ANNUAL REPORT 2010-2011

DEPARTMENT OF MATHEMATICS

1.   INTRODUCTION:

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. programme in Mathematics, M. Tech. program in Industrial Mathematics and Scientific Computing [IMSC] and Ph.D. programme. In addition, the Department has taken the responsibility of teaching Mathematics courses to B.Tech., M. Tech. (other than IMSC), Dual Degree in ED, M.Sc. and Ph.D students of the Institute. The department has also signed a MoU for an Exchange Programme with TU Kaiserslautern under the DAAD Exchange Programme Network for 5 years beginning from 2009.

The major areas of research of the department are:

1. Algebra and its applications
2. Applied Probability
3. Approximation Theory
4. Computational Fluid Dynamics
5. Continuum Mechanics
6. Coding Theory
7. Complex Analysis
8. Data Networks
9. Differential Equations
10. Inverse and Ill- Posed problems
11. Fluid Mechanics
12. Functional Analysis
13. Fuzzy Sets and Systems
14. Graph Theory and Combinatorics
15 Harmonic Analysis
 16. Inventory and Reliability
17. Mathematical logic & Applications
18. Mathematical Modeling
19. Mathematical Physics
20. Nonlinear Analysis
21. Numerical Analysis
22. Operations Research
23. Operator Theory
24. Queuing Theory
25. Statistical Quality Control
26. Stochastic Processes and their applications
27. Theoretical Computer Science
28. Wavelets and their applications
29. Algebraic Geometry
30. Fractal Geometry and its applications
31. Commutative Algebra

2. ACADEMIC PROGRAMMES:

2.1.   **New Discipline branch Introduced:**   NIL

2.2.   New Courses Introduced:

S.No.	Course No.	Title
1.	MA 6001	Introduction to Coding Theory
2.	MA 6001	Approximation Theory
3.	MA 6003	Wavelets
4.	MA 6004	Fractals
5.	MA 6005	Applied Linear Algebra
6.	MA 6006	Applied Integral Equations
7.	MA 6007	Nonlinear Partial Differential Equations
8.	MA 6008	Operations Research – II
9.	MA 6009	Theory of Bio-Inspired Computing
10.	MA 6011	Mathematical Programming
11.	MA 5430	Algebra II: Ring Theory and Field Theory
12.	MA 5460	Transform Techniques
13	MA 5140	Introduction to Algebraic Topology

2.3   New lab(s) established:

2.4.   Students on Roll: Ph.D. Programme:

1. Mr. Mahishetti Ravibabu	MA11D001	17.01.2011
2. Mr. J. Balasuyambu	MA11D002	07.01.2011
3. Mr. Madhukant Sharma	MA11D003	11.01.2011
4. Mr. K. Moneysekar	MA11D004	10.01.2011
5. Mr. Regin Thangaraj	MA11D005	10.01.2011
6. Mr. D. Venkatesh	MA11D008	10.01.2011

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.						
M.Tech.						
Ph.D.						
Total						

2.5.   Endowment Prize Instituted: (Academic section will furnish)

1. Ms. Pavani Aedutla Bala Lakshmi	MA08C016	Mira Paul Memorial Prize for M.Sc. Students
2. Mr. Durga Prasad Challa	MA08M003	Prof. Helmut Neunzert Endowment Prize for M.Tech. Students

2.6.   Names of Students/Scholars attended Conferences/Seminars and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Venue and Date
International Conference/Symposium:				
1.	Dr. Saroj Kumar Dash	MA09PD03	International Conference on Computational Management Science	Vienna, Austria July 28-30, 2010
2.	Dr. Swadesh Kumar Sahoo		ICM 2010	Hyderabad Aug.19-27, 2010
3.	Mr. Debashisha Mishra	MA07D003	ICM 2010	Hyderabad
4.	Mr. Ramakrishna Nanduri	MA06D003	ICM 2010	Aug.19-27, 2010
5.	Mr. I. Jeyaraman	MA06D005	ICM 2010	Hyderabad
6.	Mr. Sankararaju Kosuru	MA07D005	ICM 2010	Aug.19-27, 2010
7.	Mr. A. Sairam Kaliraj	MA09D011	ICM 2010	Hyderabad
8.	Dr. Vasudevarao Allu	MA10PD01	ICM 2010	Aug.19-27, 2010
9.	Mr. Sushobhan Mazumdar	MA10D010	Conf. on Complex Geometry, Group action and Moduli Spaces, Univ. of Hyderabad	Aug. 12-17, 2010
10.	Mr. Chirala Satyanarayana	MA08D013	International Congress of Mathematicians, HICC, Hyderabad	Aug.17-19, 2010
11.	Mr. Debasisha Mishra	MA07D003	ICM Satellite Conference on Functional Analysis and Operator Theory	ISI Bangalore Aug. 9-13, 2010

12.	Mr. Rajesh Kannan	MA08D007	ICM Satellite Conference on Functional Analysis and Operator Theory	ISI Bangalore Aug. 9-13, 2010
13.	Mr. K.P. Deepesh	MA06D001	ICM Satellite Conference on Functional Analysis and Operator Theory	ISI Bangalore Aug. 12-17, 2010
14.	Mr. G. Krishnakumar	MA07D005	ICM Satellite Conference on Functional Analysis and Operator Theory	ISI Bangalore Aug. 17-19, 2010
15.	Ms. Safina Devi	MA09D001	International Symposium on Parametrelyed and Exact Computation FSTTCS 2010	IMSC, Chennai Dec. 13-17, 2010
16.	Mr. Ramakrishna Nanduri	MA06D002	International Conference on Commutative Algebra & Algebraic Geometry (CAAG-2010)	I.I.Sc. Bangalore Dec. 3-12, 2010
17.	Ms. Safina Devi	MA09D001	Workshop on Algorithms and Computation 2011	IIT Delhi Feb. 18-20, 2011
18.	Mr. Chirala Satyanarayana	MA08D013	Attended Meshfree – 2011 Conference	IISc Bangalore Jan. 10 – 11, 2011
19.	Mr. Suresh Badarla	MA09M009	Attended an International Conference on Mathematical Modelling and Applications to Industrial problems	NIT, Calicut, March 28-31, 2011
Workshop:				
1.	Mr. G. Sankararaju Kosuru	MA07D004	"Variational Inequalities and related problems"	HANOI-Vietnam May 10-21, 2010
2.	Mr. Ramakrishna Nanduri	MA06D002	"Local rings and Local Study of Algebraic Varieties"	Trieste, Italy May 31 – June 11, 2010
Instructional School:				
1.	Ms. Saritha Viswanadhan	MA08D001	Advanced Instructional School in Schemes and Cohomology Kerala School of Mathematics	Calicut, Kerala June 28 – July 17, 2010
2.	Mr. R. Balakrishnan	MA10D012	Advanced Instructional School in Computational Commutative Algebra	IISER, Pune Dec. 11 – Jan. 3, 2011
Summer School:				
1.	Mr. G. Krishna Kumar	MA07D005	Summer School on Functional Analysis	IMSC, Chennai June 28 –July 17, 2010
2.	Mr. Rajesh Kannan	MA08D007		
3.	Mr. Antony Selvan	MA09D002		
Short Course:				
1.	Mr. Susobhan Mazumdar	MA10D010	Algebra and Algebraic Geometry	IISER, Pune Dec.4- Jan.6, 2011
Research work:				
1.	Mr. M. Panchatcharam	MA08D002	Research work under the supervision of Prof. Axel Klar, FB Technomathematik, TU Kaiserslautern, Germany	June 1, 2010 – Sept. 30, 2011

2.7 Names of students / scholars who won outside prizes and awards:

1.				

