

ANDHRA UNIVERSITY

(NAAC - CGPA of 3.60 on four point scale at "A" grade)

"ISO 9001 - 2008 Certified"

5 - Star University by Careers 360 Magazine

Prof. G. NAGESWARA RAO
Ph.D.
VICE-CHANCELLOR



Off. : 0891-2755547, 2844333
Res. : 0891-2755516, 2844194
Fax : +91-891-2525611
e-mail : auvicechancellor@gmail.com
VISAKHAPATNAM - 530 003, (A.P.) INDIA

November 8, 2016

MESSAGE

I am extremely happy to know that the Department of Mathematics, St. Joseph's College for Women (Autonomous) Visakhapatnam is organizing a Two Day UGC National Conference on "Recent Advances in Mathematics and its Applications" on 17th and 18th November 2016. I congratulate the Department for coming out with a current topic like this which is the need of the hour to discuss.

I acknowledge the contribution of St. Joseph's College for Women (Autonomous), Visakhapatnam to quality education in the country and empowering thousands of young girls in their journey towards excellence in their professional life. In the present scenario of new age technologies and path breaking frontiers in every Science or Social Science, be it Animal Physiology or Astronomy or Psychology, Mathematics plays a key role in unifying numerous disciplines through its pioneering advances and applications. Any number of Conferences and Seminars in Mathematics can never make the evolving field of Mathematics exhaustive, as each academic discourse has its own takeaways from the Resource Sessions, deliberations and Paper presentations.

I hope that this conference would certainly induce innovative ideas and pave the way for modern vistas of thinking in the field of Mathematics, while inspiring them to explore applied research avenues. I also wish all the delegates of the Two Day National Conference in Mathematics, fruitful deliberations to chart their future professional development. Once again I wish the Organizing Committee the very best for its grand success.

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Visakhapatnam - 530 003, Andhra Pradesh, INDIA

Off. : +91-891-2844555

Res. : +91-891-2844191

Fax : +91-891-2755324

Mobile : +91-98491 62699

e-mail : umrao57@hotmail.com

auregistrarvsp@gmail.com

Prof. V. Uma Maheswara Rao

M.Sc., P.G.D.A.S., Ph.D.

REGISTRAR



DATE:05-11-2016

MESSAGE

At the outset let me congratulate the Department of Mathematics in St. Joseph's College for Women (Autonomous), Visakhapatnam for organizing a Two Day UGC National Conference in "Recent Advances in Mathematics and its Applications" on 17th and 18th November, 2016. Conferences and Seminars stimulate thinking, dissemination of knowledge and enhanced research effectiveness, therefore making it imperative for educational institutions to organize more of such events.

It gives me great pleasure to be associated with the Department of Mathematics of St. Joseph's College for Women (Autonomous), Visakhapatnam since many years as I belong to the same parent discipline, Mathematics – the Queen of Sciences. Faculty from this dynamic field must rethink and invigorate themselves continuously with updated trends, advances and applications in Mathematics and its allied areas, to inspire students towards excellence in teaching and research. Hailing from the Applied Mathematics field, I am fully aware of its potential thrust areas and its influence on professionals in the field.

I am sure the National Conference in Mathematics will achieve its objectives of having wide ranging discussions on the relevant themes and become a great success. Once again I thank the organizers for giving me an opportunity to be associated with their National Conference and wish them good luck.


(V.UMA MAHESWARA RAO)
REGISTRAR



ST. JOSEPH'S COLLEGE FOR WOMEN

(AUTONOMOUS)

(Affiliated to Andhra University)

Reaccredited by NAAC with "A" Grade

Phone : 0891-2558346

E-mail : sjcwvizag@gmail.com

VISAKHAPATNAM-530 004

web: www.stjosephsvizag.com



Sr. Alice Marie
Correspondent
St. Joseph's College for Women
(Autonomous)
Visakhapatnam.

MESSAGE

Congratulations to the Department of Mathematics in the College for organizing their Two Day UGC National Conference on "Recent Advances in Mathematics and its Applications" on 17th and 18th November 2016. The Department of Mathematics is one of the oldest Departments in the College which started along with the establishment of the College in 1958.

Ever since its inception, the College has successfully organized many Seminars, Conferences and Workshops in various disciplines and subjects for the benefit of the Teaching and student community across the country. The feedback from delegates of the numerous academic events has always encouraged us to conduct quality academic forums which leverage stimulating discussions and broaden the horizons of thought.

Mathematics has a catalytic role in all the analytical sciences, since there are many functions and operations in Physics, Chemistry and other allied areas which have their genesis in Mathematics. As the Correspondent of the College who was in administration for the past five decades, I have observed that young people who perform well in Mathematics manage their time and lives too successfully.

I wish the Two Day UGC National Conference in Mathematics inspires innovative ideas for quality teaching, research and academic excellence in all the delegates who will participate from our State and other parts of the country. My wishes and blessings are with the organizers especially the Convener, Mrs. P. Krishna Kumari, Head of the Department of Mathematics and the Organizing Secretary, Capt. K. Sujatha who will reap the rewards of their ideas and hard work during the Conference.

