

**Scheme: Research & Development Support (SERC)**  
**Programme: Science & Engineering Research Council (Engineering Sciences)**  
**Projects Sanctioned during 2005-06**

Sl. No.	Sanction No. Date of Sanction (D/M/Y)	Project Title	Project Investigator & Address
1.	SR/S3/MERC-062/2004  06.04.2005	Some investigations of friction stir welding (FSW) and friction welding (FW) of AZ91D magnesium alloy	Dr. V. Balasubramanian Deptt. Of Manufacturing Engineering Annamalai University Annamalainagar - 608002
2.	SR/S3/EECE/05/2004-SERC-Engg.  15.04.2005	High Speed Coarse WDM Waveguide Photodiodes by Quantum Well Intermixing	Prof. Utpal Das Deptt. Of Electrical Engg. IIT-Kanpur Kanpur - 208016
3.	SR/S3/MERC-063/2004  19.04.2005	Mathematical modeling of solidification behaviour of weld pool and oxidation characteristics of the zones of weldment during laser welding of plain carbon steel	Dr. G.G. Ray Deptt. Of Metallurgical & Materials Engineering IIT-Kharagpur Kharagpur - 721302
4.	SR/S3/MERC/46/2004  19.04.2005	Cascaded Multi-Temperature Latent Heat Solar Thermal Storage Device	Dr. B.R. Ramesh Babu Deptt. Of Production Engineering Satyabama Institute of Science and Technology Deemed Univ., Jeppiar Nagar, Old Mamallapuram Road Chennai - 600119
5.	SR/S3/MERC/54/2004-SERC-Engg  20.04.2005	Cost Effective Eco-friendly Design, Development and Prototype Making of a Prime Mover Running on Appropriate Non-Edible Vegetable Oil or Agriculture Water Pump	Dr. A. Nag Deptt. Of Chemistry IIT-Kharagpur Kharagpur - 721302
6.	SR/S3/MERC/50/2004-SERC-Engg  20.04.2005	Optimization of Laminated Fibre Reinforced Plastic Composites on Parallel Platform	Dr. D. Chakraborty Deptt. Of Mechanical Engg. IIT-Guwahati North Guwahati Guwahati - 781039
7.	SR/S3/MERC/65/2004-SERC-Engg  20.04.2005	Development of CAD Modal for Custom fit Artificial Human Limbs Using Reverse Engineering Method	Dr. A.N. Sinha Deptt. Of Mechanical Engg. Birla Institute of Technology & Science Mesra (Ranchi) Ranchi - 835215
8.	SR/S3/MERC/61/2004-SERC-Engg  20.04.2005	Flow Boiling heat Transfer Studies of an Ozone Friendly energy Efficient HFC/HC Refrigerant Mixture with Mineral Oil as Lubricant	Dr. D. Mohan Lal Deptt. Of Mechanical Engg. Anna University College of Engineering, Guindy Chennai - 600025

9.	SR/S3/EECE/63/2004-ET 12.05.2005	Automation of Flame Hydrolysis Deposition System and Optimization of Process Parameters for Thick Films	Dr. D.K. Gautam Deptt. Of Electronics North Maharashtra University Jalgaon - 425001
10.	SR/S3/ME/033/2002-SERC-Engg 10.05.2005	Study the effect of processing parameters on structure property relationship of new generation interstitial free steel sheets	Dr. A.K. Vaish National Metallurgical Laboratory Jamshedpur - 831007
11.	SR/S3/CE/17/2005-SERC Engg 13.06.2005	Development of Anaerobic bioreactor and suitable microbial consortia for the removal of sculpture Dioxide from the gaseous streams	Prof. A. Gangangj Rao Deptt. Of Biochemical & Environmental Engg. Indian Institute of Chemical Technology Uppal Road, Tarnaka Hyderabad - 500007
12.	SR/S3/CE/22/2005-SERC Engg 16.06.2005	Structure and Dynamics of Confined Nanofilms	Dr. K.G. Ayappa Deptt. Of Chemical Engg. IISc Bangalore - 560012
