

Dr. Jay Mehta

CONTACT INFORMATION	Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar - 388 120, Gujarat, INDIA.	jay_mehta[At]spuvvn(dot)edu jaygmehta[At]gmail(dot)com
WEBPAGE	https://www.spuvvn.edu/team/j-g-mehta/ https://jaygmehta.com	
POSITIONS HELD	Sardar Patel University , Vallabh Vidyanagar, India. Assistant Professor , Department of Mathematics. <ul style="list-style-type: none">• June 2016 - Present The Institute of Mathematical Sciences (IMSc), Chennai, India. Postdoctoral researcher , Mathematics (Number Theory) <ul style="list-style-type: none">• June 2015 - June 2016	
EDUCATION	Harish-Chandra Research Institute (HRI), Allahabad, India. Ph.D. , Mathematics (Number Theory) <ul style="list-style-type: none">• August 2009 - June 2015• Title of Thesis: Characterization of Certain Arithmetical Functions• Advisor: Prof. Kalyan Chakraborty Sardar Patel University , Vallabh Vidyanagar, India. M.Sc. , Department of Mathematics, June 2008 <ul style="list-style-type: none">• Subjects: <i>Mathematics</i>• Percentage (or Class): 78.11% (First Distinction) B.Sc. , V.P. & R.P.T.P Science College, June 2006 <ul style="list-style-type: none">• Subjects: <i>Mathematics (Major), Statistics, Computer Application</i>• Percentage (or Class): 76.71% (First Distinction)	
RESEARCH INTERESTS	Number Theory - multiple zeta functions, modular forms, analytic number theory, arithmetical functions. Cryptography - Elliptic curve cryptography, key exchange and digital signatures.	
COMPUTER SOFTWARE AND PROGRAMMING SKILLS	\LaTeX , C language, Python programming, Scilab	
SEMINARS & CONFERENCES ATTENDED	<ul style="list-style-type: none">• Mar 14 - Mar 15, 2022 - P. C. Vaidya National Conference on Mathematical Sciences, , Dept. of Mathematics, SPU, Vallabh Vidyanagar.• Oct 16 - Oct 19, 2019 - International Conference on Class Groups of Number Fields and Related Topics (ICCGNFRT-2019), HRI, Allahabad.• May 11 - May 13, 2019 - International Conference on “2019 Sanmenxia Meeting on New Energy Technology-Vehicle Development”, Sanmenxia, China.	

- Dec 04 - Dec 06, 2018 - Workshop on Number Theory, NISER, Bhubaneswar.
- Oct 08 - Oct 11, 2018 - International Conference on Class Groups of Number Fields and Related Topics (ICCGNFRT-2018), HRI, Allahabad.
- Sep 01 - Sep 03, 2018 - EVs in Green Grid-Many a little makes a miracle, Sanmenxia, China.
- Jan 11 - Jan 24, 2016 - Indo-French Conference, Institute of Mathematical Sciences, Chennai.
- Dec 14 - Dec 18, 2015 - A Conference in Number Theory, Institute of Mathematical Sciences, Chennai.
- Dec 15 - Dec 20, 2011 - International Meeting on Number Theory, Harish-Chandra Research Institute, Allahabad.
- Mar 04 - Mar 18, 2011 - Special Year in Number Theory (SYM), Institute of Mathematical Sciences (IMSc), Chennai.
- Aug 19 - Aug 27, 2010 - International Congress of Mathematicians (ICM 2010), Hyderabad, India.
- Jan 20 - Feb 02, 2010 - Discussion Meeting on Geometry and Analysis, Harish-Chandra Research Institute, Allahabad.
- Nov 2 - Nov 14, 2009 - Discussion Meeting on Finite Fields and Coding Theory, Harish-Chandra Research Institute, Allahabad.
- Jan 30 - Jan 31, 2009 - National Seminar on Analysis, Differential Equations & Applications, M.S. University, Vadodara, Gujarat.
- February 17, 2008 - IIIrd GSA-VVN CSC Annual Science Meet, S.P. University, V V Nagar, Gujarat.
- Nov 25 - Nov 27, 2006 - 43rd Mathematics Annual Conference, by Gujarat Ganit Mandal, Surat, Gujarat.

