006
2.	Mathematics for AIEEE	Satya Prakashan Publication ,New Delhi	81-7684-537-X	Nov., 2008
3.	BCA-III Mathematics-III	Director, ICDEOL, H.P.University, Shimla-5		Oct., 2011
4.	UGC—CSIR-NET Mathematics	Satya Prakashan Publication ,New Delhi	81-7684-696-1	Jan., 2012

[5] RESEARCH PUBLICATIONS :

Sr.No.	Research Paper	ISSN
1.	Sharma, P.L. and Sharma, R., <i>A note on inequalities between the moments</i> , International Journal of Theoretical & Applied Sciences, 2 (2), P. 30-33, (2010).	0975-1718
2.	Sharma, P.L. and Sharma, R., <i>some optimization problems related with inequalities between the moments</i> , Bulletin of Pure and Applied Sciences Volume 30 E (Math & Stat.) Issue (No.1) P. 135-144,(2011).	0970-6577
3.	Sharma, P.L. and Kanwar, R.K., <i>A note on relationship between invertible matrices and associated invertible matrices</i> , Bulletin of Pure and Applied Sciences Volume 30 E (Math & Stat.) Issue (No.2) P. 333-339, (2011).	0970-6577
4.	Sharma, P.L. and Sharma, R ., <i>Some optimization problems involving moments of discrete random variables</i> , International Journal of Theoretical & Applied Sciences, 3 (2), P. 88-90,(2011).	0975-1718
5.	Sharma, P.L. and Sharma, R., <i>On optimization problems and inequalities involving three moments</i> , International Journal of Mathematical Sciences and Applications Vol. 2,No 1, P. 245-249, Jan.(2012).	2230-9888
6.	Sharma, P.L., Sharma, R. and Thakur, A., <i>A note on inequalities involving moments of a discrete random variable</i> , International J. of Math. Sci. & Engg. Appls. (IJMSEA),Vol. 6 No. II, P. 133-143, (March, 2012).	0973-9424

7.	Sharma, P.L. and Kanwar, R.K., <i>On inner product space and bilinear forms over rhotrices</i> , Bulletin of Pure and Applied Sciences Volume 31 E (Math & Stat.) Issue (No.1) P. 109-118, (2012).	0970-6577
8.	Sharma, P.L. and Kanwar, R.K., <i>Adjoint of a rhotrix and its basic properties</i> , International Journal of Mathematical Sciences, Vol.11, No.3-4, P.337-343, (2012).	0972-754X
9.	Sharma, P.L. and Kanwar, R.K., <i>The Cayley-Hamilton theorem for rhotrices</i> , International Journal Mathematics and Analysis, Vol.4, No.1, P.171-178, (2012).	0973-3604
10.	Sharma, P.L. and Kanwar, R.K., <i>An overview of the Cayley-Hamilton Theorem</i> , American. J. of Mathematics and Sciences, Vol. 1, No. 2, P. 249-256, (July 2012).	2250-3102
11.	Sharma, P.L. and Kanwar, R.K., <i>A note on the arithmetic function $(\sigma\phi)(n)$</i> , International J. of Math. Sci. & Engg. Appls. (IJMSEA), Vol. 6 No. V, P.145-155, (September, 2012).	0973-9424
12.	Sharma, P.L. and Rehan, M., <i>On Security of Hill Cipher using Finite Fields</i> , International Journal of Computer Applications, Vol. 71, No.4, P. 30-33, (May 2013).	0975- 8887
13.	Sharma, P.L. and Kanwar, R.K., <i>On Involutory and Pascal rhotrices</i> , International J. of Math. Sci. & Engg. Appls. (IJMSEA), Vol. 7 No. IV, P.133-146, (July, 2013).	0973-9424
14.	Sharma, P. L. and Kumar, S., <i>On Construction of MDS Rhotrices from Companion Rhotrices over Finite Field</i> , International Journal of Mathematical Sciences, Vol.12, No. 3-4, P. 271-286, (July-Dec., 2013).	0972-754X
15.	Sharma, P. L., Kumar, S. and Rehan, M., <i>On Vandermonde and MDS Rhotrices over $GF(2^q)$</i> , International Journal of Mathematics and Analysis, Vol. 5, No. 2, P. 143-160, (July- Dec., 2013).	0973-3604
16.	Sharma, P. L. and Kumar S., <i>Secure Communication & Digital Signature Verification Through RSA</i> , International Journal of Computer Science and Information Technology Research Excellence, Vol. 3, No. 2, P. 11-16, (March-Apr., 2013).	2250-2734
17.	Sharma, P. L., Kumar, S. and Rehan, M., <i>On Hadamard Rhotrix over Finite Field</i> , Bulletin of Pure and Applied Sciences, Vol. 32 E (Math & Stat.), No.2, P. 181-190, (2013).	0970-6577