13.	SR/S3/CE/11/2005 SERC Engg 16.06.2005	A novel multi-scale Modeling and Experimental approach to Predict Drug Disposition in Normal and Diseased Populations	Dr. Pramod Wangikar Deptt. Of Chemical Engg. IIT-Bombay Powai Mumbai - 400076
14.	SR/S3/CE/16/2005 SERC Engg 16.06.2005	Rheology, Kinematics and Statistics of Dense Granular Flows	Dr. Prabhu R. Nott Deptt. Of Chemical Engg. IISc Bangalore - 560012
15.	SR/S3/CE/13/2005 SERC Engg 16.06.2005	Development of a Novel Slow Releasing Nitrogenous fertilizer	Dr. Chandrika Varadachari Deptt. Of Fertilizer Raman Centre for Applied and Interdisciplinary Sciences 16 A, Jheel Road Kolkata - 700075
16.	SR/S3/CE/14/2005 SERC Engg 16.06.2005	Molecular Simulation Study of Miscibility Behaviour and Microstructure in Compound Semiconductor alloys	Dr. Jhumpa Adhikari Deptt. Of Chemical Engg. IIT-Bombay Powai Mumbai - 400076
17.	SR/S3/MERC/77/2004-SERC Engg. 17.06.2005	Development of an Electrostatic Charging Attachment to the Knapsack Mist Blower	Dr. C. Divaker Durairaj Farm Machinery Training Division, Directorate of Extension Education Tamil Nadu Agricultural University Coimbatore - 641003
18.	SR/S3/MERC/73/2004-SERC-Engg. 23.06.2005	Preparation, Testing and Analysis of Environmentally Acceptable Bioderived Lubricants Based on Indian Vegetable Oils	Prof. Satish V. Kailas Deptt. Of Mechanical Engg. IISc Malleswaran Bangalore - 560012

19.	SR/S3/MERC/70/2004-SERC-Engg 23.06.2005	Experimental/Numerical Evaluation of the Role of Drag load in Reducing Pile Capacity	Prof. S.R. Gandhi Deptt. Of Civil Engg. IIT-Madras Chennai - 600036
20.	SR/S3/MERC/56/2004-SERC-Engg 23.06.2005	A Study of Forced Convection Condensation of Eco-friendly Refrigerants Inside a Horizontal tube	Dr. Ravi Kumar Deptt. Of Mechanical & Industrial Engg IIT-Roorkee Roorkee - 247667
21.	SR/S3/CE/010/2005-SERC Engg 24.06.2005	Thermally Stable Support Material using Chemical Routes (Sol-Gel Precursor) for the Synthesis of supported Vanadium oxide catalysts and its application for the Oxidative Dehydrogenation of Ethane	Dr. Goutam Deo Deptt. Of Chemical Engg. IIT-Kanpur Kanpur - 208016
22.	SR/S3/CE/06/2005-SERC-Engg 22.06.2005	Open Cell Polyurethane Foams	Dr. D.V. Khakkar Deptt. Of Chemical Engg. IIT-Bombay Powai Mumbai - 400076
23.	SR/S3/CE/015/2005-SERC-Engg 22.06.2005	Investigations of the Culture Redox Potential for the Control and Optimization Fermentations	Dr. Santosh Naronha Deptt. Of Chemical Engg. IIT-Bombay Powai Mumbai - 400076
24.	SR/S3/EECE/65/2004-ET 28.06.2005	A robust soft computing model design parallel implementation and application of Bioinformatics	Dr. Satish Kumar Deptt. Of Physics & Computer Science Dayalbagh Educational Institute Dayalbagh Agra - 282005
25.	SR/S3/CE/12/2005-SERC-Engg 06.06.2005	Binary Coalescence of Drops in Viscous Media	Dr. Pallab Ghosh Deptt. Of Chemical Engg. IIT-Guwahati North Guwahati Guwahati - 781039
26.	SR/S3/MERC/66/2004-SERC-Engg 06.07.2005	Numerical Modeling of Railway Tracks on Compacted Subgrade	Dr. J.T Shahu Deptt. Of Civil Engg. IIT-Delhi Hauz Khas New Delhi - 110016
