#### **RESUME**



1. Name : Prof. (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. Designation : Professor, Department of Mathematics,

Former Chairman, Department of Mathematics

(22<sup>nd</sup> Oct. 2020 to 26<sup>th</sup> Oct. 2022)

Former Director, University Institute of Technology (UIT)

(27<sup>th</sup> August, 2018 to 25<sup>th</sup> June, 2023) Himachal Pradesh University, Shimla

**9. Contact Nos.** : 94180-03066 (M), 0177-2833769(O)

**10. Areas of Interest** : Finite Fields, Cryptography, Rhotrices, Bent Functions.

**11. 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.

### **TEACHING EXPERIENCE:** (39 Years up to 31st December, 2022)

Sr. No.	Period	Total Duration	Designation	Institution	Remark
1.	03-01-1984 to 11-10-1994	11 years	Basic Teacher	Govt. School (Govt. Elementary Education Department)	Appointed by Deputy Director of Education on regular basis
2.	12-10-1994 to 19-11-1997	3 years	Lecturer in Mathematics (School cadre)	Govt. Sr. Sec. School (Govt. Secondary Education Department)	Selected through HP Public Service Commission Shimla (H.P.)
3.	20-11-1997 to 23-02- 2010	12 years	(i) 20-11-1997 to 19-11-2009 (Lecturer) (ii) 20-11-2009 to 23-02-2010 Associate Professor (college cadre)	Govt. College (Govt. Higher Education Department)	Selected through HP Public Service Commission Shimla (H.P.)
4.	24-02-2010 to 19-11-2012	3 years	Associate Professor	Department of Mathematics, H.P. University Shimla-5	Selected by EC, H. P. University
5.	20-11-2012 to Till date		Professor	Department of Mathematics, H.P. University Shimla-5	Do

#### **ADMINISTRATIVE EXPERIENCE:**

Sr. No.	Position held	Department/ Institute	University	Period	Total Duration
1.	Chairman	Department of Mathematics	Himachal Pradesh University, Shimla	22-10-2020 to 26-10-2022	2 Years
2.	Director	University Institute of Technology (UIT)	Himachal Pradesh University, Shimla	27-08-2018 to 25-06-2023	4 Years and 10 Months

### **Achievements During the Tenure of College**

(20th November, 1997 to 23rd February, 2010)

- **1.** Guided six M.Phil. Mathematics students successfully.
- **2.** Member, Editorial Board, International Journal of Theoretical & Applied Sciences (ISSN No. 0975-1718)
- **3.** A book entitled "IIT-JEE Mathematics" written by me was released in the month of March 2006. **2<sup>nd</sup> edition** is available in market.
- **4.** Another book entitled "Mathematics for AIEEE" is written by me was released in November 2008; **Second edition** is available in market.
- 5. Two more books written by me entitled "Applied Mathematics -I, Applied Mathematics –II" for Engineering to the IASE University.
- **6.** One section of GATE Book published by "Satya Prakashan" is written by me.
- 7. Awarded as the best IGNOU Counsellor by IGNOU Learners Association.
- **8.** Attended one Refresher Course in Mathematics at University of Kerala.
- **9.** Attended one Orientation Programme and one Refresher course on ICT in HP University, Shimla Himachal Pradesh.
- **10**. Attended National Seminar on Mathematics in NIT Hamirpur (HP)

- **11.** A workshop on National Mission on Education Through ICT was attended in HP University Shimla.
- **12.** I was convener of the UGC-Cell of the college and had submitted a proposal to ICSSR for a seminar entitled "Human Rights: Issues and problems" and the same was organized under my convener ship.
- **13.** I remained the founder Coordinator of BCA & PGDCA Department of the Govt. P.G. College Bilaspur.
- **14.** I organized two days seminar of the BCA & PGDCA students of the college and helped the students of BCA final year to develop the college website namely www.gpgcollegebilaspur.in
- **15.** I performed the responsibility of Time Table Incharge of the college for many years.
- **16.** Result of UG classes in Mathematics which were taught by me always remained above the University percentage.
- 17. More than five Mathematics students of mine were selected for Mathematics Training and Talent Search (MTTS) for various levels.
- **18.** I had organized **Free Coaching Classes** to the college students for **State Bank of India** (**SBI**) Clerical Examination 2009.

## **Unique Achievements:**

- 1. I am the first **Author** of Himachal Pradesh to write the book for IIT-**JEE**Mathematics.
- 2. I am the first **Author** of Himachal Pradesh to write the book for AIEEE **Mathematics**.

# Details of Academic activities during the Tenure of University

(February, 2010 to June 30, 2023)

Received Best Teacher Administrator Award on 52<sup>nd</sup> Foundation Day (22-07-2021) of H. P. University by the Hon'ble Governor Sh. Rajendra Vishwanath Arlekar in the presence of Respected Chief Minister Sh. Jai Ram Thakur, Education Minister Sh. Govind Singh Thakur, Urban Development Minister Sh. Suresh Bharadwaj and Hon'ble Vice-Chancellor Prof. Sikander Kumar.

## [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.	03-01-2011	2	Groups & Rings	ASC-BPS Mahila Vishwavidylaya, Khanpur, _ [Sonipat] Haryana.
4.	04-01-2011	2	Modules & Vector Spaces	ASC-BPS Mahila Vishwavidylaya, Khanpur, [Sonipat] Haryana.
5.	05-01-2011	2	Semirings & Smarandache Semirings	ASC-BPS Mahila Vishwavidylaya, Khanpur, _ [Sonipat] Haryana.
6.	06-01-2011	2	<ul><li>(i) How a teacher should be?</li><li>(ii) How teaching can be effective?</li></ul>	ASC-BPS Mahila Vishwavidylaya, Khanpur, [Sonipat] Haryana.
7.	28-04-2011	1	Qualities of an ideal teacher	Academic Staff College, H. P. University, Shimla.
8.	03-05-2011	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 Vishwavidylaya, 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 Vishwavidylaya, Khanpur, (Sonipat).
11.	25-06-2011	2	(i) Challenges and Prospects of Higher Education And (ii) How a teacher should be?	ASC-BPS Mahila Vishwavidylaya, Khanpur, (Sonipat) Haryana.
12.	29-06-2011	2	<ul><li>(i) Co-scholastic activities and their importance in Mathematics and</li><li>(ii) Innovations and Creativity in Teaching of Mathematics</li></ul>	JNV Theog, Distt. Shimla for TGT(Maths.) of Chandigarh Region.

13.	01-07-2011	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 Vishwavidylaya, Khanpur, _ [Sonipat] Haryana.	
17.	30-05-2012	1	Power of Human Mind	ASC-BPS Mahila Vishwavidylaya, 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 & 30-07-2012	2	<ul><li>(i) Quadratic Sieve</li><li>(ii) Cryptography – RSA</li></ul>	Academic Staff College, H.P. University, Shimla.	
20.	28-06-2013 & 03-07-2013	2	(i) Basics of Cryptography (ii) Discrete Logarithmic Problem	Academic Staff College, H.P. University, Shimla.	
21.	12-05-2014	1	"How a Teacher should be?"	ASC BPS Vishwavidayalaya, Sonepat	
22.	13-05-2014	1	Power of Mind and Teacher	ASC Kurukshetra University, Kurukshetra	
23.	28-11-2014	1	Power of Mind: Mathematics and Mathematicians	SCERT, Solan, (H. P.)	
24.	01-12-2015	2	<ol> <li>Basics of cryptography</li> <li>Some applications of Mathematics in cryptography</li> </ol>	Department of Mathematics, NIT Jalandhar	
25.	16-12-2015	2	<ol> <li>Power of mind and Mathematician</li> <li>Some applications of Mathematics in day to day life.</li> </ol>	SCERT Solan, Himachal Pradesh	
26.	12-06-2016	2	<ol> <li>Application of derivatives</li> <li>How the teaching can be Effective?</li> </ol>	Lecturer of Mathematics /Physics, Chemistry, Bio of DAV Schools of HP at Bilaspur	