2.8 Names of students / scholars who won Institute Convocation / Institute Day Prize:

1.				

3. FACULTY AND THEIR ACTIVITIES:

Faculty:

Name	Qualifications	Major area of specialization (only 3 areas)
Professors:		
P.V. Subrahmanyam**[Head**]	Ph.D. (IIT Madras)	Non-linear Analysis- Fixed point Theory & Functional Equation,Fuzzy sets, Summability Theory
S.A. Choudum	Ph.D. (IIT Madras)	Discrete Mathematics, Combinatorics, Graph Theory
S. Kalpakam	Ph.D. (IIT Madras)	Applied Probability and Stochastic Processes, Operations Research
S. H. Kulkarni	Ph.D. (IIT Bombay)	Functional Analysis and Numerical Analysis
P. R. Parthasarathy	Ph.D. (Annamalai)	Applied Probability and Stochastic Models, Mathematical Ecology, Operations Research
M. Thamban Nair	Ph.D. (IIT Bombay)	Applicable Functional Analysis -Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations
R. Usha	Ph.D. (IIT Madras)	Fluid Dynamics
P. Veeramani	Ph.D. (IIT Bombay)	Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory
Arindama Singh	Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
S. G. Kamath	Ph.D. (IIT Delhi)	Mathematical Physics
S. Ponnusamy	Ph.D. (IIT Kanpur)	Complex Analysis, Function Spaces, Special functions and Conformal Geometry
R. Rama	Ph.D. (Anna University)	Formal Language & Automata Theory / Molecular computing
Satyajit Roy	Ph.D. (IISc. Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics
S. Sundar	Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
V. Vetrivel	Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory, Complementarity problems
Y.V.S.S. Sanyasiraju	Ph.D. (IIT Madras)	Computational Fluid Dynamics
Associate Professors:		
K. Swaminathan	Ph.D. (Agra University,	Fluid Dynamics, Ship Hydrodynamics, Mathematical Problems related to Naval Architecture and Ocean Engineering
R. Radha	Ph.D.(IMSC.Chennai)	Harmonic Analysis, Wavelets, Time-Frequency Analysis
K.C. Sivakumar	Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Ch. Srinivasa Rao	Ph.D.(IISc.Bangalore)	Non-linear Differential Equations

Assistant Professors:

A.K. B. Chand	Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wave Lets
A.V. Jayanthan	Ph.D.(IIT Bombay)	Commutative Algebra and Algebraic Combinatorics
W.B. Vasantha	Ph.D.(RIASM,Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Sounaka Mishra	I.S.I. Kolkota	Discrete Mathematics, Approximation Algorithm , Combinatorial Optimization
V. Uma	Ph. D. (IMSC Chennai)	Topology and Geometry of Toric Varieties and Related Spaces
T.E. Venkata Balaji	Ph. D (CMI, Chennai)	Algebraic Geometry and Commutative Algebra
S R Manam	Ph.D. (IISc. Bangalore)	Applied Mathematics
A.J. Shaiju	Ph.D. (IISc. Bangalore)	Game Theory, Systems and Control Theory
Kalpana Mahalingam	Ph.D. (Univ. of South Florida, Tampa)	Theory of codes, DNA Computing, Combinatorics of words
Arijit Dey		Algebraic Geometry
Shruti Dubey	Ph.D. (IIT Kanpur)	Nonlinear Analysis of Functional differential equations, Mathematical Study of Ferromagnetic systems
R Balaji	Ph.D. (IIT Madras)	Linear Algebra and Optimization
Visiting Associate Professor:		
Dr. N. Sivakumar	Ph.D. (Univ, of Edmonton)	Approximation Theory
PDF(IITM):		
Dr. Ritesh Kumar Dubey	Ph.D. (I.I.T. Kanpur)	Numerical Analysis, PDE and Modeling . Joined on 24.12.2010

3.2. Short-term Courses / Workshops / Seminars / Symposia/ Conferences organised by faculty members:

Sl. No.	Co-ordinator(s)	Title	Period
Conference:			
1.	Prof.V. Vetrivel	National meet for research scholars in Mathematical Sciences with financial aid from DST	October 11-15, 2010
2.	Prof.S. Ponnusamy	ICM-2010 – Satellite Conference: International Workshop on Harmonic and Quasi-conformal Mappings (HQM 2010)	IIT Madras Aug. 9-17, 2010
3.	Prof.S. Sundar	International workshop on Computational PDE: Modeling and Simulation	IIT Madras Jan. 3-12, 2011

3.3. Short-term Courses / Workshops / Seminars / Symposia/ Conferences/Training attended by the faculty in Abroad:

Sl. No.	Name of Faculty	Name of the Conference/Workshop	Institution	Period
1.	Prof.S. Ponnusamy	Chinese National Conference on Complex analysis	Hozhou, China	June 12 – 16, 2010
2.	Prof. M. Thamban Nair	Workshop on Impact of smoothness on regularization	RICAM. Linz, Austria	June 29 – July 2, 2010
3.	Prof. M. Thamban Nair	International Workshop on Computational Inverse Problems and Application	Institute of Geology and Geophysics (IGG), Chinese Academy of Sciences (CAS), Beijing, China	July 11 – 16, 2010
4.	Prof. S.G. Kamath	11th International Symposium	Paris, France and also visit CERN, Geneva	July 6 – 9, 2010 July 10-23, 2010
5.	Prof. S. Sundar	International Workshop on Kinetic Theory and Multiphase Phenomena at Mopani Restcamp	University of Witwatersrand Kruger National Park, South Africa	Aug. 27 – 30, 2010
6.	Prof. S. Sundar	DAAD Network International Workshop o Industrial Mathematics	ITB Bandung, Indonesia	July 28-31, 2010
7.	Prof. R. Usha	Thin film flow: An overview of dynamic and stability	University of Lyon, France	July 9, 2010