27.	SR/S3/EECE/10/2005-SERC-Engg 08.07.2005	Implementation of Digital Current Mode Control in Field Programmable Gate Array Devices for High Frequency (500 Khz) DC-DC Converter	Prof. S. Chattopadhyay Deptt. Of Electrical Engg. IIT-Kharagpur Kharagpur - 721302
28.	SR/S3/ME/10/2003-SERC-Engg	Development & Optimization of Zirconia based honeycomb structures for thermal	Mr. B.P. Saha International Advanced Research Centre for Powder Metallurgy &

	20.07.2005	management	New Materials (ARCI) Balapur PO Hyderabad - 500005
29.	SR/S3/CE/59/2004- SERC-Engg  03.08.2005	Development of Algorithms for Dynamical Systems Modeling and Controller Design	Dr. Madhu N. Belur Deptt. Of Electrical Engg. IIT-Bombay Powai Mumbai - 400076
30.	SR/S3/CE/54/2004- SERC-Engg  03.08.2005	Cross Layer Design Issues for next generation wireless networks	Prof. Abhay Karandikar Deptt. Of Electrical Engg. IIT-Bombay Powai Mumbai - 400076
31.	SR/S3/ME/24/2004- SERC-Engg  11.08.2005	Ferroelectric thick films for phase shifter applications	Dr. V. Kumar Centre for Materials for Electronics Technology (C-MET) Thrissur - 680771
32.	SR/S3/ME/23/2004- SERC-Engg  11.08.2005	Risk based mine production scheduling using conditional simulation and genetic algorithms for ore grade control	Dr. Biswajit Samantha IIT-Kharagpur Kharagpur - 721302
33.	SR/S3/EECE/67/2004- SERC-Engg  09.08.2005	Study and Modeling of Sub- threshold Characteristics of Deep Sub-Micron Bulk and Thin Films SOI CMOS Devices with and without Halo Implantation	Prof. C.K. Sarkar Deptt. Of Electronics & Tele Communication Engg Jadavpur University Kolkata - 700032
34.	SR/S3/EECE/67/2004- SERC-Engg  09.08.2005	Study and Modeling of Sub- threshold Characteristics of Deep Sub-Micron Bulk and Thin Films SOI CMOS Devices with and without Halo Implantation	Dr. Abhijit Malik Kalyani Government Engineering College Kalyani - 741235
35.	SR/S3/EECE/02/2005- SERC-Engg  12.08.2005	Modeling and Control of Voltage Source Converter based HVDC Transmission Links	Prof. P.K. Dash College of Engineering (CEB) Patia Bhubaneswar - 751024
36.	SR/S3/MERC-080/2004  24.08.2005	Prediction of defects in rolled sheet metal and their effect on the quality of formed sheet metal parts	Dr. P.P. Date Deptt. Of Mechanical Engg. IIT-Bombay Powai Mumbai - 400076
37.	SR/S3/ME/03/2005- SERC-Engg  31.08.2005	Synthesis and characterization of metal organic precursors for and the fabrication of oxide ion conducting thin films by using plasma assisted MOCVD technique for solid oxide fuel cells	Dr. K.S. Nagaraj Loyola College Chennai - 600034
38.	SR/S3/ME/18/2004- SERC-Engg  22.08.2005	Development of Magnesium Based Alloys for High Temperature Applications	Dr. U.T.S. Pillai Regional Research Laboratory Thiruvananthapuram - 695019

39.	SR/S3/MERC-069/2004 05.09.2005	Active structural acoustic control of smart structural using 1-3 piezoelectric composite materials	Dr. M.C. Ray Deptt. Of Mechanical Engg. IIT-Kharagpur Kharagpur - 721302
40.	SR/S3/EECE/41/2005-SERC Engg 05.09.2005	National Brain Storming on Thin Film Transistor Device Design, Application and Challenges	Dr. L.M. Rangarajan Deptt. Of ACVAT Amity Centre for Vacuum & Advanced Technologies Sector-125, Express Highway Noida - 201301