27.	14-06-2016	1	Importance of Mathematics	Students of Manav Jyoti Anathalaya Ashram, Dehar, Distt. Mandi, HP
28.	14-06-2016	1	How the Mathematics can be made more interesting?	Govt. Sr. Sec. School Dehar, Distt Mandi, HP
29.	10-09-2016	1	How to teach Mathematics at 10+1 and 10+2 Levels	Lecturer of Mathematics of DAV Schools of HP at New Shimla
30.	23-09-2016	2	<ol> <li>How the teachers can motivate the students for Mathematics.</li> <li>Role of Mathematics Teacher.</li> </ol>	SCERT Solan, Himachal Pradesh
31.	30-08-2017	1	Applications of Higher Mathematics in Day to Day life.	Bahra Universirty , Solan
32.	16-01-2018	1	Teaching of Mathematics at School Level.	Mathematics teachers of SVM Schools of Himachal upto 10+2 at SVM School Vikas Nagar Shimla.
33.	07-03-2018	1	Use of Mathematics in Security of Passwords.	Department of Mathematics, BPS University Khanpur (Sonipat)
34.	19-06-2018	1	Mathematics: why, how and when ???	INSPIRE Programme of DST, organised by Laureate Institute of Pharmacy, Jawalamukhi, Kangra
35.	11-07-2019	2	<ul><li>(i) How the teaching of Mathematics be effective?</li><li>(ii) Contribution of Indian Mathematicians.</li></ul>	SCERT Solan, Himachal Pradesh
36.	25-07-2019	1	Basics of Cryptography and its Mathematics.	HRD- HPU, Shimla (ASC)
37.	29-10-2020	2	<ul><li>(i) Cryptography and its uses in daily life</li><li>(ii) Mathematics for Cryptography</li></ul>	ASC- HRDC, Mahila Vishwa Vidyalaya, Khanpur, Sonipat, Harayana
38.	08-06-2021	1	Cryptography and its Applications	Department of Electronics & Communications, Punjabi University Patiala
39.	11-03-2022	1	Applications of Mathematics in Cryptography	Department of Mathematics, Punjabi University, Patiala

## [3] PAPERS PRESENTED /DELIVERED INVITED TALK/CHAIRED TECHNICAL SESSION IN CONFERENCES /SEMINARS:

Sr. No.	Date	Title of Paper	Title of Conference	Organising Institute
1.	20-12-2010	An application of Lagrange Multiplier and Karush Kuhn Tucker(KKT) methods	55 <sup>th</sup> Congress of Indian Society of Theoretical and applied Mechanics [An International Meet]	Department of Mathematics, NIT Hamirpur, Himachal Pradesh.
2.	05-03-2011	Problems in Higher Education	National Seminar on Education	Management & B.Ed institute, Ghanatti, Distt. Shimla, H.P.
3.	27-03-2011	Power Means with Lagrange Multiplier	National Seminar on Mathematics	Department of Mathematics, H.P University, Shimla
4.	21-10-2011 (Invited Talk)	Formulation of Some Standard Inequalities as Optimization Problems	National Conference on Role of Mathematical and Physical Sciences in Engg. And Technology	Karanprayag [Uttrakhand].
5.	22-10-2011	(Chaired Technical session)	National Conference on Role of Mathematical and Physical Sciences in Engineering and Technology	Karanprayag [Uttrakhand].
6.	06-12-2011	Constrained Multivariables Optimization and Inequalities Involving Moments	International Conference on Advances in Modeling, Optimization and Computing (AMOC- 2011)	Department of Mathematics, IIT Roorkee.
7.	18-12-2011	Some Applications of Lagrangean & Karush- Kuhn-Tucker methods and Inequalities between them	1 <sup>st</sup> International Conference on Mathematical Sciences and Applications	India International Centre, New Delhi.

8.	04-02-2012	Optimization Problems in Mathematical Statistics	National Conference on Mathematics	D.A.V. Jalandhar (Punjab).
9.	23-10-2013 to 25-10-2013 (Invited Talk)	Rhotrices, Finite Fields with Applications in Cryptography	National Conference on Recent Trends in Algebra and Analysis (Sponsored by DST, PU Chandigarh)	A.S. College for Women, Khanna, (Punjab)
10.	23-10-2013 to 25-10-2013	(Chaired Technical session)	National Conference on Recent Trends in Algebra and Analysis (Sponsored by DST, PU Chandigarh)	A.S. College for Women, Khanna, (Punjab)
11.	14-12-2014 to 17-12-2014		Indocrypt-2014	Cryptology Research society of India (CRSI) and DRDO- at Delhi
12.	13-07-2015 to 17-07-2015	Contributed Talk On Identification of Irreducible Polynomials over Finite Fields	International Conference on Finite Fields and Their Applications (Fq12)	New York, USA
13.	06-12-2015 to 09-12-2015		Indocrypt-2015	Cryptology Research society of India (CRSI) IISc Bangalore
14.	27-01-2016 to 07-02-2016	Visiting Professor	Cryptology and Security Research Unit (CSRU)	ISI Kolkata
15.	16-12-2016 to 18-12-2016		International Conference on Security, Privacy and Applied Cryptographic Engineering (SPACE-2016)	C. R. RAO Advanced Institute of Maths, Statistics &Computer Sci. (AIMSCS), Hyderabad
16.	19-01-2017 to 21-01- 2017		International Conference on Mathematics and Computing (ICMC-2017)	Haldia Institute of Technology, West Bengal

			National Conference	
17.	28-03-2017	The role of cryptography	on Recent Trends in	
	to	in information and	Numerical Analysis	DAV IET
	29 -03-2017	communication	and computational	Jalandhar, Punjab
	(Invited Talk)	technology	Techniques	
18.	07-04-2017	Cryptography and RSA	National Conference	Career Point
	to	Cryptosystem in	on Advances in Basic	University,
	08-04- 2017	everyday Life	& Applied Sciences	Hamirpur, India
	(Invited Talk)			_
			National Conference	
19.	25-05-2017	RSA Cryptosystem in	on Changing Trends,	
	to	Cryptography	Future Challenges and	APG Shimla
	26-05-2017		Innovations in Science	University
	(Invited Talk)		& Technology	
	01-07-2018	Normal bases over finite	International Congress	Rio de Janeiro,
20.	to	fields using prescribed	of Mathematicians	Brazil
	09-07-2018	trace vectors	ICM-2018	(South America)
			National Seminar on	UIIT & ISCA
21.	09-09-2018	Use of Mathematics in	Indian Science &	(Shimla Chapter)
		Cryptography	Technology: Past,	HPU Shimla
			Present & Future	
22.	27-11-2018	Power of Mind & Some	National Seminar on	Govt. PG College
	(Keynote	Applications of	Advances in Pure and	Mukatsar Sahib
	Address)	Mathematics	Applied Mathematics	Punjab
		(Chaired Technical	Online International	Central University,
23.	15-09-2020	Session)	Workshop on	HP, Dharamshala
		,	Srinivasa Ramanujan	
			National Conference	LVH College,
24.	22-03-2022	The Role of Mathematics	on Industrial	Panchavati,
	(Invited Talk)	in Cryptography	Mathematics and	Nashik-03,
			Opportunities in IT	Maharashtra

## [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.	"A Mathematical Theorem in Rotatory Thermohaline Convection" Journal of Mathematical Analysis and Application in USA California. 189,351-361 (1995). [With Prof. M.B. Banerjee]	0022-247X
2.	"On Howard's Conjecture in Heterogeneous Shear flows instability of modified s-Waves" Indian J. pure app. Math 28 (6): 825-834 June 1997.  [ With Prof. M.B. Banerjee]	0019-5588
3.	Sharma, P. L. and Sharma, R., <i>A note on inequalities between the moments</i> , International Journal of Theoretical & Applied Sciences, <b>2</b> (2), P. 30-33, (2010).	0975-1718
4.	Sharma, P. L. and Sharma, R., some optimization problems related with inequalities between the moments, Bulletin of Pure and Applied Sciences Volume 30 E (Math & Stat.) Issue (No.1) P. 135-144,(2011).	0970-6577
5.	Sharma, P. L. and Kanwar, R.K., <i>A note on relationship between invertible rhotrices 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
6.	Sharma, P. L. and Sharma, R., Some optimization problems involving moments of discrete random variables, International Journal of Theoretical & Applied Sciences, <b>3</b> (2), P. 88-90,(2011).	0975-1718
7.	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
8.	Sharma, P. L., Sharma, R. and Thakur, A., A note on inequalities involving moments of a discrete random variable, International J. of Math. Sci. & Engg. Appls. (IJMSEA), Vol. 6 No. II, P. 133-143, (March, 2012).	0973-9424
9.	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
10.	Sharma, P. L. and Kanwar, R.K., <i>Adjoint of a rhotrix and its basic properties</i> , International Journal of Mathematical Sciences, Vol11, No.3-4, P.337-343, (2012).	0972-754X
11.	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