WORKSHOPS &
SCHOOLS
ATTENDED

- March 4 - March 7, 2020 - Workshop on Analytic Number Theory, Kerala School of Mathematics, Kozhikode.
- Dec 22 - Jan 5, 2012 - ATM for lectures on Number Theory, Harish-Chandra Research Institute, Allahabad.
- Nov 16 - Nov 25, 2011 - Lectures on Theory of Numbers, Dept. of Mathematics, Tribhuvan University, Kirtipur, Nepal.
- Dec 13 - Dec 17, 2010 - Winter School in Number Theory on Waring's Problem by Prof. Ram Murty, IISERK, Kolkata.
- July 19 - July 31, 2010 - CIMPA School on 'Number Theory in Cryptography and its Applications', Kathmandu University, Dhulikhel, Nepal.
- Jan 24 - Jan 29, 2009 - Workshop on Problem Solving in Mathematics, Dept. Of Mathematics, S.P. University, Vallabh Vidyanagar.
- June 16 - July 04, 2008 - Summer Program In Mathematics (SPIM-08), Harish-Chandra Research Institute, Allahabad.
- Feb 21 - Feb 26, 2008 - Workshop on Problem Solving in Mathematics, Dept. Of Mathematics, S.P. University, Vallabh Vidyanagar.
- May 14 - June 09, 2007 - Mathematics Training & Talent Search Program, (MTTS -2007), Level-2, UICT, Mumbai.

VISIT TO OTHER
INSTITUTES

- Institute to Mathematical Sciences (IMSc), Chennai Mar 4-18, 2011

	<ul style="list-style-type: none"> • Department of Mathematics, Tribhuvan University, Kirtipur, Nepal Nov 15-25, 2011 • Kinki University, Iizuka, Japan June 18 - July 2, 2014 • Kinki University, Main Campus, Osaka, Japan July 3-4, 2014 • Kinki University, Iizuka, Japan Oct. 15 - Oct. 24, 2015 • Weinan Normal University (WNU), Weinan, Shaanxi, China August 25-31, 2018 • SUDA Transporation Energy Saving Technology Research Institute, Sanmenxia, Henan, China Aug. 31-Sept. 3, 2018 • Harish-Chandra Research Institute (HRI), Allahabad Oct 8-14, 2018 • Indian Institute of Science Education and Research (IISER), Berhampur Dec 6-8, 2018 • Weinan Normal University (WNU), Weinan, Shaanxi, China May 09-10, 2019 • SUDA Transporation Energy Saving Technology Research Institute, Sanmenxia, Henan, China May 11-13, 2019 • School of Mathematics, Shandong University (SDU), Jinan, Shandong, China May 13-16, 2019 • Indian Institute of Science Education and Research (IISER), Berhampur Oct 21-25, 2019 	
RESEARCH GRANTS	<ul style="list-style-type: none"> • UGC-BSR Start-Up Research grant of ₹10 lakhs - 2018 - 2020 	
AWARDS & HONOURS	<ul style="list-style-type: none"> • Best E-Lecture Award by REST Society for Research International (RSRI) - Oct. 11, 2020 • Received Dept. of Atomic Energy (DAE) Fellowship for Postdoctoral Research at The Institute of Mathematical Sciences (IMSc), Chennai - June 2015 - June 2016 • Received NBHM Travel Grant to attend CIMPA School on 'Number Theory in Cryptography and its Applications', Kathmandu University, Nepal - August 2010 • Received Dept. of Atomic Energy (DAE) Fellowship for Ph.D. Program at Harish Chandra Research Institute - Aug 2009 - June 2015 • Selected for Ph.D. program at Indian Institute of Technology (IIT), Kanpur - June 2009 • Cleared NBHM Ph.D. Scholarship Written Test - 2009 • Qualified CSIR NET (National Eligibility Test for Lectureship) and Junior Research Fellowship - Dec 2008 • Qualified GATE exam with Score: 0387, Percentile Score: 92.32 and All India Rank: 201 - 2008 	
TEACHING EXPERIENCE	<p>Semester Courses</p> <ul style="list-style-type: none"> • Topology-I (PS01CMTH52) - Semester - I • Linear Algebra (PS01CMTH24) - Semester - I • Mathematical Classical Mechanics (PS01EMTH22/PS02EMTH22) - Semester - I & II • Functional Analysis-I (PS02CMTH24) - Semester - II 	

