

Journal of Ramanujan Society of Mathematics and Mathematical Sciences

J.R.S.M.A.M.S. JOURNAL (Half Yearly)

Vol. 5, No. 1, June 2016

ISSN : 2319-1023

SPECIAL ISSUE

Dedicated to Prof. M.A. Pathan

(75th Birth Anniversary)



$$\sum_{n=0}^{\infty} \frac{q^{n(n-1)}}{[q; q]_n} = \frac{1}{[q^2, q^3; q^5]_{\infty}} + \frac{1}{[q, q^4; q^5]_{\infty}}$$

Published by : Ramanujan Society of Mathematics and Mathematical Sciences
Rajyashree Bhavan (Van Vihar Modh) Phoolpur, Madarpur, Jaunpur-222002 (U.P.) INDIA

Corresponding Address : Dr. S.P. Singh, Dept. of Mathematics, TDPG College, Jaunpur - 222002 (UP) INDIA

Journal of Ramanujan Society of Mathematics and Mathematical Sciences

Published by :

Ramanujan Society of Mathematics and Mathematical Sciences
Rajyashree Bhavan (Van Vihar Modh), Phoolpur, Madarpur
Jaunpur-222002 (U.P.)

Editor-in-Chief :

Dr. S.N. Singh
263, Line Bazar, Jaunpur - 222002 (U.P.) India
Email: snsp39@yahoo.com Tel # +91-9451161967

Managing Editor :

Dr. Brijendra Singh
Department of Mathematics,
T.D.P.G. College, Jaunpur - 222002 (U.P.) India

Secretary of Publication :

Dr. S.P. Singh
Department of Mathematics,
T.D.P.G. College, Jaunpur - 222002 (U.P.) India
E-mails : snsp39@yahoo.com; snsp39@gmail.com
Tel/Mob. : 09451159058

Editorial Secretary :

Dr. Vijay Yadav
Department of Mathematics & Statistics,
S.P.D.T. College, Andheri (East), Mumbai - 400059, India
E-mail: vijaychottu@yahoo.com, Tel/Mob.: 08108461316

Editorial Board :

- Prof. B.C. Berndt, Dept. of Maths., University of Illinois, 1409, West Green St., Urbana, IL 61801, USA
- Prof. H.M. Srivastava, Professor Emeritus, Department of Mathematics and Statistics
University of Victoria, Victoria, British Columbia V8W 3R4, Canada
- Prof. S. Bhargava, Mysore
- Prof. R.K. Saxena, 34, Panch Batti Chauraha, Ratnada, Jodhpur, Rajasthan
- Prof. Mahi R. Singh, 1151 Richmond Street London, Ontario, Canada, N6A 3K7
- Prof. Sundar Lal, Ex-Vice Chancellor, VBSPU, Jaunpur
- Prof. M.A. Pathan, Aligarh Muslim University, Aligarh
- Prof. R.Y. Denis, Gorakhpur University, Gorakhpur
- Prof. N.K. Thakare, Pune University, Pune
- Prof. K. Srinivasa Rao, Chennai
- Prof. K.K. Azad, Dept. of Maths., Allahabad University, Allahabad-211001
- Prof. Shaun Cooper, Institute of Information & Mathematical Sciences, Massey University,
Albany, Auckland, New Zealand
- Prof. S. Deo, Harish Chandra Research Institute, Allahabad
- Prof. K.C. Prasad, Ranchi University, Ranchi
- Prof. U.C. De, Calcutta University, Kolkata
- Prof. Chongdar, Kolkata
- Prof. M.S. Mahadev Naika, Bangalore
- Prof. K.R. Vasuki, Mysore
- Prof. Rama Jain, Dept. of Maths, M.V.P.G. College, Lucknow