12.	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
13.	Sharma, P. L. and Kanwar, R.K., A note on the arithmetic function $(\sigma\phi)(n)$ ,	
	International J. of Math. Sci. & Engg. Appls. (IJMSEA), Vol. 6 No. V, P.145-155 , (September, 2012).	0973-9424
14.	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
15.	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
16.	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
17.	Sharma, P. L., Kumar, S. and Rehan, M., <i>On Vandermonde and MDS Rhotrices over GF</i> ( $2^q$ ), International Journal of Mathematics and Analysis, Vol. 5, No. 2, P. 143-160, (July- Dec., 2013).	0973-3604
18.	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
19.	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, (JanJune, 2014).	2231-3907
20.	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, (JanJune, 2014).	2231-3907
21.	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, (JanJune, 2014).	2231-3907
22.	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
23.	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

24.	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
25.	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
26.	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
27.	Sharma P. L. and Sharma Shabnam, Sequences of irreducible polynomials over GF (2)with three prescribed coefficients, Recent Trends in Algebra and Mechanics, P. 21-32, Indo-American Books Publisher, New Delhi, (2014).	93-82661- 23-9
28.	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
29.	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
30.	Sharma P. L., Rehan M. and Sharma S., <i>Counting irreducible polynomials over GF</i> (3) with first and third coefficients given, Asian-European Journal of Mathematics, Vol. 8, No. 1, 1550015 (27 Pages), (2015).	1793-5571
31.	Sharma P. L. and Rehan Mansi. and Sharma Shabnam, <i>Irreducible polynomials</i> over <i>GF</i> (3) with first and second prescribed coefficients, Asian Journal of Mathematics & Physics, Vol.2015, Article ID amp0209, 15 pages.	2308-3131
32.	Sharma P. L., Sharma S. and Rehan M., On construction of irreducible polynomials over $F_3$ , Journal of Discrete Mathematical Sciences and Cryptography, Vol. 18, No. 4(2015), 335-347.	0972-0529
33.	Sharma P. L., Sharma Shabnam and Rehan Mansi, Construction of Infinite Sequences of Irreducible Polynomials over $\mathbf{F_2}$ , International Journal of Mathematical Sciences & Engineering Applications, Vol. 9, No. 3, September 2015.	0973-9424
34.	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
35.	Sharma P. L. and Dhiman Neetu, Generalization of Cross-correlation in Boolean Functions and Some Generalized Constructions in gbent Functions, Asian-European Journal of Mathematics, Vol. 9, No.1(2016), 1650019 (7 pages).	1793-5571

36.	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), Vol. 3, No. 2(2015), pp. 25-43.	2277-1425
37.	Sharma P. L., Sharma Shabnam, Hill Cipher Cryptosystem using Irreducible	
	Polynomials over Finite Fields, Himachal Pradesh University Journal (HPUJ), Vol. 3, No. 2(2015), pp. 44-52.	2277-1425
38.	Sharma P. L. and Devi Kiran, <i>An Elliptic Curve Cryptosystem over Finite Fields</i> , Himachal Pradesh University Journal (HPUJ), Vol. 3, No. 2(2015), pp. 1-12.	2277-1425
39.	Sharma P. L. and Dhiman Neetu , A Characterization Theorem for gbent	
	function over <b>Z</b> <sub>16</sub> , Journal of Combinatorics, Information & System Sciences (JCISS), Vol. 41, No. 1-3 (2016), pp. 47-55.	0250-9628
40.	Sharma P. L. and Devi Kiran, <i>A public key cryptosystem using normal bases over finite fields</i> , International Journal of Technology, Vol. 6(2), pp. 143-149, July-December, 2016.	2231-3907
41.	Sharma P. L. and Dhiman Neetu, <i>Some new constructions of gbent functions</i> , Bulletin of Pure and Applied Sciences Volume 35 E (Math & Stat.) Issue No.2 pp. 89-107, 2016.	0970-6577
42.	Sharma P. L. and Dhiman Neetu, <i>Construction of a New Class of Bent and Semi-bent Functions</i> , International Journal of Computer Applications Vol. 157, No 2, pp. 9-12, 2017.	0975- 8887
43.	Sharma P. L. and Dhiman Neetu, <i>Construction of Some New Classes of Boolean Bent Functions and Their Duals</i> , International Journal of Algebra, Vol. 11, No.2, pp. 53 – 64, 2017.	1312-8868 (print) 1314-7595 (online)
44.	Sharma P. L., Sharma Shabnam, <i>On Identification of Irreducible Polynomials over Finite Fields with Characteristic P</i> , International J. of Math. Sci. & Engg. Appls. (IJMSEA) Vol. 11 No. I (April), pp. 19-35, 2017.	0973-9424
45.	Sharma P. L. and Devi Kiran, <i>A Secure Cryptosystem Based on Normal Bases over Finite Fields</i> , CPUH-Research Journal 2(2), pp. 41-44, 2017.	2455-6076 (online)
46.	Sharma P. L., Sharma Shabnam and Kumar Arun, <i>A Symmetric Cryptosystem Based on Irreducible Polynomials over Finite Fields</i> , CPUH-Research Journal 2(2), pp. 45-50, 2017.	2455-6076 (online)

47.	Sharma P. L., Gupta Shalini and Rehan Mansi, <i>On Circulant-Like Rhotrices over Finite Fields</i> , Applications and Applied Mathematics: An International Journal (AAM), Vol. 12, No. 1(June), pp. 506-520, 2017.		
48.	Sharma P. L, Gupta Shalini and Dhiman Neetu, <i>Construction of Maximum Distance Separable Rhotrices using Cauchy Rhotrices over Finite Fields</i> , International Journal of Computer Applications, Vol.168, No. 9, pp. 8-17, 2017.		
49.	Sharma P. L., Gupta Shalini and Dhiman Neetu, <i>Sylvester Rhotrices and their Properties over Finite Fields</i> , Bulletin of Pure and Applied Sciences, Vol. 36 E (Math. & Stat.), No. 1, pp. 70-80, 2017.	0970-6577 2320-3226 (online)	
50.	Sharma P. L. and Gupta Shalini, <i>Constructions of Maximum Distance Separable Toeplitz Rhotrices over Finite Fields</i> , J. of Combinatorics, Information & System Sciences Vol. 42, No. 1-4, pp. 89-110, 2017.	0250-9628	
51.	Sharma P. L. and Devi Kiran, <i>A class of Gaussian normal bases and their dual bases</i> , Journal of Discrete Mathematical Sciences and Cryptography, Vol. 20, No. 8, pp.1741-1755, 2017.	0972-0529	
52.	Sharma P. L. and Devi Kiran, <i>Normal Elements using Trace Mapping over Finite Fields</i> , International Journal of Computer Applications, Vol. 179, No.20, pp. 18-21, 2018.	0975–8887	
53.	Sharma P. L. and Devi Kiran, <i>Finding Normal Bases Over Finite Fields Using Prescribed Trace Vectors</i> , International J. of Math. Sci. & Engg. Appls. (IJMSEA), Vol. 12, No. I, pp. 1-13, 2018.	0973-9424	
54.	Sharma P. L., Devi Kiran and Kumar Arun, <i>Construction of normal bases over Finite Fields</i> , J. of Combinatorics, Information & System Sciences, Vol. 43, No. 1-4, pp. 1-11, 2018.	0250-9628	
55.	Sharma P. L., Kumar Arun and Gupta Shalini, <i>Maximum Distance Separable Hankel Rhotrices over Finite Fields</i> , J. of Combinatorics, Information & System Sciences, Vol. 43, No. 1-4, pp. 13-45, 2018.	0250-9628	
56.	Sharma P. L., Kumar Arun and Gupta Shalini, <i>Hankel rhotrices and constructions of maximum distance separable rhotrices over finite fields</i> , Applications and Applied Mathematics: An International Journal (AAM), Vol. 14, No. 2 (December 2019), pp. 1197 - 1214	1932-9466	
57.	Sharma P. L., Kumar Arun and Gupta Shalini, <i>Trace of the positive integral powers of three and five dimensional rhotrices</i> , Bulletin of Pure and Applied Sciences Volume 39 E (Math & Stat.), No.1, pp. 165-175, (2020).	0970-6577	

