

A Brief Report of the National Seminar

The Department of Mathematics, K.S.N Govt. Degree College for Women has organized a National Seminar entitled “Mathematical Modeling in Physical, Biological & Social Sciences at Degree Level” with the financial assistance of UGC, SERO, Hyderabad during 5-6, January, 2015. The National Seminar included 8 Lecture Sessions with 8 Resource Persons from different Universities and around 100 delegates participated in the Seminar. The main purpose of the Seminar was to bring the working Professionals, researchers and faculty members to share and exchange their ideas, views in a common Platform regarding “Mathematical Modeling in various fields” like Physical Sciences, Biological Sciences, Social Sciences and Engineering Sciences.

The Seminar started with the registration at 9.00 am on 5th January, 2015 followed by the Inaugural Function. The function was inaugurated by Prof.K.Lalkishore, Vice- Chancellor of the University, JNTUA, Anantapur. The Function was presided by Smt.N.Nirmala the Principal of the College. In the inaugural the Chief Guest appreciated the team work done by the College in organizing this National Seminar. He has given brief explanation about the importance of Mathematics in all the branches of Engineering and he said that Mathematics plays an important role in engineering research and for any researchers in Engineering, the Mathematics knowledge is essential. Finally, he suggested the students to study Mathematics with Love and interest but not as burden. Souvenir of the Seminar was released at the end of the Function by the dignitaries on the dias, Prof.K.Lalkishore, Vice-Chancellor of JNTUA, ; Prof. P.V.Arunachalam, Former Vice-Chancellor of Dravidian University; Prof.G.Sarojamma, Former Vice-Chancellor of Sri Padmavathi Mahila University, Smt.N.Nirmala, Principal of the College; Smt.M.Nagasasikala, Convener of the Seminar and others.





Prof. P. V. Arunachalam has given the Keynote address on “Mathematical Modeling – an Overview”. He has given an elaborate lecture covering the topics like Definition / Description of mathematical Model-mathematical modeling in Science Subjects, Arts Subjects, Humanities, Engineering Subjects, Management Subjects and medical Sciences. Classification of mathematical Models-Black-Box and White-Box Models. Illustrations of mathematical models in Physical Sciences, Biological Sciences and Social sciences. A Mathematical Model for LOVE Discipline oriented models and situation based models. Technique oriented models.



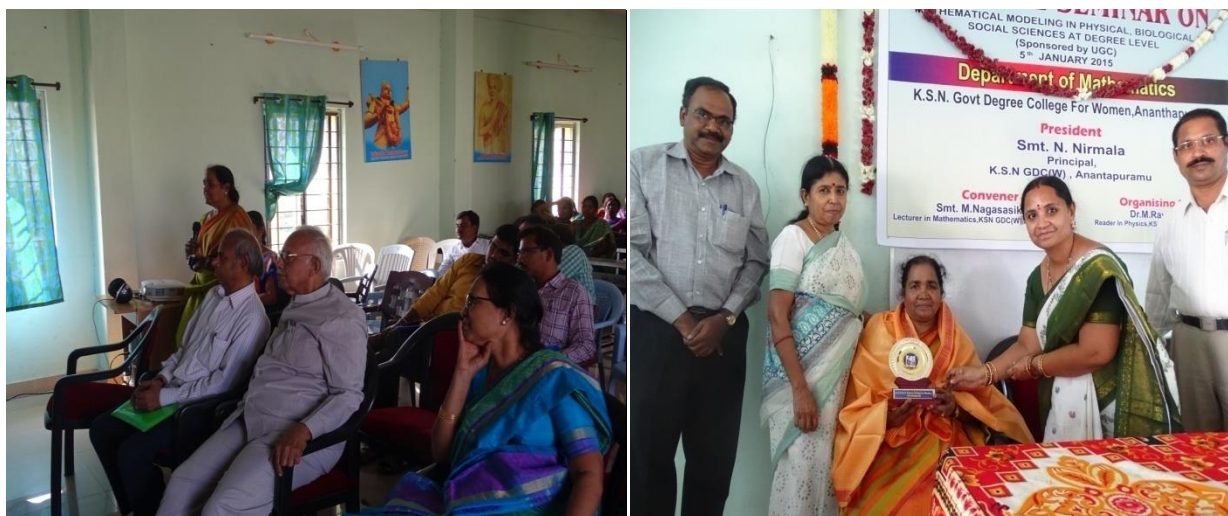
The first Technical Session started after the Keynote address at 12^{pm} with the Lecture of Prof. G.Sarojamma on “Mathematical Modeling of Blood Flow through a Stenosed Artery”. In her lecture she discussed the effect of catheterization height of stenosis, body acceleration on the flow, shear stress and resistance to flow. She also gave the clear picture of insertion of a catheter working of catheter in the process of Blood Flow through her PPT’s.