- Principles of Mathematics and Biostatistics (Matrices & Graph Theory) (PT02CBIC02) at IICISST, SPU - Semester - II
- Mathematical Methods - I (PS03CMTH02) - Semester - III
- Problems & Exercises in Mathematics - I (Topology and Algebra) (PS03EMTH40) - Semester - III
- C Programming and Mathematical Algorithms - II - Semester - III & IV
Practicals (PS03EMTH24/ PS04EMTH28)
- Advanced Group Theory (PS03EMTH54/ PS04EMTH57) - Semester - III & IV
- Computer Programming (Python) and Software - Semester - III & IV
(PS03EMTH32/ PS04EMTH32)
- Number Theory and Cryptography (PS03EMTH55/ PS04EMTH59) - Semester - III & IV
- Problems & Exercises in Mathematics - II (Topology and Algebra) (PS04EMTH42) - Semester - IV
- Operations Research (PS04EMTH30) - Semester - IV
- Complex Analysis - II (PS04CMTH51) - Semester - IV

Other Courses

1. Gave a 2 week (12 lectures) course on “Number Theory” in Level-O of Mathematics Training and Talent Search Program (MTTS-2025) at Bharathidasan University Tiruchirappalli, Tamil Nadu from 19th May to 31st May, 2025.
2. Gave a course (of 8 lectures) on “Real Analysis” in the Initiation into Mathematics (InitMath) program at Guru Nanak College, Killianwali, Punjab from 24th to 29th March, 2025.
3. Gave a course (of 8 lectures) on “Foundations in Mathematics” in the Initiation into Mathematics (InitMath) program at V.P. & R.P.T.P. Science College, Vallabh Vidyanagar, Gujarat from 6th to 11th January, 2025.
4. Gave a course (of 8 lectures) on “Foundations in Mathematics” in the Initiation into Mathematics (InitMath) program at NIT Hamirpur, Himachal Pradesh from 16th to 21st September, 2024.
5. Gave a course (12 lectures) on “Foundations in Mathematics” in a 2 week course in “Online Foundation Course in Mathematics (OFCM2024)” conducted by the Mathematics Training and Talent Search (MTTS) Trust in online mode from 18th August to 31st August, 2024.
6. Gave a 2 week (12 lectures) course on “Foundations in Mathematics” in Level-O of Mathematics Training and Talent Search Program (MTTS-2024) at ICT Mumbai from 20th May to 1st June, 2024.
7. Gave one week course (6 lectures) on “Foundations in Mathematics” in the Initiation into Mathematics (InitMath) program at Sidharth Government College, Nadaun, Himachal Pradesh from 09th to 14th October, 2023.
8. Gave one week course (6 lectures) on “Foundations in Mathematics” in the Initiation into Mathematics (InitMath, Sagar) program at Dr. Harisingh Gour Vishwavidyalaya, Sagar, Madhya Pradesh from 04th to 09th Sept., 2023.
9. Gave a 2 week (12 lectures) course on “Foundations in Mathematics” in Level-O of Mathematics Training and Talent Search Program (MTTS-2023) at IIT (ISM) Dhanbad, Jharkhand from 29th May to 10th June, 2023.
10. Gave one week course (6 lectures) on “Foundations in Mathematics” in the Initiation into Mathematics (InitMath, SPU) program at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, Gujarat from 20th to 25th March, 2023.