(Sr. Alice Marie)
Correspondent



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Dr. Sr. Shyji P.D.

Principal

St. Joseph's College for Women

(Autonomous)

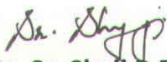
Visakhapatnam.

MESSAGE

Warm greetings to all. Welcome to St. Joseph's College for Women (Autonomous), a pioneer institution which caters to the education of young women. The College has seen considerable growth in the past 58 years, with the introduction of new courses of study, new disciplines and new initiatives. By God's providence and continual guidance, the management of the college continues to march on the way of success with confidence, courage and conviction. The clear sighted vision and precise decision making powers of our management team has helped our college to stay competitive in this fast changing scenario.

I am delighted to note that the Department of Mathematics is organizing a Two day UGC sponsored National Conference on 'Recent Advances in Mathematics and its Applications'. I am sure the importance of Mathematics in our day today life will be the highlight of the conference. Mathematics is pervasive throughout modern life. Baking a cake or building a house involves the use of numbers, geometry, measures, and space. The design of precision instruments, the development of new technologies and advanced computers, all use technical mathematics.

The dedicated faculty and disciplined students of St Joseph's are well-known in the society for their creativity and innovation. I congratulate the Head of the Department of Mathematics, Faculty and Participants from different parts of the country for their efforts in organizing and participating in this conference and wish the conference great success.


Dr. Sr. Shyji P.D.
Principal

Prof. P.V.Arunachalam

Founder Vice-Chancellor , Dravidian University &
Former Professor and Principal,
S.V.University College, Tirupati
Former President, Indian Mathematical Society



MESSAGE

I am happy to know that the St Joseph's College for Women (Autonomous), Visakhapatnam, is organizing a UGC sponsored **Two-Day National Conference On Recent Advances In Mathematics And Its Applications**, on 17th & 18th, Nov, 2016, in collaboration with Prof. S. Minakshisundaram Memorial Society, Hyderabad. This is a great event happening on the College Campus. On this happy occasion, the delegates will remember Prof. S. Minakshisundaram and his signal contributions to Mathematics in general and to Harmonic Analysis (Spectral Theory) in particular. He was one of the eminent mathematicians of not only Andhra University and but also of India , during the 20th Century. His students admire him for his superb qualities as their teacher, mentor, counselor, friend , guide and philosopher.

"Prof. S. Minakshisundaram was the most gifted mathematician of his generation. His work on eigenvalues of the Laplacian on compact Riemann manifolds was of the highest quality and had a lasting impact"

Prof. Minakshisundaram visited the Institute for Advanced Study(IAS) , Princeton, New Jersey, US , on the invitation of Prof. Oppenheimer and the illustrious Vice-chancellor of Andhra University, then, Dr C R Reddy was very happy to accord permission to Dr Minakshisundaram to go to IAS for two years. Dr Minakshisundaram had his office in the Fuld Hall of IAS along with Albert Einstein , K Chandrasekharan, Harishchandra , Kurt Godel and John Von Neumann and such other legends of mathematics. Prof. Hermann Weyl was the collaborator of Dr Minakshisundaram at IAS. Dr Maston Morse and Dr Oswald Veblen were also contemporaries of our professor

Dr Minakshisundaram lived in the same street (Mercer Street) very close to Princeton University Campus , as did Einstein. Einstein never learned car driving and he used to walk to the Institute for Advanced study and back home. Professor S. Minakshisundaram too was walking from his home to Princeton Institute for Advanced study and back So it is quite conceivable both of them might have met often on the way! But Prof. Minakshisundaram never mentioned this fact.

When the Institute for Advanced Study was established in Simla , India, the Director Dr Niharanjan Ray invited Professor S.Minakshisundaram to offer Prestigious position (in 1966) as Research Professor at the instance of "Padma Vibhushan" Professor C R Rao F R S. Director Of Indian Statistical Institute(ISI) Calcutta. During the tenure Professor S Minkshisundaram authored a monograph titled "Spectral Theory of Second Order Differential Operators" which was later sent to Von Nostrand for publication in Higher Mathematics series. It was under scrutiny. I had the good fortune to trace the title by principle of serendipity which was saved on an attic of a Professor of Mathematics Andhra University- Prof. K.P.R .Sastry garu, who happened to be a Faculty member when Professor S Minakshisundaram was heading Department of Mathematics. This Manuscript had been handed over personally to "Padmabhushan" Professor C S Seshadri F R S who knew the Author since his school days at Chinglepet (now Chengalpttu) and has great admiration for Professor S. Minakshisundaram who was at that time at Princeton Institute for Advanced study. This copy was sent to Professor S.Thangavelu of Indian Institute of Science , Bangalore (who was at that time

Editing the volume of “Collected Papers of Professor S. Minakshisundaram,”). Editor was inquiring if this title too can be included in the “Collected Works” . Professor C. V. Narsimhan FRS, who was heading the School of Mathematics, Tata Institute for Fundamental Research, Bombay, seems to have expressed a very strong opinion that the title deserves an independent publication , in its own right. The “Collected works of Professor S. Minakshisundaram “was brought out by Ramanujan Mathematical Society . and released ceremoniously during the Birth Centenary Celebrations of the illustrious mathematician of International repute organized at Andhra University, Waltair, in 2014. It may be a poetic justice (if one may say so) as Professor S. Minakshisundaram received “Ramanujan Prize” for his signal contribution during the year 1942. Actually Professor T. Venkatarayudu jointly shared the Prize. Both were coevals at University of Madras . and Professor S. Minakshisundaram was awarded D.Sc degree for his thesis while Professor T. Venkatarayudu , who worked with Professor S. Bhagavantam, got Ph.D. from Madras University..