3.4 Lectures delivered by the faculty at Short-term Courses / Workshops / Seminars / Symposia/ Conferences/Training attended by the faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
International Conference:					
1.	Prof. P.V. Subrahmanyam	Plenary lecture	Solution of nonlinear equations	FIM Patna	Dec. 2010
2.	Dr. S.H. Kulkarni	Chaired a session	Satellite Conference on Functional Analysis on Operator Theory	ISI, Bangalore	Aug. 8-11, 2010
3.	Dr. M. Thamban Nair	Quadrature based regularization for ill-posed integral equations	ICM-Satellite Conf. on Numerical Functional Analysis	ISI, Bangalore	July 8-11, 2010
4.	Dr. M.Thamban Nair	On Stability Estimates for Backward Heat condition problems	ICM-Satellite Conf. on PDE & Related topics	TIFR, Bangalore	Aug.13-17, 2010
5.	Prof. S. Sundar		Recent Advances in Fluid Mechanics	Osmania University, Hyderabad	Dec. 21-24, 2010
6.	Prof. S. Sundar		ICM Satellite Conference on Mathematical Applications in Science and Technology	ISIAM, New Delhi	Aug.15-17, 2010
7.	Prof. R. Rama		Mathematical Modelling and Applications Industrial problems	NIT, Calicut	March 28 – 31, 2011
8.	Prof. Y.V.S.S.S. Raju		Mathematical Modelling and Applications to Industrial problems	NIT, Calicut	March 28, 2011
9.	Dr. A.K.B. Chand	On Coalescence Fractal Interpolation surfaces	Mathematical Modelling and Applications to Industrial problems	NIT, Calicut	March 28-31, 2011
10.	Dr. A.K.B. Chand	Chaired a session	Mathematical Modelling and Applications to Industrial problems	NIT, Calicut	March 28-31, 2011
11.	Dr. T.E. Venkata Balaji	Classifying Quaternion Algebras	International Conference on Algebra and Algebraic Geometry in honour of Prof. Abhyankar's 80th birthday	Pune University	Dec. 2010
12.	Dr. T.E. Venkata Balaji		International Conference CAAG 2010	IISc. Bangalore	Dec. 2010
13.	Dr. T.E. Venkata Balaji		International Conference ICM 2010 Satellite Conference in Algebraic Geometry	Univ. of Hyderabad	Aug. 2010

3.4 Lectures delivered by the faculty at Short-term Courses / Workshops / Seminars / Symposia/ Conferences/Training attended by the faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
National Conference:					
1.	Dr. S.H. Kulkarni		25th Annual Conference of the Ramanujan Mathematical Society	Dept. of Mathematics NIT, Jalandar	May 3 - 6, 2010
2.	Dr. M. Thamban Nair	Role of regularization in ill-posed problems	Annual Conference of Ramanujan Mathematical Society	NIT Jalandhar	May 3-5, 2010
3.	Dr. P. Veeramani	On existence of Best Proximity pair theorems and their Applications	Nonlinear Analysis and Applications	Hemwati Nadan Bahuguna Garhwal Univ. Campus Pauri, (Uttrakhand)	June 5-7, 2010
4.	Dr. P. Veeramani		Mathematics Program	Board of Studies, Bharathidasan Univ. Tiruchirapalli	July 23, 2010
5.	Dr. P. Veeramani		Mathematical Analysis and its applications	Tripura University, Tripura	Jan. 5-6, 2011
6.	Dr. A.V. Jayanthan	Chaired a session	ICM 2010	Univ. of Hyderabad	Aug. 19-27, 2010
7.	Dr. T.E. Venkata Balaji		ICM 2010	Univ. of Hyderabad	Aug. 13-16, 2010
8.	Dr. V. Uma		ICM 2010	Univ. of Hyderabad	Aug. 13-16, 2010.
9.	Dr. A.K.B. Chand		ICM 2010	Univ. of Hyderabad	Aug. 19-24, 2010.
10.	Dr. Sounaka Mishra	Primal-Dual Algorithms		Sambalpur University, Orissa	Dec. 21 – 23, 2010
11.	Dr. Y.V.S.S.S. Raju		Meshfree-2011	I.I.Sc. Bangalore	Jan. 10-11, 2011
STTP:					
1.	Dr. Y.V.S.S.S. Raju		Mathematical Modelling and Numerical Techniques	NIT Warangal	Jan. 17, 2011
Short term Programme:					
1.	Dr. Satyajit Roy		AICTE Short Term Course on Recent Advances in CFD	IIT Kharagpur	Nov. 22-23

3.4. Lectures delivered by the faculty at Short-term Courses / Workshops / Seminars / Symposia/ Conferences/Training attended by the faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
Workshop:					
1.	Prof. M. Thamban Nair	How Many?	DST sponsored INSPIRE program	MG University Kottayam	April 8, 2010
2.	Prof. M. Thamban Nair	Three Lectures Lebesque Integration		Ramanujan Institute for Advanced Studies in Mathematics Univ. of Madras	June 14-15, 2010
3.	Dr. R. Radha	Time-Frequency Analysis	Special Semester on Analysis	CMI, Chennai	April 2010
4.	Dr. R. Radha	Distribution Theory	Workshop on Functional Analysis	IMSC, Chennai	July 2010
5.	Dr. R. Radha	Local reconstruction from a non-uniform sampled data	National workshop	Rajalakshmi Engg. College	August 2010
6.	Prof.S. Sundar	In honour of Prof. K.R. Rajagopal	Recent advances in Mechanics	IIT Madras	Nov. 25-27, 2010
7.	Prof. Sounaka Mishra		Algorithms and Computation 2011	IIT Delhi	Feb.24-25, 2011
8.	Prof. R. Usha		Recent Advances in Mechanics	IIT Madras	Nov.25-27, 2010
9.	Prof. R. Usha	Advanced Instability Methods Meeting	Winter workshop on Advanced Instability Methods (AIM) Network meeting	Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	Jan. 17-19, 2011
10.	Dr. T.E. Venkata Balaji	Lectures on Scheme Theory	Workshop in Cohornology and Schemes	Kerala School of Mathematics	July 2010
Seminar:					
1.	Dr. Satyajit Roy		Mathematic & Applications	Burdwan University West Bengal	Feb.24-25, 2011
International School:					
1.	Dr. Sounaka Mishra		Approximability	I.I.Sc. Bangalore Conducted by Microsoft Research India	Jan. 5- 9, 2011

3.5. Special Lectures delivered by the faculty in other Institutions:

Sl.No.	Name of Faculty	Title of the talk	Institution	Period
1.	Prof. P. R. Parthasarathy	Birth and death processes	S.A. Engg. College, Chennai	Oct.14, 2010
2.	Prof. P. R. Parthasarathy	Bulk queues, in Faculty development training programme on Probability and Queueing theory	Anna University, Chennai	Dec. 7, 2010
3.	Prof. P. R. Parthasarathy	Applied birth and Death models, Special lecture	Vel tech University	Dec. 22, 2010
4.	Prof. P. R. Parthasarathy	Ramanujan and birth and death processes	Valedictory address on one-day symposium on Mathematics and Applications IIT Madras	Dec. 22, 2010
5.	Prof. P. R. Parthasarathy	Industrial mathematics in Mathematical Research Challenges in Engineering Application	PSG College of Technology, Coimbatore	Dec. 27, 2010
6.	Prof. P. R. Parthasarathy	Applied birth-death models	Anna University, Villupuram	March 3, 2011
7.	Dr. R. Radha	Melin transform and Ramanujan Fourier series	D.B. Jain College	Feb. 2011
8.	Dr. R. Radha	An introduction to wavelets and applications	Anna University Chennai	March 2011
9.	Prof. P. Veeramani	Convergence of sequences, uniform convergence of functional series	Ramanujan Institute for Advanced Studies in Mathematics Univ. of Madras	June 1, 2010
10.	Prof. V. Vetrivel	Introduction to Nonsmooth analysis	Madras Christian College	June 26, 2010
11.	Dr. T.E. Venkata Balaji	Introduction to Moduli	IISER, Pune	June 2010