**Journal of
Ramanujan Society of Mathematics
and Mathematical Sciences**

ISSN : 2319-1023

Vol. 5, No. 1, June, 2016

Published by
**RAMANUJAN SOCIETY OF
MATHEMATICS AND MATHEMATICAL SCIENCES**

Journal of Ramanujan Society of Mathematics and Mathematical Sciences

ISSN : 2319-1023

Volume 5, No. 1, June 2016

C O N T E N T S

1. On A New Skew Generalized Logistic Distribution Pushpa Narayan Rathie, Paulo Henrique Dourado da Silva and Gabriela Guimarães Olinto	01-20
2. Property-loaded Vertex Colorings of A Hypergraph Germina K. Augusthy	21-32
3. Lagrangians of Cawley, Sundermeyer and Di Stefano A.L. Salas-Brito, G. Leija-Hernández and J. López-Bonilla	33-38
4. Fourier Bessel Expansion for Aleph-function of Several Variables II F.Y. Ayant	39-46
5. On Generalizations of Some Combinatorial Identities Chandrashekar Adiga, A.K. Agarwal and Ranganatha D.	47-56
6. Fourier Analysis to Wavelet Analysis Deshna Loonker and P.K. Banerji	57-72
7. Group Theoretical Aspects of Generalized Hypergeometric Functions K. Srinivasa Rao	73-82
8. Bilateral Generating Relation Associated with Multiple Gaussian Hypergeometric Functions of Srivastava and Exton M.I. Qureshi, K.A. Quraishi, Mohd. Sadiq Khan and A. Arora	83-90
9. Integration by Differentiation H. Torres-Silva, J. López-Bonilla and Laurian Ioan Pişcoran	91-94
10. Approximate Solutions of the D-dimensional Schrodinger Equation with Multiparameter-type Potential Using Nikiforov-uvarov Method M.E. Udoh, A.N. Ikot and T. M. Abbey	95-102
11. Reduction Formula Associated with Whittaker Function N.U. Khan and T. Kashmin	103-110
12. Solutions of Riemann-liouville Fractional Matrix Differential Equations J. Vasundhara Devi, S. Nagamani and K. Jayalakshmi	111-126
13. Ultra Gamma Function, Properties and Applications : <i>A Prodigy</i> D.N. Vyas	127-146
14. On Integral Operator Involving Mittag-leffler Function N.U. Khan, M. Ghayasuddin, Waseem A. Khan and Sarvat Zia	147-154
15. On Generalized η -duals of Some Double Sequence Spaces Seraj Ahmed Khan, Ashfaq A. Ansari and Nafis Ahmad	155-162

CITATION



Prof. M. A. Pathan started his career as a lecture in the department of Mathematics, Aligarh Muslim University, in 1968 and became Professor of Mathematics in 1993. He has served as the Chairman, Department of Mathematics, Aligarh Muslim University, and Coordinator, Department of Special Assistance (U.G.C.) from 1999 to 2002. He has held faculty positions at University of Daressalam, Tanzania, Alfateh university, Tripoli, Libya and University of Botswana, Gaborone, Botswana. Presently, he is a Visiting Scientist, Department of Science and Technology, Center for Mathematical sciences, Pala, Kerala, India.

He has been President of Indian Mathematical Society, President (Section of Mathematical Sciences), Indian Science Congress Association, President of Bharat Ganit Parisad and Vice- President of Gwalior Academy of Mathematical Sciences. He is general secretary of Society for Special Functions and their Applications. He has been visiting Professor at many Indian Universities including Department of Pure Mathematics, University of Calcutta, Kolkata, A.P.S. University, Rewa. (M.P), University of Burdwan, Burdwan, (W.B.) and taught at Central University of Kerala, Kaisergod (Kerala).

He has supervised 13 Ph.D's in Integral operators, Lie theory and Special Functions. In addition to over 145 research papers, Professor Pathan has written 4 books and edited a number of Proceedings of International Conferences. He has delivered the 'Thirteenth Ramanujan Award Lecture' organized by Indian Mathematical Society in 2003. He has visited over 40 countries and has been member of Academic Board of Al-Ghurair University, Dubai.

His many contributions to Mathematics include collaborated work and lectures on Lie algebra and Special Functions at University of Western Ontario, London, Canada and I.C.T.P., Trieste, Italy. Delivered an invited talk and chaired a session at the 4th Congress of the International Society of Analysis, Application and Computation (ISAAC) held at York University, Toronto, Canada, (2003). He was Chief guest at the First International Conference on Mathematical Sciences, Zarqa Private University, Zarqa, Jordan in 2006. He has delivered invited talks at University of Haifa, Israel, International conference on Mathematics and its applications, Kuwait foundation for the advancement of science, State of Kuwait (2004) and International conference on Mathematics, Yarmouk University, Irbid, Jordan (2004).

Recently, in 2011, Vijnana Parisad of India has honoured him with award for distinguish services in the field of Mathematical Sciences. He has published several articles on popular science and History of Mathematics and was widely acclaimed for his articles 'Alkharizmi' and 'Lilawati' which are most cited and referred in the field of history of mathematics. These articles are translated into number of foreign languages.

He has made contributions to several areas of mathematics. Most cited work on generalized Voigt function played an important role in many situations of pure and applied mathematics and also in physical and quantum chemical applications. He has developed the ideas to generalize various Ramanujan's theorems on hypergeometric series. His earlier most significant work was on Integral Operators, Fractional Calculus and generalized functions. Afterwards he started working on Lie theory and Special Functions and their applications.

In view of his contributions in mathematics, Ramanujan Society of Mathematics and Mathematical Sciences and Department of Mathematics, T.D.P.G. College, Jaunpur (UP) India confers upon him **this citation** on his 75th birth anniversary.

Satya Prakash Singh

Secretary, Ramanujan Society of Mathematics and Mathematical Sciences
Head, Department of Mathematics,
T.D.P.G. College, Jaunpur (UP) India.