41.	SR/S3/ME/15/2004-SERC-Engg 21.09.2005	Microstructural and textural evolution during recrystallization of cold rolled Al-Mn Mg alloys	Dr. S.G. Chowdhury National Metallurgical Laboratory Jamshedpur - 500005
42.	SR/S3/ME/22/2004-SERC-Engg 29.09.2005	Porous inject able ceramic bone cements	Dr. Sampath Kumar IIT-Madras Chennai - 600036
43.	SR/S3/CE/44/2005-SERC Engg 29.09.2005	Monolith supported Zeolite Catalyzed Aromatic Alkylation Reactions of commercial Interest	Dr. Parimal A Parikh Deptt. Of Chemical Engg. Sardar Vallabhbai National Institute of Technology Surat - 395007
44.	SR/S3/CE/45/2005-SERC Engg 29.09.2005	Development of new tools for process engineering applications: Wavelet-Fractal Theory assisted SVM methodology	Dr. V.K. Jayaraman Deptt. Of Chemical Engg. National Chemical Laboratory Pune - 411008
45.	SR/S3/CE/28/2005-SERC Engg 10.10.2005	Multiscale Modeling and Control of Materials Microstructure	Dr. Vinay Prasad Deptt. Of Chemical Engg. IIT-Bombay Powai Mumbai - 400076
46.	SR/S3/MERC/74/2004-SERC Engg 18.10.2005	An Experimental Study of Diffusion Jet Flames with Highly Preheated air	Dr. D.P. Mishra Deptt. Of Aerospace Engineering IIT-Kanpur Kanpur - 208016
47.	SR/S3/CE/27/2005-SERC-Engg 26.10.2005	Formation of ordered meso-patterns using interfacial instability and dewetting of conducting polymers	Dr. Kajari Kargupta Deptt. Of Chemical Engg. IIT-Kharagpur Kharagpur - 721302
48.	SR/S3/EECE/19/2005-SERC-Engg 27.10.2005	Recognizing handwritten characters on simuter	Dr. Chiranjib Bhattacharya Deptt. Of Computer & Automation IISc Malleswaran Bangalore - 560012
49.	SR/S3/CE/039/2005-SERC-Engg 28.10.2005	Development of Smart Nano Materials for Environment for Applications	Dr. S.R. Wate Deptt. Of Environmental Impact & Risk Assessment Division National Environmental Engineering Research Institute

			(NEERI) Nagpur - 440020
50.	SR/S3/CE/41/2005- SERC-Engg  26.10.2005	Bubble dynamics and turbulence in reactive and non-reactive flows and in dispersions	Dr. Amol A Kulkarni Deptt. Of Industrial Flow Modeling Group National Chemical Laboratory Pune - 411008
51.	SR/S3/CE/040/2005- SERC Engg  02.11.2005	Development of dual-Source Fan-Beam & Cone Beam tomography for Studying Multiphase Reactors	Dr. Santanu Roy Deptt. Of Chemical Engg. IIT-Delhi Hauz Khas New Delhi - 110016
52.	SR/S3/EECE/33/2005- SERC-Engg  08.11.2005	MEMS based Micro-cantilevers for Chemical and Biochemicals Sensors	Dr. Sudhir Chandra Centre for Applied Research in Electronics IIT-Delhi Hauz Khas New Delhi - 110016
53.	SR/S3/CE/030/2005- SERC Engg  08.11.2005	Adhesion and Friction at Soft Interfaces	Dr. Animangsu Ghatak Deptt. Of Chemical Engg. IIT-Kanpur Kanpur - 208016
54.	SR/S3/EECE/17/2005  29.1.2005	Development of specialized tools for detecting and tracking the progress of diabetic retinopathy from colour fundus images	Dr. J. Sivaswamy Centre for Visual Information Technology International Institute of Information Technology Gachibowli Hyderabad - 500019
55.	SR/S3/EECE/21/2005  29.11.2005	Quantum Key Distribution: Implementation and Testing	Dr. Andrew Thangaraj Deptt. Of Electrical Engg. IIT-Madras Chennai - 600036