11. Gave a series of 12 lectures on “Foundations in Mathematics” in a 3 week course in “Online Foundation Course in Mathematics (OFCM-2022)” of Mathematics Training and Talent Search Program in online mode from 16th October to 06th November, 2022.
12. Taught a 2 week (12 lectures) course on “Foundations in Mathematics” in Level-O of Mathematics Training and Talent Search Program (MTTS-2022) at IIT Ropar, Punjab from 23rd May to 04th June, 2022.
13. Gave a series of 6 lectures on a course on “Topology” in the Summer Program in Mathematics (SPIM@KSoM-2022) at the Kerala School of Mathematics (KSoM), Kozhikode from 9th May to 14th May, 2022.
14. Gave a series of 12 lectures on “Foundations in Mathematics” in a 3 week course in “Online Foundation Course in Mathematics (OFCM-2021)” of Mathematics Training and Talent Search Program in online mode from 19th September to 11th October, 2021.
15. Gave a series of lectures on “Foundations in Mathematics” in a 3 week course in “Online Foundation Course in Mathematics (OFCM-2020)” of Mathematics Training and Talent Search Program in online mode from 04th October to 24th October, 2020.
16. Taught a 2 week (12 lectures of one and half hours) course on “Number Theory” in Level - O of Mathematics Training and Talent Search Program (MTTS-2019) at RIE Ajmer from 20th May to 1st June, 2019.
17. Taught a 2 week (12 lectures of one and half hours) course on “Number Theory” in Level - O of Mathematics Training and Talent Search Program (MTTS-2018) at SSN College, Chennai from 21st May to 2nd June, 2018.
18. Resource person for a course on ‘Cryptography’ in Refresher course for college lecturers during October 9–12, 2014 at Kerala School of Mathematics, Calicut.
19. Tutorials for a course on ‘Algebra’ in Summer Program in Mathematics (SPIM 2013) during June 17th, 2013 to July 5th, 2013 at Harish-Chandra Research Insitute, Allahabad.
20. Taught a course on ‘Set Topology’ in Summer Program in Mathematics (SPIM 2012) during June 16th, 2012 to July 4th, 2012 at Harish-Chandra Research Institute, Allahabad.
21. Conducted tutorial sessions on ‘Number Theory’ in Summer Program in Mathematics (SPIM 2012) during June 16th, 2012 to July 4th, 2012 at Harish-Chandra Research Institute, Allahabad.
22. Gave a couple of tutorials in Advanced Training Schools for Lectures (ATML) on number theory held from Dec. 22nd, 2011 to Jan. 5th, 2012 at Harish-Chandra Research Institute, Allahabad.
23. Took Tutorials on Waring’s Problem in Winter School on Number Theory by Prof. Ram Murty during December 13th to December 17th, 2011 at Indian Institute of Science Education and Research (IISERK), Kolkata.
24. Tutorials on ‘Introduction to Theory of Numbers’ during Nov. 15th to Nov. 25th, 2011 at Department of Mathematics, Tribhuvan University, Nepal.
25. Taken a course on ‘Topology’ in Summer Program in Mathematics (SPIM 2011) during June-July, 2011, at Harish-Chandra Research Institute, Allahabad.

Invited Seminars, Talks & Lectures

1. Delivered a talk on “Problems on Number Theory” in National Workshop on Problem Solving in Mathematics-XIII at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 23rd January, 2025.
2. Delivered an invited online talk on “RSA and Primality Testing” in Curry Leaf Days 2024 on 14th November, 2024.
3. Delivered a talk on “Problems on Number Theory” in National Workshop on Problem Solving in Mathematics-XII at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 14th February, 2024.
4. Delivered an invited online talk on “A Generalized Proof of Infinitude of Primes” in PTMT Day (Curry Leaf Days 2023) on 4th November, 2023.
5. Delivered a talk on “Problems on Number Theory” in National Workshop on Problem Solving in Mathematics-XI at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 24th February, 2023.
6. Delivered a guest lecture on “Cryptography” on National Mathematics Day Celebration at the V.P. & R.P.T.P. Science college, Vallabh Vidyanagar on 22nd December, 2022.
7. Gave two online lectures on “Foundations in Mathematics” in the Online Student Development Program (OSDP) on “Geometric Approach in Real Analysis” organized by the Department of Mathematics, Siddharth Govt. Utkrisht College, Nadaun, Himachal Pradesh on 6th and 13th August, 2022.
8. Gave an invited online expert talk on “Group Theory” in the webinar series “A one week advanced level bridge course on Mathematics” at the Department of Mathematics, Ganpat University on 22nd July, 2022.
9. Gave an expert talk on “Problems on Number Theory” during one week online course on Problem Solving in Mathematics (CSIR UGC NET Prospective) in Dr. Subhash Science College, Junagadh on 3rd June, 2021.
10. Gave an invited talk on “Cryptography” in online mode in Government Science College, Gandhinagar on 22nd December, 2020.
11. Gave an invited talk on “Cryptography” in online mode in St. Albert’s College (Autonomous), Ernakulum, Kerala on 15th September, 2020.
12. Two webinar sessions on ‘Topics in Linear Algebra’ in “One-Week Advanced Level Bridge Course in Mathematics” organized by Ganpat University, Mehsana on 4th and 5th September, 2020.
13. Delivered a lecture on “Problems on irreducibility of polynomials” in ‘Workshop Problem Solving Workshop in Mathematics-X’ at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 18th February, 2020.
14. An Invited Talk on “Introduction to Cryptography: Origin, History, Overview” in Science Symposium (Sciensium-2020) at Dr. Subhash Science College, Junagadh on 7th February, 2020.
15. ‘Gaussian primes as sets characterizing additive arithmetic functions’ in 2nd P.C. Vaidya National Conference on Mathematical Sciences at Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar on 29th December, 2019.
16. ‘Elliptic Curves and their Applications in Cryptography’ in an International Conference on History and Development in Mathematics, with Applications in Science and Technology (ICHDMAST-2019) at Madhuben and Bhanubhai Institute of Technology (MBIT), Vallabh Vidyanagar on 18th December, 2019.