The Second Technical Session started after the Lunch break at 2pm with the Lecture of Prof. G.RadhaKrishnamacharya, Professor of Mathematics, NIT, Warangal on “From Fourier Analysis to Wavelet Analysis”. He explained the inadequacy of Fourier series to represent some classes of functions, the necessity to introduce Wavelets and the interesting Gibbs phenomenon is presented.



The third lecture in Technical Session II was started with Prof.A.Leelaratnam, Professor of Mathematics in Sri Padmavathi Mahila University, Tirupathi on “Game Theory”. She has discussed about the Decision-making situations ; Deterministic situation, Probabilistic situation and Uncertainty situation. The invited talk presented formulation of the given game as linear programming problem and how to solve two-person zero sum games.



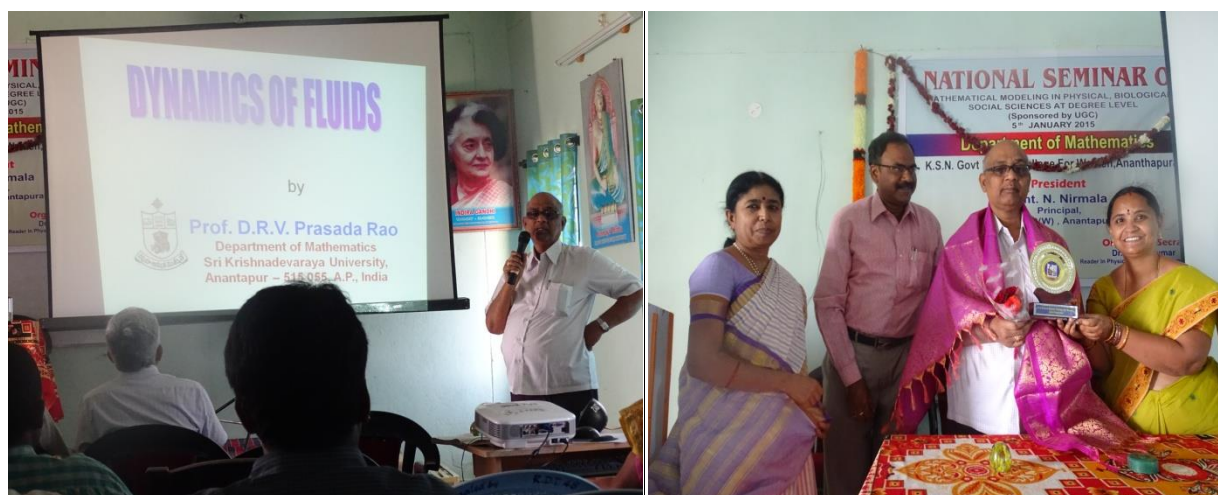
The Second Day Program started at 10:00 am and the first Invited talk in the Technical session III was taken by Prof.K.Suvarna, Rtd Professor of Dept. of Mathematics, S.K.University, Anantapur on “Commutativity of Rings With Derivations”



The Second Invited talk in the Technical Session III started after Tea Break with Prof.S.Sreenadh, Professor in Mathematics, S.V.University, Tirupathi on “Mathematical Modeling in Biosciences”. He discussed about the model to describe all biofluids in physiological systems, some mathematical models involving peristalsis and elasticity.



Prof.D.R.V.Prasad Rao, UGC-BSR Faculty fellow, Department of Mathematics, Sri Krishnadevaraya University, Anantapur handled the topic “Fundamentals of Fluid Mechanics” in the third Invited talk of Technical Session III. In this he handled the Peristaltic Behaviour of fluid, blood vessels, Vocal cords, Reproductive Organs of Men & Women etc.,



The afternoon Technical Session IV started with Invited Talk of Prof. R.RamaKrishna Reddy, Emeritus Professor of Department of Physics, S.K.University, Anantapur on “Supremacy of Mathematics”. He discussed about the Mathematical Modeling – def., limitations, applications of Mathematical Modeling in various fields etc.,



The National Seminar came to an end with the valedictory function which was started at 3:30 pm. Prof.K.Mallikarjuna Reddy, Dean of the UG examinations, S.K.University, Anantapur enlightened the occasion with his Valedictory address. The meeting was presided over by Smt.N.Nirmala, Principal of the college. About 45 members presented their Papers and 60 abstracts are received in the Seminar. All the participants in the Seminar felt happy about the topics covered in the Seminar and given the good feedback and said that such workshops should be held frequently so that they could update on the latest developments in the Mathematical Modeling.