ANNUAL REPORT (2010-11)

1. Name and Department: Department of Mathematics & Statistics, Indian Institute of Technology, Kanpur

2. New courses developed MTH 729- Ergodic Theory (Dr. Sudipta Dutta)


2. Text Book On Ordinary Differential Equations, 2/E, TMH, New Delhi, March, 2011 has been reprinted for the 17th time, S.G. Deo, V. Lakshmikantham, V. Raghavendra,

4. Research papers published in journals


91. Effect of shear flow factor on thermal elastohydrodynamic lubrication of infinite line contact rough surfaces, Proceedings of the National Academy of Sciences, India (Section-A), 2010, Vol.80 Part IV, 327-346, H. Khan, P. Sinha.
92. Effect of inter-asperity cavitation on thermal elastohydrodynamic lubrication of infinite line contact rough surfaces, accepted for publication in International Journal of Surface Science and Engineering, 2010, H. Khan, P. Sinha.
5. Research papers published in conference proceedings


3. Hybrid finite difference methods for solving modified burgers and Burgers-Huxley Equations” at the Fourth International Conference on Neural, Parallel & Scientific Computions held during August 11-14, 2010 at Atlanta, USA. M.K. Kadalbajoo.


8. Characterising Problems in class PLS for which Local Search is Polynomial Time, at the ORST 2010 Annual Convocation, held in Madurai from 15th to 17th Dec. 2010, P. Sharma.

9. Chaired a session at SEAL’10 , held from 1st to 4th Dec. 2010 in IIT Kanpur, P.Sharma.


6. Seminars and invited talks presented:

1. The stairway to Boolean algebras: through the eyes of logic, Presidency University, Kolkata, December 2010, Mohua Banerjee.


4. Turing-instability and pattern formation, in ‘Workshop on Mathematical Ecology’ held at IISER Kolkata, 7-12 December, 2010, Malay Banerjee.


10. Non-Newtonian Fluids and Biofluid Dynamics, Department of Mathematics, Lucknow University, July 30,2010, Peeyush Chandra.


12. Invited talk at the DAV College, Kanpur, Peeyush Chandra.

13. Spectral Theory for Non-normal Hilbert Space Operators” on 26th May 2010 at IISER Pune, S. Chavan


24. FEM for Elliptic PDEs, DST National workshop on mathematical modeling, computational aspects for Continuum Mechanics, Dec. 20-23, Osmania University, Hyderabad, B.V.K. Rathish.
30. Indian Statistical Institute, New Delhi, India in 2010, Shalabh.
31. Department of Statistics, Jammu University, Jammu, India in 2010, Shalabh.
32. School of Statistics, University of Indore, Indore, India in 2011, Shalabh.

7. Conferences attended outside IIT Kanpur

1. National Conference on Mathematical Modeling & Simulation, Dept. of Applied Math, IT BHU, March 27, - delivered an Invited talk as well as chaired a session, Peeyush Chandra.
3. CONIAPS XII, Rajasthan University, Jaipur, Dec. 24, 2020; delivered an Invited talk as well as chaired a session, Peeyush Chandra.
6. Generalized Lorentz sequence spaces and corresponding operator ideals, with Antara Bhar in “The great plains operator theory symposium” held in June, 20 at University of Denver, Denver, USA, M. Gupta.


8. Recent advances in Analysis and Operator theory, symposium convened during the 76th Annual Conference of Indian Mathematical held at SVNIT, Surat in December 2010. Delivered a talk on “Absolute Bases” in the symposium. Also chaired a session, M. Gupta.


18. Indian Institute of Science Education and Research, Kolkata, India in 2009, Shalabh.


20. Linear regression Modelling” at the “Instructional Workshop on Mathematical Modeling and Simulation” at National Center for Advanced Research in Discrete Mathematics, Kalasalingam University, Krishnanokil, India in July 2010, Shalabh.


22. Instrumental Variable Estimation in Measurement Error Model Under Exact Restrictions” at “International Conference on Applied Statistics and Financial Mathematics” at The Hong Kong Polytechnic University, Hong Kong in December, 2010, Shalabh.


8. Other Activities

(a) **Technology Developed**

(b) **Software Developed**

(c) **Industry visited and visits to other Institutes for research**

(d) **Patents**

(e) **Awards and Honors**

(f) **Continuing Education Activities**


2. Gave a course of lectures on Topology in MTTS Programme held at Regional Institute of Education, Mysore during May 18-June 12,2010, G. Santhanam.

3. Gave a course of lectures on Linear Algebra in the training program held at Banasthali University, Rajasthan during December 18-26,2010., G. Santhanam.

(g) **Participation in the High Level Industry Academia Interaction Program during summer**

(h) **Students related activities, projects etc.**


(i) **Any other important activity not specified above**

1. Visited to the University of Western Cape during December 4, 2010 to December 25, 2010, D. Bahuguna.

2. Research visit to the Institute of Mathematics, University of Warsaw, Poland, June-July 2010, Mohua Banerjee.

3. 7th International Conference on Rough Sets and Current Trends in Computing (RSCTC 2010), Warsaw , Poland, June 2010, Mohua Banerjee, Session Chair.
4. 4th Indian Conference on Logic and Its Applications (ICLA 2011), Delhi, January 2011, Mohua Banerjee, Session Chair.
5. Delivered two lectures on Mathematical Modeling & Epidemiology at a refresher course in the Department of Mathematics, Delhi University, Dec. 22 and 23, 2010, Peeyush Chandra.
6. Resource person for the summer workshop on Mathematical Modeling, held at Kalasalingam University, Krishnankoil (TN), June 2010, Peeyush Chandra.
8. Presented 03 lectures at the Workshop on……held during December….at Delhi University, M. K. Kadalbajoo.
11. Editorial Board Member of the Journal of Modern Applied Statistical Methods, D. Kundu.
12. Editorial Board Member of the journal Statistics and Its Applications, D. Kundu.
13. Editorial Board Member of the Journal Communications in Statistics – Theory and Methods, D. Kundu.
16. Delivered 3 lectures on Second PDE at a four days Workshop in PDE for students and teachers of Patna and surrounding academic institutions during 1-4 March 2011. The venue was IIT Patna. This workshop is being partially funded by Indian Academy of Science, V. Raghavendra.
17. Member of Editorial Advisory Board of Proceedings of Indian Society of Mathematics and Mathematical Sciences, Shalabh.