56.	SR/S3/CE/46/2005- SERC-Engg  29.11.2005	Polymerization of Nylon-6 in Semi-Batch Reactors	Prof. S.K. Gupta Deptt. Of Chemical Engg. IIT-Kanpur Kanpur - 208016
57.	SR/S3/MERC-03/2005  01.12.2005	Holographic studies on mini channels for optimal thermal design of microelectronic systems	Dr. C.B. Sobhan Deptt. Of Mechanical Engg. National Institute of Technology Calicut - 673601
58.	SR/S3/MERC/11/2005- SERC-Engg  01.12.2005	Development of Technology for Upgradation of Producer Gas from Biomass Gasifier as feed stock in solid oxide fuel for power generation	Prof. R. Natrajan Energy Centre Vellore Institute of Technology Vellore - 632014
59.	SR/S3/MERC/16/2005  05.12.2005	Effect of Free-Stream Turbulence (active and passive grid) on the development of a turbulent boundary layer	Dr. Srinivas V. Veeravalli Deptt. Of Applied Mechanics IIT-Delhi, Hauz Khas New Delhi - 110016

60.	SR/S3/CE/66/2004-SERC-Engg  13.12.2005	Analysis, Design and Development of Cryptanalytic the Tests for Block Ciphers Stream Ciphers and Hash Functions	Mr. Ravi Kant Society for Electronic Transactions and Security (SETS) 21(old No. 11), Mangadu Swami St., Nungambakkam Chennai - 600034
61.	SR/S3/ME/05/2005-SERC-Engg.  23.12.2005	Development of high strength ultra fine grained alloys through cryorolling	Dr. V. Subramanya Sarma IIT-Madras Chennai - 600036
62.	SR/S3/CE/66/2005-ET  28.12.2005	Removal of Recalcitrant Solutes from Waste Water in Multi-stage Cross and Radial flow Fluidized bed Ion Exchangers	Dr. Nishith Verma Deptt. Of Chemical Engg. IIT-Kanpur Kanpur - 208016
63.	SR/S3/CE/56/2005-SERC-Engg  02.01.2006	Development of Nanocellular Thermoplastic Composites	Dr. Naresh Bhatnagar Deptt. Of Mechanical Engg. IIT-Delhi Hauz Khas New Delhi - 110016
64.	SR/S3/CE/64/2005-SERC-Engg  02.01.2006	Selection of regular nano-patterns during break up of unstable thin polymer films	Dr. Rajesh Khanna Deptt. Of Chemical Engg. IIT-Delhi Hauz Khas New Delhi - 110016
65.	SR/S3/CE/57/2005-SERC-Engg  30.12.2005	Effect of Additives on Chemical Mechanical Planarization Slurries	Dr. M. Ramanathan Deptt. Of Chemical Engg. IIT-Madras Chennai - 600036
66.	SR/S3/CE/63/2005  04.01.2006	Novel Nano structured Polyelectrolyte Multilayer Films	Prof. Ashok M. Raichur Deptt. Of Metallurgy IISc Bangalore - 560012
67.	SR/S3/CE/62/2005  17.01.2006	Membrane Reactor based Process ffo Speciality Chemicals	Dr. S. Mayadevi CE&PD Div. National Chemical Laboratory Pune - 411008
68.	SR/S3/MERC-079/2004  19.01.2006	Layered manufacturing using electrochemical sparks	Prof. V.K. Jain Deptt. Of Mechanical Engg. IIT-Kanpur Kanpur - 208016
69.	SR/S3/CE/49/2005-SERC-Engg  27.01.2006	Fine particle Application in high Precision Manufacturing Semiconductor Water Surface Contamination & Cleaning	Dr. R. Nagarajan Deptt. Of Chemical Engg. IIT-Madras Chennai - 600045
70.	SR/S3/EECE/49/2005-SERC-Engg  27.01.2006	Intelligent Control Schems and Application to Dynamic & Visual Control of Redundant Manipulator Systems	Dr. Laxmidhar Behra Deptt. Of Electrical Engg. IIT-Kanpur Kanpur - 208016
71.	SR/S3/EECE/28/2005-SERC-Engg	Development of UHF Sensors for Partial Discharge Studies in Gas	Dr. R. Sarathi Deptt. Of Electrical Engg.