58.	Sharma P. L., Kumar Arun and Sharma Arun Kumar, <i>On the characteristic roots and Heart of a class of Rhotrices over a finite field</i> , Bulletin of Pure and Applied Sciences, Volume 39 E (Math & Stat.), No.2, pp. 277-288, 2020.	0970-6577
59.	Sharma P. L., Ashima and Sharma Arun Kumar, <i>Recursive Construction of Normal Polynomial over Finite Fields</i> , Journal of Discrete Mathematical Sciences and Cryptography, Vol. 25, No. 8, pp. 2645-2660, 2022.	0972-0529
60.	Sharma P. L. and Ashima, <i>Construction of Irreducible Polynomials over Finite Fields</i> , Asian-European Journal of Mathematics, Vol. 15, No. 7, 2250130, 2022.	1793-5571
61.	Sharma P. L., Ashima and Gupta Kritika, <i>Time Efficient Authenticated Encryption Scheme using Elliptic Curve Cryptography</i> , Himachal Pradesh University Journal (HPUJ) (Accepted for Publication).	2277-1425
62.	Sharma P. L. and Gupta Shalini, <i>Maximum Distance Separable Rhotrices from Sylvester Rhotrices Over Finite Fields</i> , Himachal Pradesh University Journal (HPUJ) (Accepted for Publication).	2277-1425
63.	Sharma P. L., Gupta Kritika, Badoga Nikhlesh Kumar and Ashima, <i>A New Mapping Scheme Using Elliptic Curve Cryptography</i> , The Journal of Oriental Research Madras, Vol. XCII-LXXVIII (November 2021), pp. 38-48, 2021.	0022-3301
64.	Sharma P. L., Gupta Kritika, Badoga Nikhlesh Kumar, Ashima and Monga Himanshu, <i>Authenticated Public Key Encryption Scheme using Elliptic Curve Cryptography</i> , International Journal of Ubiquitous Computing (IJU), Vol. 13, No. 1/2, pp. 19-31, April 2022.	2278-3075
65.	Sharma P. L., Kumar Arun and Ashima, <i>Some Trace Inequalities of a Special Type of Rhotrix</i> , GANITA, Vol. 72, No. 1, pp. 57-67, 2022.	0046-5402
66.	Sharma P. L., Gupta Shalini, Gupta Kritika, Ashima and Kumar Sushil, <i>Message Mapping Technique Using Elliptic Curve Cryptosystem</i> , Bulletin of Pure and Applied Sciences, Volume 41 E (Math & Stat.), No. 1, pp. 104-108, 2022.	0970-6577
67.	Sharma P. L., Ashima, Gupta Shalini, Harish Mansi and Kumar Sushil, Constructions of Irreducible Polynomials over Finite Fields with Even Characteristic, Indian Journal of Pure and Applied Mathematics, 2022, Published Online, <a href="https://doi.org/10.1007/s13226-022-00291-0">https://doi.org/10.1007/s13226-022-00291-0</a>	0975-7465
68.	Sharma P. L., Kumar Sushil, Ashima and Dhiman Neetu, <i>On Permutation Polynomials Modulo 7</i> ^n, Journal of Discrete Mathematical Sciences and Cryptography (Accepted for Publication).	0972-0529

## [6] M. PHIL. STUDENTS GUIDED:

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 <sub>2</sub>	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	Design and Analysis of Some Stream Ciphers in Cryptography over the Finite Field F <sub>2</sub>	2016	Completed
13.	Abhishek Thakur	Design and Analysis of Some Block Ciphers in Cryptography over the Finite Field F <sub>2</sub>	2016	Completed
14.	Sweta Rana	Elliptic Curve Discrete Logarithm Problem in Cryptography	2017	Completed
15.	Nisha Rana	Elliptic Curve Digital Signature Algorithm in Cryptography	2017	Completed
16.	Dumita Kumari	Key Management in Symmetric and Asymmetric Cryptography	2018	Completed
17.	Nitish Kumar	Entity Authentication in Communication using Cryptography	2018	Completed
18.	Dev Raj Sharma	Design and Analysis of SHA-Family in Cryptographic Hash Functions	2019	Completed

19.	Sunaina Mahant	Encryption and Signing Process using	2019	Completed
		ElGamal Cryptosystem		
20.	Sanjeev Kumar	On the KMOV Elliptic Curve	2021	Completed
		Cryptosystem		
21.	Bhawna Mahant	On the Menezes-Vanstone Elliptic Curve	2021	Completed
		Cryptosystem over Finite Fields		
22.	Kritika Garg	On Number of Irreducible Polynomials	2022	Completed
		over GF(3)		_

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

Sr.	Name of Candidate	Title of Thesis	Year	Status
No. 1.	Raj Kumar Kanwar	A Study of Some Analogous Properties	2013	Completed
1.	Traj Tramai Tramwai	of Rhotrices and Matrices	2013	Completed
		07 2 410 4270 65 4414 272442		
		Extensions And Applications Of	2014	
2.	Satish Kumar	Vandermonde, Hadamard And	2014	Completed
		Companion Rhotrices With Maximum Distance Separable Rhotrix Over Finite		
		Field		
		On Irreducible Polynomials over Finite		
3.	Mansi Rehan	Fields, their approximate number with	2015	Completed
		some prescribed coefficients and		
		Applications in Cryptography On Irreducible Polynomials over Finite		
4.	Shabnam Sharma	Fields, Their Infinite Sequences and	2016	Completed
		Applications in Cryptography		r
		On Constructions of New Classes of Bent,		
5.	Neetu Dhiman	Semi-Bent and Generalized Bent	2018	Completed
		Functions over Finite Fields  Some New Rhotrices over Finite Fields		
6.	Shalini Gupta	and Constructions of Maximum Distance	2018	Completed
	Shanni Gapta	Separable Rhotrices	2010	Completed
		On Constructions of Normal Bases,		
7.	Kiran Devi	Gaussian Normal Bases over Finite Fields	2019	Completed
0	A man Warman	and Their Applications in Cryptography	2022	Commissed
8.	Arun Kumar	On Constructions of Maximum Distance Separable Rhotrices and Some Properties	2022	Completed
		of Rhotrices over Finite Fields		
9.	Ashima	On Constructions of Some New Classes	2022	Completed
		of Irreducible Polynomials and Normal		
10	A '1 TZ 1	Polynomials over Finite Fields		
10.	Anil Kashyap	Working on Elliptic curves over finite		Pursuing
		fields		

11.	Sushil Kumar	Working on Finite Fields & ECC	Pursuing
12.	Ajit Kumar	Working on Finite Fields & Cryptography	Pursuing

#### [8] UNIVERSITY ASSIGNMENTS:

- 1. Performed the duties of Hostel Warden from February 2011 to June 2011.
- **2.** Performed the duties of **Chairman, Department of Mathematics,** Himachal Pradesh University, Shimla from 22<sup>nd</sup> October, 2020 to 26<sup>th</sup> October, 2022.
- **3.** Performed the duties of **Director, UIT** Himachal Pradesh University, Shimla from 27<sup>th</sup> August, 2018 to 25<sup>th</sup> June, 2023.
- **4**. Performing the duties of **Chairman, Student Counsellor Committee,** Himachal Pradesh University, Shimla since 27<sup>th</sup> March, 2021.
- **5**. Member of the University Committee to examine and consider UGC Guidelines on examinations and academic calendar to the University.
- **6**. Member of the University Committee of Science Central Workshop.
- 7. Member of the University Curriculum Development Committee since 27<sup>th</sup> October, 2021.
- **8**. Member of the University Internal Quality Assurance Cell (IQAC) since 20<sup>th</sup> November, 2021.
- 9. Member of the University Policy Committee for various purposes like Research Promotion Policy, Consultancy Policy, Policy on Seed money for Research, Plagiarism Policy, Ethical Committee, NEP-2020 implementation.