JOURNAL OF RAMANUJAN SOCIETY OF MATHEMATICS AND MATHEMATICAL SCIENCES

The Journal of Ramanujan society of Mathematics and Mathematical Sciences is devoted to the publication of original research work of high quality in all areas of Mathematics and Mathematical Sciences and shall publish one volume of two numbers each year. Papers intended for publication in the Journal should be submitted in duplicate along with the electronic file (prepared in Page Maker / MS word Editor / Latex preferably) of the paper to the Editor in Chief or Editorial secretary in double space, with title, author(s) name(s), abstract and subject classification. Name(s) and address (es) of the author(s) should be given below the title of the paper, References should be numbered and listed in alphabetical order at the end of the article with serial number in the manuscript as given below;

- 1. Hardy, G.H.:** S. Ramanujan, twelve lectures on the subject suggested by his life and work, 1940, Cambridge Univ. Press.
- 2. Maddox, I.M.:** Spaces of strongly summable sequences Quart. J. Math. (Oxford) (2), 18 (1967), 345-355.

A contribution towards the cost of publication of papers accepted in the journal, at rate of Rs. 400 (US \$15) per printed page shall be charged. The authors are requested to arrange from their institution or publication grants under their research schemes. The (senior) author will get 10 reprints of the published paper. The price of each number of the journal will be Rs. 500.00 in India and US \$ 100 elsewhere. The order for the copy (copies) of the journal along with the amount may be sent to the Editor-in-chief by demand draft favoring *Ramanujan Society of Mathematics and Mathematical Sciences* and payable at Jaunpur (INDIA) at the address given above.

Statement about ownership and other particulars about Journal of Ramanujan Society of Mathematics and Mathematical Sciences.

Place of Publication	: Rajyashree Bhavan (Van Vihar Modh) Phoolpur, Madarpur, Jaunpur - 222002 (U.P.) INDIA
Periodicity of its Publication	: Twice a year
Printer, Publisher and Owner	: Ramanujan Society of Mathematics and Mathematical Sciences, Rajyashree Bhavan (Van Vihar Modh) Phoolpur, Madarpur, Jaunpur - 222002 (U.P.) INDIA
Editor Name	: Dr. Vijay Yadav
Nationality	: Indian
Address for correspondence	: Dr. S.P. Singh, Dept. of Mathematics, TDPG College Jaunpur - 222002 (U.P.) INDIA
E-mail Address	: jrsmams@yahoo.com, jrsmams@gmail.com
Website	: http://www.rsmams.org
Press	: Media Computer, Jaunpur (U.P.)

I, Vijay Yadav here by declare that particulars given are true to the best of my knowledge and belief.

Dated : June, 2016

Dr. Vijay Yadav
Editor

Journal of Ramanujan Society of Mathematics and Mathematical Sciences

ISSN : 2319-1023

Volume 5, No. 1, June 2016

C O N T E N T S

1. On A New Skew Generalized Logistic Distribution Pushpa Narayan Rathie, Paulo Henrique Dourado da Silva and Gabriela Guimarães Olinto	01-20
2. Property-loaded Vertex Colorings of A Hypergraph Germina K. Augusthy	21-32
3. Lagrangians of Cawley, Sundermeyer and Di Stefano A.L. Salas-Brito, G. Leija-Hernández and J. López-Bonilla	33-38
4. Fourier Bessel Expansion for Aleph-function of Several Variables II F.Y. Ayant	39-46
5. On Generalizations of Some Combinatorial Identities Chandrashekar Adiga, A.K. Agarwal and Ranganatha D.	47-56
6. Fourier Analysis to Wavelet Analysis Deshna Loonker and P.K. Banerji	57-72
7. Group Theoretical Aspects of Generalized Hypergeometric Functions K. Srinivasa Rao	73-82
8. Bilateral Generating Relation Associated with Multiple Gaussian Hypergeometric Functions of Srivastava and Exton M.I. Qureshi, K.A. Quraishi, Mohd. Sadiq Khan and A. Arora	83-90
9. Integration by Differentiation H. Torres-Silva, J. López-Bonilla and Laurian Ioan Pişcoran	91-94
10. Approximate Solutions of the D-dimensional Schrodinger Equation with Multiparameter-type Potential Using Nikiforov-uvarov Method M.E. Udoh, A.N. Ikot and T. M. Abbey	95-102
11. Reduction Formula Associated with Whittaker Function N.U. Khan and T. Kashmin	103-110
12. Solutions of Riemann-liouville Fractional Matrix Differential Equations J. Vasundhara Devi, S. Nagamani and K. Jayalakshmi	111-126
13. Ultra Gamma Function, Properties and Applications : <i>A Prodigy</i> D.N. Vyas	127-146
14. On Integral Operator Involving Mittag-leffler Function N.U. Khan, M. Ghayasuddin, Waseem A. Khan and Sarvat Zia	147-154
15. On Generalized η -duals of Some Double Sequence Spaces Seraj Ahmed Khan, Ashfaq A. Ansari and Nafis Ahmad	155-162