17. 'Set of uniqueness for additive arithmetic functions' at Indian Institute of Science Education and Research (IISER), Berhampur on 24th October, 2019.
18. Conducted one session of one and fifteen minutes on "Number Theory" in One Day Workshop on Problem Solving for NET/ GSET at Gujarat Arts and Science College, Ahmedabad on 31st August, 2019.
19. 'An introduction to Cryptography and its applications' as a guest lecture at M.U. Patel Technical High School, Vallabh Vidyanagar on 28th August, 2019.
20. 'Applications of the Lerch zeta functions' in the International Conference on "2019 Sanmenxia Meeting on New Energy Technology-Vehicle Development" at SUDA Transportation Energy Saving Technology Research Institute, Sanmenxia, China on 11th May, 2019.
21. Conducted one session of one and half hour on "Some Problems from Number Theory and Linear Algebra" in 5th State Level Workshop on Problem Solving & Enrichment in Mathematics at St. Xavier's College, Ahmedabad on 29th December, 2018.
22. Resource person in State level 'Workshop on L^AT_EX' at V.S. Patel College of Arts and Science, Bilimora from 24th December to 25th December, 2018.
23. 'An introduction to Cryptography' as Institute Colloquium at Indian Institute of Science Education and Research (IISER), Berhampur on 8th December, 2018.
24. 'Set of Uniqueness of Shifted Gaussian primes' at International Conference on "EVs in Green Grid - Many a little makes a miracle" at SUDA Transportation Energy Saving Research Institute, Sanmenxia, China on 3rd September, 2018.
25. Delivered talk in One Day National Seminar on "Keys to Prepare for CSIR-NET Mathematical Science Examination" on 4th August, 2018 at Vadodara Institute of Engineering.
26. Conducted one session of one and half hour on "Problems in Number Theory and Group Theory" in National Workshop on Problem Solving in Mathematics at Department of Mathematics-IX, Sardar Patel University, Vallabh Vidyanagar on 6th May, 2018.
27. 'A basic introduction to Cryptography' at M.B. Patel Science College, Anand on 29th January, 2018.
28. 'A brief introduction to Cryptography' at Navyug Science College, Surat on 20th January, 2018.
29. 'Cryptography: An Introduction' at V.P. & R.P.T.P. Science College, Vallabh Vidyanagar on 22nd December, 2017.
30. Conducted one session of 1 hour and 15 minutes in national workshop on "Problem solving techniques in mathematics - II" at Department of Mathematics, The M.S. University of Baroda, Vadodara on 30th November, 2017.
31. 'Cryptography: beginners' introduction' at N.V. Patel College of Pure and Applied Sciences, Vallabh Vidyanagar on 30th August, 2017.
32. A popular lecture on "Problem Solving - an essential skill for doing Mathematics" at V.S. Patel College of Arts and Science, Bilimora on 16th August, 2017.
33. Conducted two sessions of one and half hour each on "Problems in Number Theory and Linear Algebra" in Workshop on Problem Solving Techniques in Mathematics at V.S. Patel College of Arts and Science, Bilimora on 23rd and 24th May, 2017.