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

Sr. No.	Title of Conference	Period	Organising	Capacity
			Institution	
		27-03-2012	Department of	
1.	National Conference in	&	Mathematics,	Organizing
	Algebra	28-03-2012	Himachal Pradesh	Secretary
			University, Shimla-5.	
		16-07-2012		
2.	RC-254 (Refresher Course in	to	ASC, H.P.	Deputy
	Mathematics and Statistics)	04-08-2012	University, Shimla-5.	Coordinator
3.	RC-265 (Refresher Course in	24-06-2013	ASC, H.P.	Deputy
	Mathematics and Statistics)	to	University, Shimla-5.	Coordinator
		13-07-2013		
4.	Advanced Instructional		Department of	
	School on Diophantine	16-06-2014	Mathematics, H. P.	Coordinator
	Equations	to	University, Shimla	
		04-07-2014	Sponsored by NCM	
			Supported by <b>NBHM</b>	

	T			T
5.	National Instructional Workshop on Cryptology (NIWC-2015)	18-06-2015 to 22-06-2015	Department of Mathematics, H. P. Under the aegis of Cryptology Research Society of India (CRSI)	Coordinator
6.	National Conference on Algebra & Allied Fields	26-03-2016	Department of Mathematics, H. P. University, Shimla	Organising Chair
7.	National Seminar on Algebra & Allied Fields	24-03-2017 & 25-03-2017	Department of Mathematics, H. P. University, Shimla	Organising Chair
8.	National Seminar on Future India : Science and Technology	22-05-2019	HP University Auditorium Jointly Indian Science Congress Association and HP University	Organising Chair
9.	Lecture Series on Language, Data Structure and Algorithms	04-10-2018 to 06-10-2018	At UIT by Dr. Devajyoti Ghos.	Director, UIT
10.	Workshop on Stock Market: Chief Guest- Prof. C. L. Chandan	23-10-2018	Organised at UIT	Director, UIT
11.	Workshop on "Python and Android App" by Jasdeep and Kanchan from Chandigarh	06-04-2019	Organised at UIT	Director, UIT
12.	National Seminar on Future India: Science and Technology	22-05-2019	HP University Auditorium Jointly Indian Science Congress Association and HP University	Organising Chair
13.	FDP- Sponsored by AICTE Prof. Shashi Dhiman, Dr. Neetu Bhagat, DD, AICTE, Dr. Amarjeet, AD, AICTE and Prof. Raminder Singh, Punjab	24-05-2019 to 26-05-2019	Organised at UIT	Director, UIT
14.	Workshop on Quantum Computing Main Organiser: Dr. Dhananjoy Dey Scientist DRDO	02-09-2019 to 06-09-2019	Funded by AICTE and Organised at UIT in collaboration with the Scientists of DRDO	Director, UIT

15.	Workshop Demo for Civil Students provided by Er. P. K. Sharma, SE HPRIDC Shimla	13-11-2019	Vehicle with modern digital device of survey is shown at HP University Ground	Director, UIT
16.	National Mathematics Day	22-12-2020	Department of Mathematics and UIT, HP University	Chairman, Deptt. of Mathematics
17.	International Women's Day	08-03-2021	UIT, HP University	Director, UIT
18.	Inauguration of FDP organised by Dr. Sanjay and Dr. Nikita on "Renewable Power: Generator Control and Applications	14-06-2021 to 18-06-2021	UIT, HP University	Director, UIT
19.	Webinar on "Introduction to MATLAB"	08-07-2021	Department of Mathematics, HP University	Chairman, Deptt. of Mathematics
20.	<ul> <li>(i) Online Lecture on Remote Sensing at 1:30 PM by Prof. D. D. Sharma.</li> <li>(ii) Lecture on NEP-2020 at 3:00 PM by Dy. Registrar- Roorkee</li> </ul>	06-08-2021	UIT, HP University	Director, UIT
21.	Webinar on "Mathematics Magic"  Chief Guest: Prof. T. K.  Das, Department of  Mathematics, University of  Delhi, Speaker: Dr. P. K.  Sharma, Chairperson,  Department of  Mathematics, NIT Hamirpur	12-08-2021	Himachal Ganita Parishad (HGP)	President, HGP
22.	Two Days Workshop on the Title "How to Crack NET-JRF: Tips and Tricks"  Chief Guest: Prof. Ruchi Das, Head, Department of Mathematics and Dean, Faculty of Mathematical Sciences, University of Delhi. Resource Person:	23-08-2021 & 24-08-2021	Himachal Ganita Parishad (HGP)	President, HGP

	Du Doules! V			
	Dr. Pankaj Kumar,			
	Assistant Professor, Central			
	University, Dharamshala,			
	H. P.			
23.	International Conference on	06-09-2021	Himachal	Convenor
	"Recent Trends in	&	Mathematical Society	
	Mathematics"	07-09-2021	(HIMS)	
24.	Inauguration of Faculty			
	Development Programme	04-10-2021	Organized by	Director,
	(FDP) by Prof. Arvind kalia	to	Department of	UIT
	(DS), Prof. Arvind Bhatt	08-10-2021	Electronics &	
	(Dean) and Prof. P. L.	00 10 2021	Communications,	
	Sharma (Director),		UIT	
	Valedictory Function: Prof.			
	Nagesh Thakur (Dean) and			
	Prof. P. L. Sharma (Director)			
25.	Lecture on "Some Recent		Department of	Chairman,
25.		16 11 2021	Mathematics, HP	Deptt. of
	Metahueristics" by Prof.	16-11-2021	University	Mathematics
	Satya Bir Singh, Department		University	Mathematics
	of Mathematics, Punjabi			
	University Patiala			
26.	Lecture on "Soft Skills &		Student Councelling	Chairman,
	Success" by Dr. Santosh	24-11-2021	Committee,	Deptt. of
	Verma, HPU Business	2.11.2021	Department of	Mathematics
	School		Mathematics, HP	
	Selicor		University	
27.	Two days "International	11-12-2021	Himachal Ganita	President,
	Conference on Recent	&	Parishad (HGP)	HGP
	Trends in Mathematical	12-12-2021	( )	
	Sciences"	12-12-2021		
28.	Lecture on the		Student Councelling	Chairman,
	"Communication,	20-12-2021	Committee,	Deptt. of
	Technology and Law" by	20-12 <b>-</b> 2021	Department of	Mathematics
	Prof. Sanjay Sindhu,		Mathematics, HP	
	Director, UILS, Avalodge,		University	
	HPU			
29.	National Mathematics Day			
<b>4</b> )•	Chief Guest: <b>Prof. Sikander</b>			
	Kumar, Hon'ble Vice	22-12-2021	Department of	Chairman,
	Chancellor and Guest of	22-12 <b>-</b> 2021	Mathematics, HP	Deptt. of
	Honour: <b>Prof. Arvind</b>		University	Mathematics
			Omversity	ivianicinatics
	Bhatt, Dean of Studies and			
	Prof. Mahavir Singh, Dean,			
	Faculty of Physical Sciences			

30.	International Women's Day Chief Guest: Dr. Monika Bhutungru, SP, Shimla	08-03-2022	UIT, HP University	Director, UIT
31.	Three Days International Conference on Soft Computing: Theory and Applications (SoCTA) organized by UIT and STEM-RS	16-12-2022 to 18-12-2022	UIT, HP University	Director, UIT
32.	Two days "2 <sup>nd</sup> International Conference on Recent Trends in Mathematical Sciences"	27-12-2022 & 28-12-2022	Himachal Ganita Parishad (HGP)	President, HGP

#### [10] ACADEMIC ASSIGNMENTS:

- 1. Life Member of "Cryptology Research Society of India (CRSI)".
- 2. Life Member of "Indian Mathematical Society (IMS)".
- 3. Life Member and Treasurer of "Himachal Mathematics Society (HIMS)"
- **4.** Life Member of "The Indian Science Congress Association (ISCA)".
- **5.** Evaluated Ph. D. Theses and M.Phil. Dissertations.
- **6.** Reviewer: American Mathematical Society (MathSciNet).
- 7. Member, Editorial Board "International Journal of Theoretical & Applied Sciences" ISSN No. 0975-1718.
- **8.** Member, Editorial Board "Bulletin of Pure and Applied Sciences E (Math & Stat.)" ISSN No. 0970-6577.
- **9.** Member, Editorial Board "International Journal of Applied Computational Science & Mathematics (IJACSM)", ISSN No. 2249-3042.
- **10.** Member, Editorial Board, "International Journal of Economic and Management Strategy (GBS-JEMS)", ISSN No. 2278-3636.