3.6. Visits Abroad by Faculty:

Sl.No.	Name of Faculty	Country Visited	Period of Visit	Purpose of Visit
1.	Prof. S. Kalpakam	U.S.A.	May 16, 2010 – July 22, 2010	Private visit
2.	Prof. M. Thamban Nair	Error Estimates for Tikhonov regularization using a general stabilizing operator, RICAM, Linz, Austria	June 29 – July 2, 2010	International Conference/workshop on Impact of Smoothness on Regularization
3.	Prof. M. Thamban Nair	Nystrom Method as Regularization for Integral Equations of the First Kind, Institute of Geology and Geo-physics, The Chinese Academy of Sciences, Beijing, China	July 12-July 15, 2010	The Second International Workshop on Computational Inverse Problems and Applications

S.No				
4.	Prof. R. Usha	Laboraoire de Meccanique des Fluides et d' Acoustique of "Ecole Centrale de Lyon" France	July 2 – July 31, 2010	Research Collaboration
5.	Prof. S. Sundar	AG Technomathematik, T U Kaiserslautern, Germany	May & June , 2010	Visiting Professor & DAAD Network Industrial Mathematics week
6.	Prof. S. Ponnusamy	School of Mathematical Sciences, Universiti Sains Malaysia Pulau Pinang, Malaysia	10.1.2011 – 31.1.2012	Visiting Faculty
7.	Prof. R. Rama	University of Shefifield United Kingdom	May 18 – June 2, 2010	Research Exchange Scheme
8.	Dr. A.J. Shaiju	University of New South Wales, ADFA, Canberra	July 11-30, 2010	To discussion with Prof. Ian Petersen
9.	Dr. V. Uma	International Centre for Theoretical Physics (ICTP), Trieste, Italy Summer school and Conference at Institute Fourier, Grenoble, France	May 21 – July 2, 2010 June 27 – July 7, 2010	Junior Associateship Scheme Professional visit
10.	Dr. Kalpana Mahalingam	Universiti of Sans, Malaysia U.S.A. U.S.A.	May 15 – June 13, 2010 June 16- August 15, 2010 Jan.17, 2011 – May 10, 2011	Professional visit Private visit Private visit

3.7. Honours and Awards obtained by faculty:

S.No	Name of faculty	Name of Award	Awarded by	Date of award
1.				

3.8. Books/Monographs authored or co-authored:

S.No	Name of faculty	Title	Publisher	Author/ Co-author
Books				
1.				
2.				

1. Fellowships of Academies and Professional Societies:

Sl.No.	Name of Faculty	Year	Details
1.	Prof. P.V. Subrahmanyam	2011- 12	Elected President Forum for Interdisciplinary Mathematics
2.	Prof. P.V. Subrahmanyam	2011	Invited by the Infosys Science Foundation to nominate candidates for Infosys Prize 2011

Journal Editorial Boards:

Sl.No.	Name of faulty	Position (Editor/Member)	Journal
1.	Prof. P.V. Subrahmanyam	Editor	Journal of Analysis
2.	Prof. P.V. Subrahmanyam	Editor	Journal of Differential Equations and Dynamical Systems

8) **DESIGN AND DEVELOPMENT ACTIVITIES: NIL**

   2. Brief and specific details of Process/ Instruments/ Equipment/ Software Designed and Developed: NIL

New facilities added and Major equipment procured through procured funds:

Sl.No.	Name of Equipment	Value (Rs. In lakhs)
1.		

4.3   Patents: NIL

4.3.1   Patents filed: NIL

4.3.2   Patents awarded: NIL

5.0 RESEARCH AND CONSULTANCY:

5.1. Sponsored Research Projects:

Sl.No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
Sponsored Research Project:					
1.	Dynamic analysis using interval and fuzzy finite element methods	2 years	Board of Research in Nuclear Sciences	Rs.6.87	Dr. W.B. Vasantha
2.	Modeling of microwave passive components for high power applications – Phase II	23.8.2009 – 22.4.2012 (on going)	National Fusion Program, Institute for Plasma Research, Ahmedabad		Dr. S. Sundar & Dr. V. Subramanian
3.	Conjugate heat transfer experiments and analysis for predicting the external and internal heat transfer coefficient of gas turbine vanes and blades	2 years from March 2011	Gas Turbine Research Establishment	Rs. 45.41	Dr. Y.V.S.S.S. Raju
4.	Analysis and construction of solutions of some generalized Burgers equations	3 years	DST	Rs. 3.78	Dr. Ch. Srinivasa Rao
5.	Study of Bargmann transform and sampling theory	3 years	NBHM, DAE	Rs. 7.0	Dr. R. Radha & Dr. S.H. Kulkarni

5.2. **Industrial Consultancy Projects: (on-going only): NIL**

5.3. **RBIC (only ongoing)   :   NIL**

5.4. **Retainer Consultancy: (on-going only)   :   NIL**

Exchange programme with other Universities:

Sl. No.	Programme Name	Name of University	Student Name	Guide Name
1.	Research work under the supervision of Prof. Axel Klar	AG Technomathematik T U Kaiserslautern Germany	DAAD Sandwich Fellow Mr. M. Panchatcharam MA08D002 June 1, 2010 – September 30, 2011	Prof. S. Sundar
2	DAAD Network Exchange Programme	TU-Kaiserslautern, Germany Other participating Universities are University of Witwatersrand, South Africa and ITB Bandung, Indonesia	Advanced Numerical Methods, Started on May 2009-2013 for 4 years	Prof. S. Sundar

3. Faculty member participation with other institution under MoU:

1. Dr. S. Sundar : Participating other universities are University of Witwatersrand South Africa and ITB Bandung, Indonesia.

Research Publications:

Total No. of papers published in Refereed National Journals   … 3
Total No. of papers published in Refereed International Journals   … 46
Total No. of papers published in Proceedings of National Conferences   … 2
Total No. of papers published in Proceedings of International Conferences   … 8

Details:
(a) In Refereed National Journals:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S. Mishra, V. Raman, S. Saurabh, S. Sikdar, C.R. Subramanian	The complexity of Konig Subgraph Problems and Above-Guarantee Vertex Cover	Algorithmica, Dol.10, 1007/S00453-010-9412-2.
2.	Manzi Huang, S. Ponnusamy, and X. Wang	John disks, the Apollonian metric, and min-max properties	Proc. Indian Acad. Sci. (Math. Sci.), 120 (2010), 83–96.
3.	S. Sundar and Lemi Guta	Modeling and numerical simulation of free surface flows	The Mathematics Student, Vol.78, (2010) pp.127-144.

(b) In Refereed International Journals:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.A. Choudum, S. Lavanya and V. Sunitha	Disjoint paths in hypercubes with prescribed origins and lengths	International Journal of Computer Mathematics, Vo. 87, (2010) pp. 1692-1708.
2.	S.A. Choudum and T. Karthick	First-Fit coloring of $\{P_5, K_4 - e\}$ Free graphs,	International Journal of Discrete Applied Mathematics, Vol.158 (2010) pp. 620-626.
3.	S.A. Choudum and T. Karthick	Maximal cliques in $\{P_2UP_3, C_4\}$ Free graphs	International Journal of Discrete Mathematics, Vol. 310(2010) pp. 339-343.
4.	S.H. Kulkarni and G. Ramesh	The Carrier Graph Topology, Banach	International Journal of Mathematical Analysis Vol.5, No.1, (2011), pp.56-69.