34. Conducted two sessions of one and half hour each on “Problems in Number Theory” in Workshop on Problem Solving in Mathematics at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 25th and 30th January, 2017.
35. ‘Set of uniqueness of shifted Gaussian primes’ in National Seminar on Functional Analysis and Harmonic Analysis at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar on 16th January, 2017.
36. ‘Cryptography: A quick introduction’ at 53rd annual conference of Gujarat Ganit Mandal, Ganpat University, Mehsana, India on 25th December, 2016.
37. An Introduction to Cryptography at Kinki University, Osaka, Japan on 4th July, 2014.

Meetings and Events

1. Participated in Mathematics Training & Talent Search Program (MTTS) Silver Jubilee Alumni Meet held at Regional Institute of Education, Mysuru from 19th May to 20th May, 2017.
2. As a Judge for Powerpoint Presentations on “Role of Mathematics in Modern Technology” at V.P. & R.P.T.P. Science College, Vallabh Vidyanagar on 30th August, 2017.
3. As a Judge during the Technical Sessions (Poster Presentations) at Sardar Patel University Research Scholar Meet (SPURSM) 2024 on 26th and 27th December, 2024.

FACULTY DEVELOPMENT PROGRAMS

1. Participated in the “43rd Orientation Program” of three weeks from 4-24 November, 2019 at HRDC, Vallabh Vidyanagar with grade A+.
2. Participated in the “Refresher Course in Mathematics” for two weeks from 7-19 December, 2020 at UGC-HRDC, Pt. Ravishankar Shukla University, Raipur in online mode with grade A+.
3. Participated in the “89th Online Refresher Course: Sciences” for two weeks from 14-27 October, 2024 at UGC Malaviya Mission Teacher Training Centre (MMTTC), Sardar Patel University, Vallabh Vidyanagar in online mode with grade A.

JOURNAL PUBLICATIONS

1. K. Chakraborty and J. Mehta, A Stamped Blind Signature Scheme based on Elliptic curve Discrete Log Problem, *International Journal of Network Security* **14** (2012), no. 6, 316-319.
2. K. Chakraborty and J. Mehta, On completely multiplicative complex valued funtions, *Ann. Univ. Sci. Budapest. Sect. Comput.* **38** (2012), 19-24.
3. J. Mehta, On arithmetical functions having constant values in some domain, *Acta. Math. Hungar.* **142** (2014), no. 1, 110-117.
4. K. Chakraborty and J. Mehta, Preventing Unknown Key Share attack using Cryptographic Bilinear Maps, *J. of Discrete Mathematical Sciences and Cryptography* **17** (2014), no. 2, 135-147.
5. J. Mehta and G. K. Viswanadham, Quasi-uniqueness of Gaussian prime plus one's, *Int. J. of Number Theory* **10** (2014), no. 7, 1783-1790.
6. D. Banerjee and J. Mehta, On linearized product of two Riemann zeta functions, *Proc. Japan Acad. Ser. A Math. Sci.* **90** (2014), no. 8, 123-126.

7. J. Mehta and G. K. Viswanadham, Set of uniqueness of shifted Gaussian primes, *Funct. Approx. Comment. Math.* **53** (2015), no. 1, 123-133.
8. J. Mehta, B. Saha and G. K. Viswanadham, Analytic properties of multiple zeta functions and certain weighted variants, an elementary approach, *J. Number Theory*, **168** (2016), 487-508.
9. J. Mehta and G. K. Viswanadham, Analytic continuation of multiple Hurwitz zeta functions, *J. Math. Soc. Japan* **69** (2017), no. 4, 1431-1442.
10. B. Kumar, J. Mehta and G. K. Viswanadham, Some remarks on the Fourier coefficients of cusp forms, *Int. J. of Number Theory* **16** (2020), no. 09, 1935-1943.
11. W.-B. Li, H.-Y. Li and J. Mehta, Around the Lipschitz Summation Formula, *Mathematical Problems in Engineering* **2020** (2020), 16 pages.
12. X.-H. Wang, J. Mehta and S. Kanemitsu, The boundary Lerch zeta-function and short character sums à la Y. Yamamoto, *Kyushu J. Math.* **74** (2020), no. 2, 313-335.
13. J. Mehta and P.-Y. Zhu, Proof of the functional equation for the Riemann zeta-function *Hardy Ramanujan Journal* **44** (2021), 143-151.
14. J. Mehta, A short generalized proof of infinitude of primes, *College Math. J.* **53** (2022) no. 1, 52-53.
15. Q. Yang, J. Mehta, and S. Kanemitsu, On Popov's Explicit Formula and the Davenport Expansion, *Czechoslovak Math. J.* **73** (2023), 869-883.
16. S. Kanemitsu, J. Mehta, Y. Sun, Irreducible characters of the icosahedral group, *Nanosystems: Phys. Chem. Math.* **14** (2023) no. 4, 405-412.
17. J. Mehta and H. Rana, A multi-moduli approach towards enhancing the security of multi-prime RSA, *J. of Discrete Mathematical Sciences and Cryptography*, To appear.
18. J. Mehta and H. Rana, Safest-Value of the Number of Primes in RSA Modulus and an Improvised Generalized Multi-Moduli RSA, *Mathematics*, **13** (2025) no. 10: 1690.