## [11] INSPECTION DUTIES & OTHER DUTIES PERFORMED RELATED TO UNIVERSITY:

- 1. V. C. Nominee in the Inspection Team (Convener) for Govt. College Nagrota Bagwan, Distt Kangra to start M. Sc. Mathematics, inspected on 24-09-2018.
- 2. Convener, Invitation Committee for Convocation of HPU held on 30 -10-2018. (Chief Guest: His Highness President Shri Ram Nath Kovind)
- **3.** V. C. Nominee in the Inspection Team (Convener) for Homoeopathic Medical College and Hospital Kumarhatti, Solan (H.P.), inspected on 22.12.2018.

- **4.** Subject expert of Mathematics in the inspection committee to run/start B.Sc. Non-Medical courses in Government college Jhandutta, Distt. Bilaspur (H. P.) on 26-02-2019.
- **5.** Convener, Invitation Committee for the 50<sup>th</sup> Foundation Day of HP University, Shimla held on 22-07-2019. (Chief Guest: Chief Minister Shri Jai Ram Thakur)
- **6.** V. C. Nominee in the Inspection Team (Convener) to inspect the Kol Valley Institute of Nursing near Slapper, Distt. Bilaspur (H.P.) on 26-07-2019.
- 7. V. C. Nominee in the Inspection Team (Convener) to run/start BBA, BCA and PGDCA at Govt. PG College, Ghumarwin, Distt. Bilaspur (H.P.) on 29-07-2019.
- **8.** Started teaching Python Programming to the students of CSE/IT- 2<sup>nd</sup> Year on 21-04-2020 and continued upto June, 2020..
- **9.** V. C. Nominee for the Inspection of Govt. College, Bilaspur to start M. Sc. Physics/Chemistry/ Mathematics with Prof. Nainjeet Singh Negi, Prof. Suvercha and Prof. Khem Chand on 17-07-2021.
- **10.** Co-ordinator of Invitation Committee and of seating arrangement for 52<sup>nd</sup> Foundation Day (22-07-2021) of H. P. University.
- **11.** V. C. Nominee for the Inspection of Govt. College, Jhanduta, Distt. Bilaspur, H. P. On 28-08-2021.
- **12.** Subject expert of Mathematics in the inspection committee of Govt. College, Ghumarwin, Distt. Bilaspur, H. P. On 28-08-2021.
- **13.** Counselling for BBA Admissions at UCBS on 20-09-2021 & 21-09-2021.
- **14.** Convened meeting of SSC at Committee Room, VC Office with Dr. Vinay, Medical Officer and 22 Coordinators at 4:00 PM on 29-10-2021.
- **15.** Member of Interview Committee for Faculty of Mathematics, Chakmoh College at Department of Bio Tech. On 30-11-2021.
- **16.** Attended the meeting of Committee of Chairpersons for the implementation of NAAC work on 04-12-2021.
- **17.** Attended the Meeting of Students Counselling Committee convened by Prof. Sikander Kumar, Hon'ble Vice Chancellor on 24-12-2021.
- **18.** Member of Interview Committee for Department of Civil, ECE and CSE on 27-01-2022.
- **19.** Member of Interview Committee for Faculty of Mathematics in Department of Mathematics and Evening Studies on 28-01-2022.

#### [12] CHIEF GUEST DURING THE FOLLOWING OCCASIONS:

- 1. Manav Dyal High School Namhol Annual Prize Distribution Function in October 2007.
- 2. Him Sarvodaya Sr. Secondary School Ghumarwin Annual Prize Distribution Function in March 2009.
- **3.** Akhilesh Mashroom Project at Namhol of **Three Crore** in June 2010.
- **4.** SVM Bilaspur Distt. Students Annual Prize Distribution Function at Ghumarwin (Bilaspur) on 17-09-2017.
- **5.** Him Sarvodaya Sr. Secondary School Ghumarwin Annual Prize Distribution Function on 05-01-2019.
- **6.** Ramanujan's birth anniversary Program organised by Dy. Director, Higher Education of District Bilaspur (H.P.) at Ghumarwin on 27-02-2019.
- **7.** Organised and Attended the First Wrestling Program in the Village Mehran, Tehsil Ghumarwin, District Bilaspur (H.P.) on 24-04-2019.
- **8.** Inaugurated the building of Oriental Public High School, Harlog, Distt. Bilaspur on 01-08-2019.
- **9.** Acted as Chief Guest on the valedictory function of refresher course in IT organised by HRDC-ASC, H. P. University, Shimla on 14-03-2020.
- **10.** Guest of Honour in the National Conference on 135<sup>th</sup> birth anniversary of Srinivasa Ramanujan organised by NIT Arunachal Pradesh on 22-12-2022.

#### [13] As Director UIT (From 27th August, 2018 to 25th June, 2023):

#### (I) Events Organised/Celebrated:

Sr. No.	DATE	EVENT	REMARKS
1.	05-09-2018	Teacher's Day	Organised at UIT
2.	11-09-2018	UIT Foundation Day	Organised at UIT with tree plantation. Distribution of Apples and Sweets.

3.	15-09-2018	Engineer's Day	It is celebrated at UIT with talk of (i) Mr. Madhu Web Admin at Vidhansabha and Paras Sharma. (ii) Deepak Ratan and Dharamveer from Sabiz, Chandigarh on Web Designing and Android App.
4.	22-09-2018	Indian Science and Technology: Past, Present and Future	Organised at UIT in Collaboration with Indian Science Congress Association (ISCA).
5.	29-09-2018	Surgical Strike Day	Organised at UIT, shown movie on Surgical Strike, Program of students like Poem, Songs, Speeches etc.
6.	04-10-2018 to 06-10-2018	Lecture Series on Language, Data Structure and Algorithms by Dr. Devajyoti Ghos	At UIT
7.	23-10-2018	Workshop on Stock Market: Chief Guest- Prof. C. L. Chandan	Organised at UIT
8.	02-11-2018 to 05-11-2018	TECHNO- CULTURAL FEST(UTKARSH- 2018)	2 <sup>nd</sup> November at UIT 3 <sup>rd</sup> , 4 <sup>th</sup> and 5 <sup>th</sup> November at University Auditorium. Chief Guest on Inauguration: Er. D. K. Sharma, Chairman BBMB Chandigarh.
9.	14-12-2018 to 21-12-2018	CAG-SAS Online Test	UIT
10.	08-03-2019	International Women Day	UIT

11.	04-04-2019	Mrs. Helen Camp, New- Zealand and Mr. Sanchit Walia, New- Zealand addressed the students for Students Job opportunity	UIT
12.	06-04-2019	Workshop on "Python and Android App" by Jasdeep and Kanchan from Chandigarh	IT
13.	24-05-2019 to 26-05-2019	FDP- Sponsored by AICTE Prof. Shashi Dhiman, Dr. Neetu Bhagat, DD, AICTE, Dr. Amarjeet, AD, AICTE and Prof. Raminder Singh, Punjab	UIT
14.	14-06-2019	Annual Function of B. Tech. Students	At Peterhof Chief Guest: Hon'ble Vice Chancellor, Prof. Sikander Kumar
15.	16-08-2019	Induction Program for New Students (1st Year- CSE, IT, CE, EE, ECE)	At University Auditorium Chief Guest: Hon'ble Vice Chancellor, Prof. Sikander Kumar Guest of Honour: Prof. Nagesh Thakur and Registrar Sh. Ghanshyam Chand (HAS)
16.	02-09-2019 to 06-09-2019	Workshop on Quantum Computing Main Organiser: Dr. Dhananjoy Dey Scientist DRDO	Funded by AICTE and Organised at UIT in collaboration with the Scientists of DRDO
17.	05-09-2019	Teacher's Day Celebration with Dr. Dhananjoy Dey Scientist	UIT
18.	08-09-2019	Police Constable Entrance Test	UIT
19.	14-09-2019	Hindi Diwas	UIT