5.	P.R. Parthasarathy and K Vasudevan	A single server queue with Gated Processor-sharingsystem	Computer Math.87(2010), no.6, 1217-1227
6.	P.R. Parthasarathy and K Vasudevan	A single server queue with two types of customers and a gate mechanism	Amer. Jour. Math. Mgmt. Sci., 31 (2011), 1-15
7.	P.R. Parthasarathy and R Sudesh	A state-dependent queue alternating between arrivals and services	Oper. Res. 7 (2010), 16-30.
8.	S. Jitendriya and R. Radha	L^p multipliers for the Hilbert space valued functions on the Heisenberg group	Monatshefte fur. Math. 160(2010), 95-107.
9.	S. Jitendriya, R. Radha and D. Venku Naidu	Fourier multiplies for L^p spaces on the Heisenberg group	Anal. Math., 36, (2010), 51-70.
10.	R. Radha and D. Venku Naidu	Frames in generalized Fock Spaces	J. Math. Anal. Appl. 378, No.1, (2011), 140-150.
11.	R. Radha and D. Venku Naidu	Generalized Bargmann transform and group representations	Bull.Des.Sci.Math.,135, NO.2, (2011), 206-214.
12.	M. Thamban Nair and Pallavi Mahale	Iterated Lavrentive regularization for nonlinear ill-posed problems	ANZIAM, Vol. 51(2009) Pages 191-217.
13.	Manzi Huang, S. Ponnusamy, H. Wang and X. Wang	A consine inequality in the hyperbolic geometry	International Journal of Appl. Math. Lett. 23 (8)(2010), 887–891
14.	S. Ponnusamy, J. Qiao, and X. Wang,	Schwarzian derivative, integral means, and the affine and linear invariant families of biharmonic mappings	International Journal of Appl. Math. Comput. 216 (2010), 3468–3479
15.	A. Baricz and S. Ponnusamy	Starlikeness and convexity of generalized Bessel functions	International Journal of Integral Transforms and Special Functions 21 (9)(2010), 641–653.
16.	B. Bhowmik, S. Ponnusamy and K.-J. Wirths	On some problems of James Miller	International Journal of Cubo A Mathematical Journal 12 (1)(2010), 15–21
17.	B. Bhowmik, S. Ponnusamy and K.-J. Wirths,	Characterization and the pre-Schwarzian norm estimate for concave univalent functions	International Journal of Monatshefte für Mathematik 161 (2010), 59–75.
18.	Sh. Chen, S.Ponnusamy and X. Wang	Compositions of harmonic mappings and biharmonic mappings	International Journal of Bull. Belg. Math. Soc. (Simon Stevin) 17 (2010), 693–704.
19.	Manzi Huang, S. Ponnusamy, and X. Wang	The quasiconvexity of quasigeodesics in real normed vector spaces	Results Math. 57 (2010), 239–256.
20.	P. Hästö, S. Ponnusamy and M. Vuorinen	Starlikeness of the Gaussian Hypergeometric Functions,	International Journal of Complex Var. Elliptic Equ. 55, Issue 1-3 (2010), 173–184.
21.	P. Hästö, S. Ponnusamy and S.K. Sahoo,	Equivalence of the Apollonian and its inner metric,	International J. of Math. & Math. Sciences, Vol. 2010 (2010), Article ID 191858, 15 pages.
22.	Manzi Huang, S. Ponnusamy, X.Wang, and S.K. Sahoo	The Apollonian inner metric and uniform domains	International Journal of Mathematische Nachrichtten 283 (9)(2010), 1277-1290.

23.	S. Ponnusamy and A. Rasila,	On zeros and boundary behavior of bounded harmonic functions	International Journal of Analysis (Munich) 30 (2010), 199–207.
24.	S. Ponnusamy and S.K. Sahoo,	Pre-Schwarzian norm estimates of functions for a subclass of strongly starlike functions	International Journal of Mathematica (Cluj) 52 (75), No. 1 (2010),47–53
25.	S. Ponnusamy and A. Vasudevarao	Region of variability for functions with positive real part	International Journal of Ann. Polon. Math., 99(3)(2010), 225–245
26.	Basak, T., Roy, S., Matta, A., Pop, I.	Analysis of heatlines for natural convection within porous trapezoidal enclosures: Effect of uniform and non-uniform heating of bottom wall	International Journal of Heat and Mass Transfer 53 (25-26), pp. 5947-5961, 2010
27.	Basak, T., Roy, S., Ramakrishna, D., Pandey, B.D.,	Analysis of heat recovery and heat transfer within entrapped porous triangular cavities via heatline approach	International Journal of Heat and Mass Transfer 53 (19-20), pp. 3655-3669, 2010
28.	Basak, T., Aravind, G., Roy, S., Balakrishnan, A.R.	Heatline analysis of heat recovery and thermal transport in materials confined within triangular cavities	International Journal of Heat and Mass Transfer 53 (19-20), pp. 3615-3628, 2010
29.	Patil, P.M., Roy, S., Pop, I.	Unsteady mixed convection flow over a vertical stretching sheet in a parallel free stream with variable wall temperature	International Journal of Heat and Mass Transfer 53 (21-22), pp. 4741-4748, 2010
30.	Patil, P.M., Roy, S., Pop, I.	Unsteady mixed convection flow from a moving vertical plate in a parallel free stream: Influence of heat generation or absorption	International Journal of Heat and Mass Transfer 53 (21-22), pp. 4749-4756, 2010
31.	Kaluri, R.S., Basak, T., Roy, S.	Heatline approach for visualization of heat flow and efficient thermal mixing with discrete heat sources	*International Journal of Heat and Mass Transfer* 53 (15-16), pp. 3241-3261, 2010
32.	Basak, T., Roy, S., Singh, S.K., Pop, I.,	Analysis of mixed convection in a lid-driven porous square cavity with linearly heated side wall(s)	International Journal of Heat and Mass Transfer 53 (9-10), pp. 1819-1840, 2010
33.	Momoniat, E., Ravindran, R., Roy, S.	The influence of slot injection/suction on the spreading of a thin film under gravity and surface tension	International Journal of Acta Mechanica 211 (1-2), pp. 61-71, 2010.
34.	Basak, T., Roy, S., Ramakrishna, D., Pop,I.,	Visualization of heat transport due to natural convection for hot materials confined within two entrapped porous triangular cavities via heatline concept	International Journal of Heat and Mass Transfer 53 (9-10), pp. 2100-2112, 2010.
35.	Patil, P.M., Roy, S., Chamkha, A.J.,	Mixed convection flow over a vertical power-law stretching sheet	International Journal of Numerical Methods for Heat and Fluid Flow 20 (4), pp. 445-458, 2010
36.	Basak, T., Roy, S., Ramakrishna, D., Pop, I.,	Visualization of heat transport during natural convection within porous triangular cavities via heatline approach	International Journal of Numerical Heat Transfer; Part A: Applications 57 (6), pp. 431-452, 2010.