The title “Spectral Theory” which was originally sent to Van Nostrand was forwarded to the Secretary of Ramanujan Mathematical Society by Professor C. S. Seshadri

The monograph manuscript was subsequently sent by “Padmabhushan” Professor C. S. Seshadri FRS, Director of Chennai Mathematical Institute to the Secretary of Ramanujan Mathematical Society, a few years back for favour of Publication.

And the manuscript that has been redone in a format that is ready for publication was received by me at Princeton New Jersey during my recent sojourn for proof reading . We are yet to locate a Publisher (Van Nostrand became defunct in the last Century) or find funds from munificent agencies , for its publication.

I wish the Two-Day Conference a great success



PV Arunachalam

Date: 05-11-2016

V. Vani Prasad Rao, ISS (Retd.)
No. A3A Cosmopolitan Apts.,
Somajiguda, Hyderabad – 500082.



HOMAGE TO A GREAT GURU

Mathematics is the basis for all sciences and Youth has to be encouraged in this field, said the then President of India, Smt. PratibhaPatil at the inauguration of International Congress of Mathematics held at Hyderabad in August, 2010. She also said that Mathematics has a great role to play in developing a rational and scientific perspective in all fields of study. She stated that like the crest of the peacock and the jewel of the serpent, Mathematics stands at the helm of all sciences.

While addressing the same conference, the then Chief Minister of Andhra Pradesh, Sri Rosiah highlighted the role of Mathematics in the development of Sciences. He applauded the contributions of Mathematicians such as Prof. C. R. Rao, Prof. Meenakshisundaram, Prof. Chandrasekharan and Prof. K.G.Ramanathan. It is our great pride that Prof. C.R.Rao (Awardee of Padma Vibhushan) and Prof. S. Meenakshisundaram are from Andhra University.

Prof. S. Meenakshisundaram is a distinguished professor who contributed much to the development of Pure and Applied Mathematics. He was a dedicated GURU and produced a number of students of high caliber who occupied senior positions in academic and other fields in India and abroad.

As a homage and expression of regard to a great GURU, his students and admirers formed a society under the name Professor S. Meenakshisundaram Memorial Society. The objectives of the society included, inter-alia, conducting symposiums, workshops, seminars on Mathematics useful to research workers to encourage research studies. The society was inaugurated at the National Institute of Technology, Warangal on 22nd October, 2010.

The Society conducted seminars so far in collaboration with 1. National Institute of Technology, Warangal, 2.P.V.P Siddhartha Institute of Technology, Vijayawada, 3.Vijaya Engineering College, Ammalapuram, Khammam and 4.Department of Applied Mathematics, Andhra University, Waltair. The society is grateful to all these Institutions.

Prof. S. Meenakshisundaram Memorial Society feels grateful to the authorities of St. Joseph's College for Women (Autonomous) who have offered to collaborate, host and organize the present seminar this year. Seminars of this nature encourage students and research scholars in Mathematics to participate in academic meets and improve their talents/skills. The Society extends sincere appreciation and thanks to the members of the Department of Mathematics, St. Joseph's College for Women and the organizers of this seminar who worked very hard and contributed their services to make this seminar a grand success.

G P RAJA SEKHAR

PROFESSOR

DEPARTMENT OF MATHEMATICS

INDIAN INSTITUTE OF TECHNOLOGY,
KHARAGPUR



MESSAGE

It is my honor and privilege to take part in the two day UGC National Conference on Recent Advances in Mathematics and its applications being held at St Joseph's College for Women during 17th – 18th November 2016. Having said Mathematics is the Queen of Sciences, it is the duty of the Mathematicians to keep the Royal look by contributing quality work in Mathematics. The revolution of information technology and software industry had definitely made a dent on Mathematics. One hand, this called for the invention of advanced Mathematical tools to various applications, on the other hand, this discouraged young talent to look for Mathematics as a career. There is an urge to train young school children to take Mathematics as career. Hence, I urge various colleagues working in Mathematics and organizing such National Conferences or Workshops to invite few selected young school children to visit such events so that they get an opportunity to interact and gain interest towards Mathematics.

With my little experience, I could learn that the role of Mathematics is immense in advanced engineering sciences. Hence, it is our duty to collaborate with engineering community, industry and contribute quality-applied research. I am sure this National Conference gives all of us a wonderful opportunity to get to learn various advancements in Mathematics and its applications. My congratulations to the organizing team of this event for their hard work and efforts in making this happen. My sincere thanks to the organizing team and the authorities of St Joseph's College for Women for giving me this wonderful opportunity.

Prof. G. P. Raja Sekhar