18.	Sharma, P. L. and Kumar, S., <i>Balanced Incomplete Block Design (BIBD) Using Hadamard Rhotrices</i> , International Journal of Technology, Vol. 4, No. 1, P. 62-66, (Jan.-June, 2014).	2231-3907
19.	Sharma, P. L. and Sharma, S. <i>An Application of Finite Field in Hill Cipher</i> , International Journal of Technology, Vol. 4, No. 1, P. 248- 251, (Jan.-June, 2014).	2231-3907
20.	Sharma, P.L. and Rehan, M., <i>Modified Hill Cipher Using Vandermonde Matrix and Finite Field</i> , International Journal of Technology, Vol. 4, No. 1, P. 252-256, (Jan.-June, 2014).	2231-3907
21.	Sharma P. L. and Kumar S., <i>Some applications of Hadamard rhotrices to design balanced incomplete block</i> , International J. of Math. Sci. & Engg. Appls. Vol. 8, No. II, P. 389-404, (March, 2014).	0973-9424
22.	Sharma P. L., Kumar S. and Rehan M. , <i>On construction of Hadamard codes using Hadamard rhotrices</i> , International Journal of Theoretical & Applied Sciences , Vol. 6, No. 1, P. 102-111(2014).	0975-1718
23.	Sharma P. L. and Rehan Mansi, <i>On approximate values of irreducible polynomials over $GF(3)$ with first three given coefficients</i> , International journal of Mathematics and analysis, Vol. 6, No. 1, P. 1-26, (January-June 2014),.	0973-3604
24.	Sharma P. L. and Rehan Mansi, <i>Approximating number of irreducible polynomials over $GF(p)$ with several given coefficients</i> , Bulletin of Pure and Applied Sciences, Vol. 33 E (Math & Stat.), No.1, P. 51-74, (2014).	0970-6577
25.	Sharma P. L. and Rehan Mansi, <i>On number of irreducible polynomials over finite field</i> , Recent Trends in Algebra and Mechanics, P. 41-56, Indo-American Books Publisher, New Delhi, (2014).	93-82661-23-9
26.	Sharma P. L. and Sharma Shabnam, <i>Sequences of irreducible polynomials over $GF(2)$ with three prescribed coefficients</i> , Recent Trends in Algebra and Mechanics, P. 21-32, Indo-American Books Publisher, New Delhi, (2014).	93-82661-23-9
27.	Sharma P. L. and Kumar Satish, <i>On a special type of Vandermonde rhotrix and its decompositions</i> , Recent Trends in Algebra and Mechanics, P. 33-40, Indo-American Books Publisher, New Delhi, (2014).	93-82661-23-9
28.	Sharma P. L., Sharma Shabnam and Dhiman Neetu, <i>Construction of infinite sequences of irreducible polynomials using Kloosterman sums</i> , Bulletin of Pure and Applied Sciences, Vol. 33 E (Math. & Stat.), No. 2, P. 161-168, (2014).	0970-6577
29.	Sharma P. L., Rehan M. and Sharma S., <i>Counting irreducible polynomials over $GF(3)$ with first and third coefficients given</i> , Asian-European Journal of Mathematics, Vol.8, No.1, 1550015(27 Pages),(2015).	1793-5571

30.	Sharma P. L. and Rehan Mansi. and Sharma Shabnam, <i>Irreducible polynomials over GF(3) with first and second prescribed coefficients</i> , Asian Journal of Mathematics & Physics, Vol.2015, Article ID amp0209, 15 pages.	2308-3131
31.	Sharma P. L., Sharma S. and Rehan M., <i>On construction of irreducible polynomials over F_3</i> , Journal of Discrete Mathematical Sciences and Cryptography, Vol. 18, No. 4(2015), 335-347.	0972-0529
32.	Sharma P. L., Sharma Shabnam and Rehan Mansi , <i>Construction of Infinite Sequences of Irreducible Polynomials over F_2</i> , International Journal of Mathematical Sciences & Engineering Applications, Vol. 9, No. 3, September 2015.	0973-9424
33.	Sharma P. L., Kumar Satish and Rehan Mansi, <i>On Factorization of a Special Type of Vandermonde Rhotrix</i> , Applications and Applied Mathematics: An International Journal (AAM), Vol.10, No.1, June 2015, 421-439.	1932-9466
34.	Sharma P. L. and Dhiman Neetu, <i>Generalization of Cross-correlation in Boolean Functions and Some Generalized Constructions in gbent Functions</i> , Asian-European Journal of Mathematics, Vol. 9, No.1(2016), 1650019 (7 pages).	1793-5571
35.	Sharma P. L. , Gupta Shalini and Rehan Mansi, <i>Construction of MDS Rhotrices using Special Type of Circulant Rhotrices over Finite Fields</i> , Himachal Pradesh University Journal (HPUJ),	2277-1425
36.	Sharma P. L., Sharma Shabnam, <i>Hill Cipher Cryptosystem using Irreducible Polynomials over Finite Fields</i> , Himachal Pradesh University Journal (HPUJ),	2277-1425
37.	Sharma P. L. and Dhiman Neetu , <i>A Characterization Theorem for gbent function over Z_{16}</i> , Himachal Pradesh University Journal (HPUJ),	2277-1425
38.	Sharma P. L. and Devi Kiran, <i>An Elliptic Curve Cryptosystem over Finite Fields</i> , Himachal Pradesh University Journal (HPUJ),	2277-1425