37.	S. Sundar and Sudhakar Matle	A 2D numerical study on aspect ratio of the enclosure and aperture heat losses for the high temperature spherical furnace through FEM	International Journal of Applied Mathematics, ISSN, Vol.24, No.2, (2011) pp.1311-1728.
38.	S. Sundar, A.B. Subrahmanyam, J. Kuhnert, S. Tiwari, Amol Joshi and Anshul Saxena	On Parallelization and Load Balancing aspects o Finite Pointset Methods	International Journal of Computer Mathematics, 59, 1532-1540, (2010)
39.	Dr. Ch. Srinivasa Rao Manoj K. Yadav	Large time behaviour of solutions of the inviscid nonplanar Burgers equation	International Journal Engg. Mathematics 69, 345 – 357, (2011)
40.	I.N.R. Sadiq and R. Usha	Effect of permeability on the instability a non-Newtonian film down a porous inclined plane	J. Non-Newtonian Fluid Mechanics, Vol. 165, 1171-1118, Oct. (2010)
41.	G.M. Sisoev and R. Usha	Wave Regimes on power-law fluid film flowing down a porous plane	International Journal of Non linear Mechanics, Vol. 45, 236-241, 2010.
42.	I.M.R. Sadiq, R. Usha and S.W. Joo	Instabilities in a liquid film over an inclined heated porous substrate	International Journal of Chemical Engineering Science, Vol. 65, 4443-4459, 2010
43.	Jeyaraman ,I and V. Vetrivel	Jordan quadratic SSM-property and its relation to co-positive linear transformations on Euclidean Jordan algebras	Linear Algebra and Applications Vol.433(2010) , 390-400
44.	A.K.B. Chand & M.A. Navascues	Generalized Hermite Fractal Interpolation	Rev. Real Academic de ciencias, Zovagoza, 64 (2009), 107-120.
45.	A.K.B. Chand & M.A. Navascues	On complete Bicubic Fractal Splines	Applied Mathematics, 1 (2010), 87-97.
46.	Shruti Dubey	The method of lines applied to nonlinear nonlocal functional differential equations	International Journal of Mathematical Analysis and Applications, Vol. 376, issue 1(2011), 275-281

(c) In Proceedings of National Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	P.R. Parthasarathy, Klar, B and Henze, N	Zipf and Lerch limit of birth and Death processes	Probability Engg. Inform. Sci. 24 (2010), no.1, 129-144.
2.	P.R. Parthasarathy and A Sri Ranga	Generating Birth and Death Processes,	Stochastic Analysis and Applications, 29 (2011),185-196, 2011

(d) In Proceedings of International Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.G. Kamath	A derivation of the scalar propagator in a planar model in curved space	AIP Conference proceedings, 1246 (2010) 174-177.
2.	P.R. Parthasarathy and K Vasudevan	A single server queue with Gated Processor-sharing system	Computer Math.87(2010), no.6, 1217-1227
3.	P.R. Parthasarathy and K Vasudevan	A single server queue with two types of customers and a gate mechanism	Amer. Jour. Math. Mgmt. Sci., 31 (2011), 1-15

4.	P.R. Parthasarathy and R Sudesh	A state-dependent queue alternating between arrivals and services	Oper. Res. 7 (2010), 16-30.
5.	Shruti Dubey	Numerical solutions for nonlocal Sobolev-type differential equations	Electronic Journal of Differential equations, Conf.19(2010) pp. 65-73.
6.	Mrinal Kumar, S. Mishra, Safina Devi N, Saket Saourabh	Approximation Algorithms for minimum chain vertex deletion	Proceedings of Walcom 2011, LNCS 6552, 21-32.
7.	S. Mishra	On the maximum uniquely restricted matching for Bipontite graphs	LAGOS 2011, Argentina, 2011
8.	R. Usha, S. Millet, H. Ben Hadid, F. Rousset	Stability of a shear-thinning film on a porous substrate	FEDSM 2010, Aug. 1-5, 2010, Montreal, Canada. (in CD-ROM)

1. a) Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. Harald Guenzel F B Mathematik RWTH Aachen Germany	March 29-April 10, 2010	Gave a seminar talk and interacted with faculty members 1."Differentiable Structures in Constrained Optimization" 2. "Modulus of concavity and Marginal Functions"
2.	Prof. Ajit Iqbal Singh Stat-Math Unit Indian Statistical Institute New Delhi	April 10-13, 2010	Gave a seminar talk and interacted with faculty members "Cake-cutting, vector measures and Liapunov convexity Theorems for Operator algebras"
3.	Prof. Arpad Baricz, Dept. of Economics, Babes-Bolyai University, Romania	April 1 – 29, 2010	Gave a seminar talk and interacted with faculty members "Tulau type inequalities for Bessel and modified Bessel functions"
4.	Prof. Daoud Bshouty Dept. of Mathematics Technion Israel Institute of Haifa Technology 32000, Isreal	July 17-Aug.20, 2010	Research work with Prof.S. Ponnusamy and gave seminar talk.
5.	Prof. Peter Semrl Department of Mathematics Univ. of Ljublijana, Solv enia	Aug. 17, 2010	To interact with faculty members and gave a seminar talk
6.	Prof. M.A. Sofi University of Kashmir Jammu & Kashmir	Aug. 16, 2010	To interact with faculty members and gave a seminar talk
7.	Dr. Gautami Bhowmik Universite de Lille 1, France	Sept. 3, 2010	Some aspects of Additive Combinatorics
8.	Mr. Simon Walker Charlesworth group of publishers	Sept. 23, 2010	Discussion with HOD about issues in scientific publication
9.	Prof. Shiva Shankar Chennai Mathematical Institute Chennai	Oct. 7, 2010	Flatness of topological modules and the problem of controllability
10.	Prof. Nalini Ravishanker Dept. of Statistics Univ. of Connecticut Storrs CT USA	Oct. 12, 2010	Spectrum-Based Comparison of Stationary Multiple Time Series
11.	Prof. Marian Gheorghe Dept. of Computer Science University of Sheffield	Oct. 21, 2010	P ayatems – In search of modularity