		TECHNO- CULTURAL FEST(UTKARSH- 2019)	
20.	02-10-2019 to 05-10-2019	Chief Guest: Prof. Ravinder Kanhere, PVC IGNOU Guest of Honour: Er. P. K. Sharma Inaugural Chief Guest: Dr. R. K. Soni, Director AICTE Chandigarh Valedictory Chief Guest: Hon'ble Vice Chancellor, Prof. Sikander Kumar	At University Auditorium
21.	11-11-2019	National Education Day	UIT
22.	11-11-2019	Visit of Electrical Engineering Students	Electrical Substation, Summerhill, Shimla
23.	13-11-2019	Workshop Demo for Civil Students provided by Er. P. K. Sharma, SE HPRIDC Shimla.	Vehicle with modern digital device of survey is shown at HP University Ground
24.	11-09-2020	UIT Foundation Day Chief Guest: Hon'ble Vice Chancellor, Prof. Sikander Kumar (a) Plantation in UIT (b) Inaugural of Alumni Portal	At UIT Campus
25.	26-02-2021	Examination conducted at UIT for HP Subordinate Hamirpur Computer based more computer	
26.	08-03-2021	International Women Day	Organised in UIT
27.	19-03-2021	(i) On NPTEL awareness lecture to faculty members by Dr. Nikita (ii) Local Chapter- UIT Shimla by MOOCS	Organised in UIT
28.	06-05-2021	AICTE-NEAT Webinar for all B. Tech. Students and Teachers  Organised in UIT	
29.	07-05-2021	B. Tech. Hons awareness, Seminar by Dr. Nikita  Organised in UIT	
30.	11-06-2021	Talk arranged for the students for career counselling	Organised in UIT

31.	06-08-2021	<ul><li>(i) Online Lecture on Remote Sensing at 1:30 PM by Prof. D. D. Sharma.</li><li>(ii) Lecture on NEP-2020 at 3:00 PM by Dy. Registrar- Roorkee</li></ul>	Organised in UIT
32.	09-08-2021	Inauguration of FDP on Disaster Management. Chief Guest: Sh. Vivek Chandel, Director, Technical Educations.	Organized by Civil Department, UIT
33.	09-08-2021	Meeting with BDO- Tutu at 12:30 PM	At UIT
34.	12-08-2021	Faculty, Engineering and Technology Meeting at 11:00 AM with Prof. R. K. Sharma, NIT- Kurukshetra, Prof. A. P. Singh, NIT-Jalandhar (online), Prof. Ashwani Chandel, NIT- Hamirpur (online) and Prof. Nagesh Thakur.	At UIT
35.	11-09-2021	UIT Foundation Day Chief Guest: Prof. Sikander Kumar, Hon'ble Vice- Chancellor, HPU Guest of Honours: Prof. Arvind Kalia (DS), Prof. Nagesh Thakur (Dean), Prof. Arvind Bhatt (Dean), Prof. Chander Mohan (Director, IQAC)	At UIT Campus
36.	14-09-2021	Hindi Diwas Celebrations Chief Guest: Prof. P. L. Sharma	At UIT Campus
37.	15-09-2021	Engineer's Day Celebrations Chief Guest: Er. Ram Kumar Shiridhar, SE, HPIRDC, PWD Guest of Honour: J. K. Gupta, XEN, HPU	
38.	27-09-2021 to 30-09-2021	Collaborations between UIT and National Institute of Disaster management (NIDM) Dr. Jasmine Kaur (UIT), Dr. Kopal Verma (NIDM), Coordinator Maj. Gen. M. K. Bindal, Prof. Anil K. Gupta, Head (NIDM) Inaugural Session: Prof. Sikander Kumar (Chief Guest), Prof. Anil K. Gupta and Prof. P. L. Sharma Valedictory Session organised by	

		Dr. Jasmine Kaur (UIT), Dr. Kopal Verma (NIDM) on 30-09- 2021	
39.	04-10-2021 to 08-10-2021	Inauguration of Faculty Development Programme (FDP) by Prof. Arvind kalia (DS), Prof. Arvind Bhatt (Dean) and Prof. P. L. Sharma (Director), Valedictory Function: Prof. Nagesh Thakur (Dean) and Prof. P. L. Sharma (Director)	Organized by Department of Electronics & Communications, UIT
40.	13-10-2021	Ghanatti Village Adoption Programme	
41.	18-10-2021 & 19-10-2021	Students Induction Programme Four Sessions: (i) Prof. Sikander Kumar, Prof. Arvind Bhatt, Prof. P. L. Sharma and Dr. Ramesh Thakur (ii) Sh. N. L. Sharma, Prof. P. L. Sharma and Dr. Sumesh Sood (iii) Sh. Sudesh Mokhta, Prof. Awasthi, Dr. Ramesh Thakur and Dr. Sumesh Sood (iv) Er. P. K. Sharma, Er. Ram Kumar Shiridhar and Dr. Sumesh Sood	At UIT Campus
42.	16-12-2021 to 19-12-2021	University Industry Conclave & UIT- UTKARSH Inaugural Session: Chief Guest: Prof. Sikander Kumar, Hon'ble Vice Chancellor, Prof. Arvind Bhatt, Prof. Nagesh Thakur	At University Auditorium
43.	28-12-2021	Organised Health Awareness Camp to MNEREGA workers	At Ghanati Village
44.	08-03-2022	International Women's Day Chief Guest: Dr. Monika Bhutungru, SP, Shimla	At UIT Campus
45.	15-06-2022	RTI-2005 Invited talk to University PIOs by Sh. Praveen Kumar Saini IAS (Retd.) Chief Guest: Dean of Studies	At UIT Campus

46.	23-06-2022 to	Conducted JEE Main Exam	At UIT Campus
	29-06-2022		
47.	25-06-2022	25 students flagged off to <b>Kerala</b> under " <b>Ek Bharat Shreshta Bharat</b> " (by Pro VC)  At University C	
48.	28-06-2022	Civil Deptt. went to IIT-Mandi and Atal Tunnel with the grant of AICTE	
49.	15-08-2022	Celebrated 15 <sup>th</sup> August (unveiling flag for the first time)	At UIT Campus
50.	18-08-2022	Annual Function- Final Year	At UIT Campus
51.	21-08-2022	Alumni Meet (Er. Sonia Sharma and Mr. Vishwas)	At UIT Campus
52.	11-09-2022	UIT Foundation Day Chief Guest: Prof. S. P. Bansal, Hon'ble Vice- Chancellor, HPU Guest of Honours: Prof. Jyoti Prakash, Prof. K. C. Sharma, Dr. Sumesh Sood and Dr. Kismat	At University Auditorium
53.	12-09-2022	Lecture on Moral Values by Atul Gupta from Jammu & Kashmir	At UIT Campus
54.	15-09-2022	Engineer's Day Celebrations Chief Guest: Prof. P. K. Sharma, Projects Director and Chief Engineer, HPRIDC Guest of Honour: Er. C. P. Mahajan and XEN, SDO, JE of H. P. University	At UIT Campus
55.	20-09-2022	Talk to the UIT students on Outcome Based Education by Prof. K. C. Narayankhedkar	
56.	21-09-2022	Talk to the UIT students on Solar Energy by Prof. Chetan Singh Solanki Chief Guest: Hon'ble Vice- Chancellor, HPU	At University Auditorium
57.	03-11-2022	NAAC Team visit	At UIT Campus