[6] M.PHIL. STUDENTS GUIDED/ UNDER GUIDANCE:

Sr. No.	Name of Candidate	Title of Dissertation	Year	Status
1.	Sanjay Kumar	On Semirings with Decending Chain Condition and without Nilpotent Elements	2010	Completed
2.	Shabnam Sharma	On Finite Fields and Their Algebraic Properties	2011	Completed
3.	Minakshi	On RSA Algorithm in Cryptography	2011	Completed
4.	Neetu Dhiman	A Study of some Optimization Problems Related to the Moments	2012	Completed
5.	Paridhi Sharma	On the Discrete Logarithm Problem and Diffie-Hellman Algorithm in Cryptography	2012	Completed
6.	Kiran Thakur	On Primality Tests and Integer Factorisation Techniques	2013	Completed
7.	Kiran Devi	On Elliptic Curve Cryptography	2013	Completed
8.	Bhagat Ram	On Data Encryption Standard Algorithm in Symmetric Key Cryptography over Finite Field F_2	2014	Completed
9.	Neha	On ElGamal Cryptosystem and its Simulation using the Elliptic Curve over Finite Fields	2014	Completed
10.	Arun Kumar	On Digital Signatures using RSA Public Key Cryptosystem Scheme	2015	Completed
11.	Priyanka	On Cryptographic Hash Functions over the Finite Field with Characteristic 2	2015	Completed
12.	Ranjna Dilta	Cryptography	2016	Pursuing
13.	Abhishek Thakur	Cryptography	2016	Pursuing

[7] Ph.D. STUDENTS GUIDED / UNDER GUIDANCE :

Sr. No.	Name of Candidate	Title of Thesis	Year	Status
1.	Raj Kumar Kanwar	A Study of Some Analogous Properties of Rhotrices and Matrices	2013	Completed
2.	Satish Kumar	Extensions And Applications Of Vandermonde, Hadamard And Companion Rhotrices With Maximum Distance Separable Rhotrix Over Finite Field	2014	Completed
3.	Mansi Rehan	On Irreducible Polynomials over Finite Fields, their approximate number with some prescribed coefficients and Applications in Cryptography	2015	Completed
4.	Shabnam Sharma	On Irreducible Polynomials over Finite Fields, Their Infinite Sequences and Applications in Cryptography	2016	Completed
5.	Neetu Dhiman	Working on Bent Functions		Pursuing
6.	Kiran Devi	Working on Finite Fields		Pursuing
7.	Shalini Gupta	Working on Symmetric key cryptography		Pursuing
8.	Anil Kashyap	Working on Elliptic curves over finite fields		Pursuing
9.	Arun Kumar	Working on Symmetric key cryptography		Pursuing

[8] UNIVERSITY ASSIGNMENTS :

- (1) Performed the duties of Hostel Warden from February 2011 to June 2011.

[9] DETAILS OF THE SEMINARS/CONFERENCE/WORKSHOPS ORGANISED:

Sr. No.	Title of Conference	Period	Organising Institution	Capacity
1.	National Conference in Algebra	27-03-2012 To 28-03-2012	Department of Mathematics, Himachal Pradesh University, Shimla-5.	Organizing Secretary
2.	RC-254 (Refresher Course in Mathematics and Statistics)	16-07-2012 To 4-08-2012	ASC, H.P. University, Shimla-5.	Deputy Coordinator
3.	RC-265 (Refresher Course in Mathematics and Statistics)	24-06-2013 To 13-07-2013	ASC, H.P. University, Shimla-5.	Deputy Coordinator
4.	Advanced Instructional School on Diophantine Equations	16-06-14 To 04-07-14	Department of Mathematics, H. P. University, Shimla Sponsored by NCM Supported by NBHM	Coordinator
5.	National Instructional Workshop on Cryptology (NIWC-2015)	18-06-2015 To 22-06-2015	Department of Mathematics, H. P. Under the aegis of CRSI	Organising Secretary