12.	Prof. Ram Mohapatra University of Central Florida U.S.A.	Dec. 21, 2010	Remarks on Fuzzy Differential Equations
13.	Dr. Christian Lecot LAMA, UMR, 5127 CNRS & University de Savoie Cedex, France	Jan. 6, 2011	Gave a seminar talk "Numerical simulation of the dropsize distribution in a spray"
14.	Prof. Kishna B Athreya Dept. of Mathematics and Statistics Iowa State University, U.S.A.	Jan.11, 2011	What is measure theory? What is Probability theory?
15.	Prof. R.C. Mittal Dept. of Mathematics IIT Roorkee	Jan.17, 2011	Generation of Some Fractals
16.	Prof. Michel Brion Institute Fourier Grenoble, France	Jan.20, 2011	Counting points of homogeneous varieties over finite fields
17.	Prof. C.H. Little Institute of Fundamental Sciences Massay University, New Zealand	Jan.25, 2011	A characterization of PM-compact bipartite and near-bipartite graphs
18.	Prof. Helmut Neunzert, Prof. Joerg Kuhnert, Prof. Oleg Illiev, Prof. Dietmar Hitel from Fraunhofer Institute of Industrial Mathematics, Kaiserslautern, Germany	January 2011	Conference/Workshop activities
19.	Prof. Klans Weichel, Prof. Michael Wenk, Prof. Werner Weiss, Prof. Lars Weichel from T U Kaiserslautern, Germany	January 2011	Conference/Workshop activities
20.	Prof. S.M. Deshpande, JNCASR Bangalore	January 2011	Conference/Workshop activities
21.	Prof. Mythily Ramaswamy, TIFR CAM Centre, Bangalore	January 2011	Conference/Workshop activities
22.	Prof. Raghurama Rao, IISC., Bangalore	January 2011	Conference/Workshop activities
23.	Prof. Girija Jayaraman, IIT Delhi	January 2011	Conference/Workshop activities
24.	Prof. R. Anantharaman, Retired Professor SUNY at Westbury & Clark Atlanta University,Atlanta,USA	March 10, 2011	Decomposition of Zonoids
25.	Prof. Bleicher, Professor Emeritus, Univ. of Wisconsin at Madison and former Chairman, Clark Atlanta Univ.	March 17, 2011	Isoperimetric problems

1. **Other Activities:**
   SEMINAR TALKS:

Sl. No.	Name of the Faculty	Title	Date
1.	Dr. B.S. Panda Department of Mathematics I.I.T. Delhi	L (2,1)- Labeling of graphs	May 7, 2010
2.	Prof. K.T. Joseph TIFR, Mumbai	Product of distributions and non-conservative hyperbolic systems	June 8, 2010
3.	Prof. V. Muruganandam	Completely bounded multiplier norms of Spherical functions	June 25, 2010
4.	Dr. Manoj Kummini Dept. Of Mathematics Purdue University, U.S.A.	Hilbert Functions	July 21, 2010
5.	Dr. S. Sivananthan Johann Radon Institute for Computational and Applied Mathematics (RICAM), Austria	Multi-Parameter Regularization in Learning Theory-Extrapolation	Aug. 13, 2010
6.	Prof. M.A. Sofi Department of Mathematics Univ. Of Kashmir, Kashmir	Linear Maps Preserving invertibility	Aug. 16, 2010
7.	Prof. Peter Semrl Dept. Of Mathematics Univ. Of Ljubljana, Solvenia		Aug. 17, 2010
8.	Dr. D. Yogeswaran Ecole Normale Superieure INRIA, PARIS	Percolation and directionally convex ordering of point processes	Aug. 27, 2010
9.	Dr. Chamakuri Nagaiah Institute of Mathematics and Scientific Computing, University of Graz, Austria	Optimal control of reaction-diffusion Equations in Cardiac electro-physiology	Sept. 6, 2010
10.	Dr. Ramanujam IMSC, Chennai	Let's Play forever, see who wins	Sept. 17, 2010
11.	Prof. T. Parthasarathy CMI and ISI, Chennai (Jointly with IITH)	Minimax Theorem and Numerical Geometry	Sept. 30, 2010
12.	Prof. T. Amaranath Dept. of Mathematics and Statistics University of Hyderabad (organized jointly with IITH)	Complete general solutions of Stokes Equations and their applications	Nov. 4, 2010
13.	Dr. Abhijit Kallapur Research Associate School of Engg. And Information Technology Univ. of New South Wales @ Australian Defence Force Academy	Robust Estimation of discrete-time uncertain nonlinear systems	Jan. 14, 2011
14.	Prof. Anatoly Yagola Dept. of Mathematics Physical Faculty Moscow State University Moscow (Visitor for Prof. M.T. Nair)	Error estimation for ill-posed problems with a priori information	Feb.1, 2011
15.	Dr. Severine Millet University Lyon 1 Laboratory of Fluid Mechanics and Acoustics, Lyon, France Visiting Assisting Professor from 21.1.11 to 9.2.11 (Visitor for Prof. R. Usha)	A short story of shear-thinning films on an inclined sub-state	Feb.3, 2011

16.	Prof. J. Watada Graduate School of Information Production & Systems Waseda University, Japan (Visitor for Prof. P.V. Subrahmanyam)	Modeling based on fuzzy random variables	Feb. 17, 2011
17.	Prof. V. Shankar Dept. of Chemical Engg. IIT Kanpur (Visitor for Prof. R. Usha)	Stability of fluid flow past deformable solid surfaces	Feb. 18, 2011
18.	Prof. C.V. Krishnamurthy Dept. of Physics IIT Madras	Image Reconstruction using Electromagnetic waves	Feb.24, 2011
19.	Prof. K. Murali Dept. of Ocean Engg. IIT Madras	Application of Level set to Air Water Industry	March 3, 2011
20.	Dr. R. Balaji Dept. of Mathematics IIT Madras	Z-Transformations on positive semi-definite cone	March 17, 2011
21.	Dr. Jayalal Sarma M.N.	Matrix Rigidity and Complexity of Linear Transformations	March 24, 2011
22.	Dr. Kunal Mukherjee IMSC, Chennai	MASA(s) in finite von Neumann Algebras	March 31, 2011

Ph.D. Viva – Voce Examination:

Sl. No.	Name of the Scholar	Title of the thesis & Viva date
1.	Mr. A. Chandrasekharan	Standard and Semi-definite Linear Complementarity Problems April 9, 2010
2.	Mr. T. Karthick	Vertex Coloring and Cliques of Certain P6 – Free Graphs and Claw – Free Graphs May 7, 2010
3.	Mr. P. Ravishankar	Regularized Continuous Newton Type Methods for Solving Ill-Posed Operator Equations June 7, 2010
4.	Mr. Manoj Kumar Yadav	Analytical and numerical study of some generalized Burgers equations and related equations June 9, 2010
5.	Mr. Jajati Kesari Sahoo	Regularization Techniques in Learning Theory June 14, 2010
6.	Mr. Venku Naidu Dogga	Bargmann Transform and Certain Holomorphic Function Spaces June 25, 2010
7.	Mr. Lemi Guta Enyedene	Wave-Porous Structure Interaction: Modeling, Analysis and Simulation June 26, 2010
8.	Mr. Vasudevarao Allu	A Study of Regions of Variability type Problems for Classes of Univalent Functions July 9 , 2010
9.	Mr. V. B. Surya Prasath	Studies on Codes and Graphs with Rosenbloom-Tsfasman Metric March 21, 2010
10.	Mr. E. Satyanarayana	Solutions of Some Generalized Burgers Equations. Jan. 17, 2011

Ph.D. Seminar Talks:

Sl.No	Name of the scholar	Title	Date
1.	Mr. G. Satyanarayana MA06D003	H-Matrices and its Impact on a Grid Free Method	Sept.22,2010
2.	Mr. G. Sankararaju Kosuru MA 07D004	Existence of best proximity and fixed point theorems and their applications to differential equations.	Oct. 5, 2010
3.	Mr. I.Jeyaraman MA06D005	Linear Complementarity Problems in Euclidean Jordan Algebras	Nov. 2, 2010
4.	Mr. Nachiketa Mishra MA 05D009	Development and Analysis of Exponential Compact Higher Order Schemes	Nov.11, 2010
5.	Mr. Ramakrishna Nanduri MA06D002	Castelnuovo – Mumford Regularity and Gorensteinness of fiber cone	Jan. 7, 2011.
6.	Mr. I Jeyaraman MA06D005	Linear Complementarity problems over symmetric cones	Feb.15, 2011
7.	Mr. M. Sudhakar MA06D004	A Numerical Study on Surface Temperature Uniformity of the Spherical cavity with uniform block heating	March 16, 2011
8.	Mr. Debhashisha Mishra MA07D003	Splittings of matrices and nonnegative generalized inverses	March 30, 2011

V. **Other Activities of the Department/Centre:**

Sl.No	Name of the Faculty	Activity
1.	Drs. S.A. Choudum, V. Vetrivel and Ch. Srinivasa Rao	To interact with Members of the Prof. Kakodkar Committee
2.	Dr. S.A. Choudum	Resource person for a conference on Algorithms, Computation, Graph Theory and Combinatorics at Karnataka University, Dharwar
3.	Dr. S.A. Choudum	Conducted Ph.D. Viva-voce exam at IIT Delhi on May 17-18, 2010.
4.	Dr. S.A. Choudum	Attended a Selection Committee for faculty recruitment at IIT Hderabad, April 29, 2010
5.	Dr. S.H. Kulkarni	Seminar for faculty recruitment was held on May 6, 2010 and while interview was held on May 7, 2010.
6.	Dr. S.H. Kulkarni	Ph.D. Selection Committee meeting was held on 19th & 20th May 2010
7.	Dr. S.H. Kulkarni	Conducted Ph.D. Viva-voce examination at NIT, Calicut on June 29, 2010.
8.	Dr. S.H. Kulkarni	Resource person Advanced International School (AIS) on Numerical Linear Algebra at IIT Guwahati
9.	Dr. P.V. Subrahmanyam	Visited IIT Hyderabad for a meeting with President of Ansei University on April 2010.
10.	Dr. P.V. Subrahmanyam	Attended a Selection Committee for faculty recruitment at IIT Hyderabad, April 29, 2010.
11.	Dr. P.V. Subrahmanyam	Plenary address in the International Conference of FIM at Patna
12.	Dr. P.V. Subrahmanyam	Attended an Advisory Committee meeting at Pondicherry University as UGC nominee.
13.	Dr. M. Thamban Nair	Expert member for Selection Committee at IIT Mandi from May 24 – 27, 2010.
14.	Dr. S. Ponnusamy	Discussed with Dr. Murugesan for some research problems in difference equations at NIT Trichy.
15.	Dr. S. Ponnusamy.	Attended a Selection Committee meeting at Univ. of Jammu on May 7 – 10, 2010

16.	Dr. R. Rama	Resource person for a workshop on Introduction to Formal Language, Automata Theory and Computation March 23, 2011
17.	Dr. Satyajit Roy	Conducted a Ph.D. viva-voce examination at Madurai Kamaraj University, Madurai , July 28, 2010.
18.	Dr. S. Sundar	Attended a Selection Committee for faculty recruitment at IIT Hyderabad, April 29, 2010.
19.	Dr. S. Sundar	Invited talk on International Conference on Recent Advances in Fluid Mechanics at Osmania Univ. Hyderabad. Dec. 24, 2011
20.	Dr. V. Vetrivel	Attended a Selection Committee for faculty recruitment at IIT Hyderabad, April 29, 2010.
21.	Dr. V. Vetrivel	National meet of Research scholars in Mathematical Sciences (NMRSMS 2010) at IIT Madras on October 11-15, 2010
22.	Dr. Y.V.S.S.S. Raju	Member, to liaise between the department and the research park.
23.	Dr. V. Uma	Research/Colloboration at TIFR, Mumbai Sept. 29 – Oct. 4, 2010
24.	Dr. N. Sivakumar	Joined on Jan. 3, 2011 as Visiting faculty. His area of specialization Approximation Theory, Analysis
25.	Dr. Severine Millet	Joined on Jan. 21, 2011 as Visiting faculty. His area of specialization is Fluid Dynamics

6.3. Socially relevant activities carried out by the Department:

1) The Department of Mathematics and AG Technomathematik, Technische Universitaet Kaiserslautern, Germany have mutually agreed to set up a network in the scientific area of Applied Mathematics and Mathematical Modelling. This will enable intensive collaboration between IIT Madras and TU-Kaiserslatern in terms of Annual Workshops, Faculty / Student Exchange and Joint Modelling Seminars.

2) A delegation of DEG (German Research Foundation) Headed by Prof. Juerg Kramer, Chairperson of the Executive Board of the Berlin Mathematical School and Professor of the Department of Mathematics, Humboldt University, Berline, visited the our Department and had presentation and discussion with faculty and students of the Department on Tuesday, August 17, 2010.

3) Dr. J. Heinze, Executive Vice-President of Publishing, Springer Science & Business Media, visited the department on 26th August and interacted with faculty members.

4) The department organized a "One Day National Symposium on Mathematical Methods and Applications" on 22nd December, 2010 the day of the birth anniversary of Sri Srinivasa Ramanujan, the great Indian Mathematician. The day's events were inaugurated by Prof. V. G. Idichandy, Deputy Director, Indian Institute of Technology Madras, Chennai.

There were five invited lectures delivered by:
Prof. R. N. Mahopatra, University of Central Florida, U.S.A.,
Prof. Parameswaran Sankaran, Institute of Mathematical Sciences, Chennai.
Prof. G. Ravindran, I.S.I. Chennai and
Prof. N. Ramanujan, Bharatidasan University, Trichy
Prof. M. Krishna, Institute of Mathematical Sciences, Chennai

In the afternoon, parallal paper presentation sessions were held on:
Analysis and Topology; Algebra; Discrete Mathematics;
Applied Mathematics I (Differential Equations and related topics)
Mathematics of Non-deterministic Phenomena and other topics and
Applied Mathematics – II (Mathematical Models)

The Valedictory function was presided over by Prof. S. Raghavan, Formerly Dean, School of Mathematics, TIFR, Mumbai and Prof. P.R. Parthasarathy, IIT Madras, delivered the valedictory address.

5) The students programme Forays 2011 was organized on March 12-13, 2011. Our Director Prof. M.S. Ananth gave inaugural address. Prof. Bleicher, Professor Emeritus, University of Wisconsin, Madison delivered Forays Lecture. Several interesting events were organized by the students. The Dean of students, Prof. M. Govardhan gave the valedictory address and distributed prizes.

6) **New lecture series called Srinivasa Ramanujan Memorial Lecture was instituted commemorating the death anniversary (April 26) of the Indian Mathematical prodigy Srinivasa Ramanujan to promote scholarship and disseminate progress made in the research on mathematical themes studied by Ramanujan. Prof. S. Raghavan, formerly Dean, School of Mathematics, TIFR Mumbai delivered the Srinivasa Ramanujan memorial lecture 2010 entitled "Glimpses Ramanujan's work".**

6.4. **Major infrastructure development made in the Department:** .NIL