58.	23-11-2022 to 26-11-2022	TECHNO- CULTURAL FEST (UTKARSH- 2022) Inaugural Chief Guest: Er. D. K. Sharma, Chairman, H. P. State Electricity Regulatory Commission  Valedictory Chief Guest: Er. P. K. Sharma, Projects Director and Chief Engineer, HPRIDC	At University Auditorium
59.	16-12-2022 to 18-12-2022	Three Days International Conference on Soft Computing: Theory and Applications (SoCTA) organized by UIT and STEM-RS	At University Auditorium

### (II) MoU Signed Between UIT and Other Institutes:

Sr. No.	Name of the Institution/ Organization with whom MoU has been Signed by UIT –HPU Shimla	Signing Date of MoU	Details of MoU Signing Parties
1	National Institute of	11.06.2020	First Party- Prof. P. L. Sharma,
	Electronics & Information		Director- University Institute of
	Technology (NIELIT), Shimla		Technology
			Second Party- Mr. Rajeev
			Aggarwal, Director- National
			Institute of Electronics and
			Information Technology, Shimla-1
2	Central Public Works Dept &	14.01.2020	First Party- Purnesh Kumar,
	Govt. of HP		Executive Engineer, Shimla Central
			Division-2, CPWD, Shimla (HP).
			Second Party- Ghanshyam Chand,
			Registrar, HPU Shimla

3	Indian Institute of Information Technology- Una (Himachal Pradesh)	26.06.2020	First Party- Ghanshyam Chand, Registrar, HPU Shimla, Witness- Prof. P. L. Sharma, Director- UIT, HPU Shimla  Second Party- S. Selvakumar, Director- IIIT Una
4	Himachal Pradesh Technical University, Hamirpur (HP)	26.06.2020	First Party- Prof. P. L. Sharma, Director- University Institute of Technology  Second Party- Dr. Dhirender Sharma, Dean, Engg and Technical University, Hamirpur
5	Himachal Pradesh Road and Other Infrastructure Development Corporation (HPRIDC), Shimla	30.06.2020	First Party- Prof. P. L. Sharma, Director- University Institute of Technology  Second Party- Er. Ajay Gupta, Chief Engineer-cum-Project Director, HP State Road Project, HPRIDC, Shimla
6	University Institute of Engineering and Technology Kurukshetra University, Kurukshetra, Haryana	02.07.2021	First Party- Prof. P. L. Sharma, Director- University Institute of Technology  Second Party- Prof. C.C. Tripathi, Director- University Institute of Technology Kurukshetra University, Kurukshetra, Haryana.
7	Sri Badrika Ashram Cum Charitable & Social Welfare Society	03.08.2021	First Party- Prof. P. L. Sharma, Director- University Institute of Technology  Second Party- CA Rajiv Mittal, Administrator- Shri Badrika Ashram cum Charitable & Social Welfare Society

8	SJVN Ltd., Shimla, HP	23.09.2021	First Party- Prof. P. L. Sharma, Director- University Institute of Technology  Second Party- Sh. D. P. Kaushal, Executive Director (HR)
9	HP State Disaster Management Authority(SDMA), HP	07.10.2021	First Party- Sh Sudesh Kumar Mokhta (IAS), Director cum Spcl. Secry- State disaster Management Authority- HP  Second Party- Prof. P. L. Sharma, Director- University Institute of Technology
10	National Institute of Technology, Hamirpur, HP	18.11.2021	First Party- Prof. Lalit Kumar Awasthi, Director NIT, Hamirpur Second Party- Prof. P. L. Sharma, Director- University Institute of Technology
11	IIT Mandi	21.12.2021	First Party- IIT Mandi,  Second Party- Prof. P. L. Sharma, Director- University Institute of Technology

## [14] As Chairman, Department of Mathematics & Statistics (From 22<sup>nd</sup> October, 2020 to 26<sup>th</sup> October, 2022):

- **1.** "National Mathematics Day" celebrated by Department of Mathematics and UIT Jointly with Vice Chancellor as a Cheif Guest.
- 2. Installation of Softwares Mathematica (4+5) and Matlab (2+5) on 25-03-2021.
- **3.** All the faculty rooms, classrooms, Seminar room, LAB, Library and Corridor are fully renovated along with Panelling work and Murals of Great Mathematicians are engraved in the corridor in the year 2021.
- **4.** Webinar regarding MATLAB on 08-07-2021.

- 5. Alumni Association Unit Program in Department of Mathematics with Chief Guest, Dr. C. B. Mehta, Principal, Govt. College Sanjauli, Prof. P. L. Sharma and other Faculty Members organised by Dr. Pushap Lata Sharma on 29-10-2021.
- **6.** Organised a Lecture of Prof. Satya Bir Singh, Department of Mathematics, Punjabi University Patiala on the topic "Some Recent Metahueristics" on 16-11-2021.
- 7. Organised a Lecture of Dr. Santosh Verma, HPU Business School on the topic "Soft Skills & Success" on 24-11-2021.
- **8.** Inauguration of Certificate Course in Vedic Mathematics and PG Diploma in Ancient Mathematics by Prof. Sikander Kumar, Hon'ble Vice Chancellor, Prof. Arvind Bhatt, Dean of Studies and Prof. Mahavir Singh, Dean, Faculty of Physical Sciences on 29-11-2021.
- **9.** Organised a Guest Lecture of Prof. Sanjay Sindhu, Director, UILS, Avalodge, HPU on the topic "Communication, Technology and Law" on 20-12-2021.
- 10. Celebrated National Mathematics Day with Chief Guest: Prof. Sikander Kumar, Hon'ble Vice Chancellor and Guest of Honour: Prof. Arvind Bhatt, Dean of Studies and Prof. Mahavir Singh, Dean, Faculty of Physical Sciences on 22-12-2021 and Inaugurated the Renovation work of the Department and the Murals constructed in the corridor of the Department.
- 11. Organised Interactive Session by the Department of Mathematics under the ages of H. P. University Alumni Association with the Alumnus Dr. H. S. Jamwal (Retd. Principal, Govt. College, Hamirpur) and the students of M. Sc., M. Phil. and Ph. D. of the Department on 01-03-2022.

#### [15] As President, Himachal Ganita Parishad (HGP) (Since March, 2021):

- 1. Organized a Webinar on "Mathematics Magic" for the students of +1 & +2 of all private schools of District Bilaspur on 12-08-2021. Chief Guest: Prof. T. K. Das, Department of Mathematics, University of Delhi, Speaker: Dr. P. K. Sharma, Chairperson, Department of Mathematics, NIT Hamirpur.
- 2. Organized Two Days Workshop for M. Sc. Mathematics students on the Title "How to Crack NET-JRF: Tips and Tricks" on 23 & 24-08-2021. Chief Guest: Prof. Ruchi Das, Head, Department of Mathematics and Dean, Faculty of Mathematical Sciences, University of Delhi. Resource Person: Dr. Pankaj Kumar, Assistant Professor, Central University, Dharamshala, H. P.
- 3. Organised two days "International Conference on Recent Trends in Mathematical Sciences" on 11-12-2021 & 12-12-2021, Chief Guest: Prof. Sikander Kumar, Hon'ble Vice Chancellor, Himachal Pradesh University, Shimla Invited Speakers: Prof. Sihem Mesnager, University of Paris, France, Prof. Niraj Khare, Carnegie Mellon University, Prof. Subhomoy Maitra, ISI Kolkata and Prof. T. K. Das, University of Delhi.

- **4.** Organised two days "2<sup>nd</sup> International Conference on Recent Trends in Mathematical Sciences" on 27-12-2022 & 28-12-2022, **Chief Guest: Prof. Pinakeshwer Mahant**, Director, NIT Arunachal Pradesh, **Invited Speakers: Prof. Sihem Mesnager**, University of Paris, France, **Prof. Olivier Ramare**, University of Marseilles, France, **Prof. Shanta Laishram**, ISI Delhi and **Prof. Mandeep Singh**, SLIET, Longowal.
- **5.** Organised Three Days Workshop on "Pedagogy of basic Real Analysis & its Applications" from 02-03-2023 to 04-03-2023 in Sanjauli College.