PREPRINTS

1. J. Mehta and P. Parmar, A new cryptosystem with enhanced RSA security and forward secrecy: A hybrid approach, In preparation.

BOOK CHAPTERS PUBLISHED

1. J. Mehta, I. Kátai, and S. Kanemitsu, *On Periodic Dirichlet Series and Special Functions*, Advanced Mathematical Analysis and its Applications (1st ed.). (2023), Chapman and Hall/CRC.

ADDITIONAL CONTRIBUTION/ ACTIVITIES

- Reviewer for Mathematical Reviews (MR), American Mathematical Society (MathSciNet).
- Member of the Organizing Committee for the Mathematics Training and Talent Search Program (MTTS-2021).
- Reviewer of some research papers and MPhil dissertations.
- Organizing secretary for Workshop on Problem Solving in Mathematics - VIII at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar during 25th to 30th January, 2017.

- Organizing secretary for National Workshop on Problem Solving in Mathematics-IX at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar during 02nd to 07th May, 2018.
- Organizing secretary for Workshop on Problem Solving in Mathematics-X at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar during 17th to 22nd February, 2020.
- Coordinator for the National Workshop on Analytic Number Theory held at Kerala School of Mathematics, Kozhikode during 02nd to 07th May, 2020.
- Coordinator of Summer Program in Mathematics 2022 (SPIM@KSoM-2022) at Kerala School of Mathematics, Kozhikode from May 09-26, 2022.
- Local Coordinator of the Initiation into Mathematics (InitMath), SPU program at the Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar from March 20-25, 2023.
- Academic Coordinator of the Initiation into Mathematics (InitMath) program at V.P. & R.P.T.P. Science College, Vallabh Vidyanagar, Gujarat from January 6 – 11, 2025.

OTHER ACTIVITIES/ INTERESTS

- Uploaded a course on Group Theory of about 30 videos on YouTube.
- Using Moodle and Google classrooms as Learning Management Systems (LMS) for conducting courses.
- Using platforms like Moodle, Testmoz, Google forms, Microsoft forms for taking online quizzes and tests.
- Created self-assessment MCQ (offline) Quizzes using \LaTeX and java.
- Taking online attendance using Google forms.
- Taking quizzes using OMR sheets and QR-code.
- Using QR-code giving link to the solution in every internal test paper of my course.
- Using *Python programming* and \LaTeX I prepare different sets of MCQ Quiz papers by shuffling the questions and choices.
- I prepare fillable pdf application forms for workshop/conferences using \LaTeX .
- In my leisure, I play keyboard (piano).

REFERENCES

- Prof. A. H. Hasmani
Head, Department of Mathematics
Sardar Patel University,
Vallabh Vidyanagar - 388 120
Anand, India.
- Prof. Kalyan Chakraborty
Professor and Head Department of Mathematics,
SRM University AP,
Mangalagiri, Andhra Pradesh 522240, India.
- Prof. Shigeru Kanemitsu
Kyushu Institute of Technology,
1-1 Sensuicho Tobata,
Kitakyushu 804-8555, Japan.
- Prof. Imre Kátaí
Eötvös Loránd University,
1117 Budapest,
Pázmány Péter sétány. I/C,
Budapest, Hungary.