	03.02.2006	Insulated Systems	IIT-Madras Chennai - 600036
72.	SR/S3/EECE/06/2005  06.02.2006	Design Development and Analysis of Routing and fusion algorithms for Wireless Sensor Networks	Dr. G. Rama Murthy Deptt. Of Communications & Networking Research Centre International Institute of Information Technology Gachibowli Hyderabad - 500019
73.	SR/S3/EECE/24/2005-SERC-Engg  06.02.2006	Development of an Electronic Tongue based on Voltametry	Dr. P.C. Panchariya Digital Systems Group Central Electronics Engineering Research Institute Pilani - 333031
74.	SR/S3/MERC/56/2005  21.02.2006	Topology Syntheses of Compliant MEMS for path generation	Dr. Anupama Saxena Deptt. Of Mechanical Engg. IIT-Kanpur Kanpur - 208016
75.	SR/S3/ME/18/2005-SERC-Engg  07.02.2006	Development of Nanocrystalline Coatings by Combined Plasma Assisted Implantation & Deposition (PAID)	Prof. Indranil Manna Deptt. Of Metallurgical & Materials Engineering IIT-Kharagpur Kharagpur - 721302
76.	SR/S3/CE/37/2005  17.02.2006	Design and Development of a Process for Nano-Engineered Particles	Dr. U.V. Bhandarkar Deptt. Of Mechanical Engg. IIT-Bombay Powai Mumbai - 400076
77.	SR/S3/CE/60/2005  17.02.2006	Patterned and Ordered Metal Nanoparticle Arrays-Templates for Functional Nanoscale Architectures	Dr. S. Venugopal Deptt. Of Chemical Engg. IISc Bangalore - 560012
78.	SR/S3/CE/50/2005-SERC-Engg  17.02.2006	Intelligent Processing of Advanced Polymeric Materials	Dr. Anup Ghosh Centre for Polymer Science & Engg IIT-Delhi Hauz Khas New Delhi - 110016
79.	SR/S3/CE/31/2005  21.02.2006	Synthesis and Engineering of Advanced Materials using frequency Plasma for Chemical Microelectronic, Biochemical and Biomedical Applications	Dr. Sudarshan Neogi Deptt. Of Chemical Engg. IIT-Kharagpur Kharagpur - 721302
80.	SR/S3/MERC/52/2005  07.03.2006	Studies on Compact Bubble Absorber of the Vapour Absorption Refrigeration System	Dr. A. Mani Deptt. Of Mechanical Engg. IIT-Madras Chennai - 600036
81.	SR/S3/MERC/24/2005	A Study on the mean flow characteristics due to jet impingement on curved surfaces	Dr. DVS Bhagavanulu Deptt. Of Civil Engg. Vellore Institute of Technology

	03.03.2006		Vellore - 632014
82.	SR/S3/MERC/31/2005 06.03.2006	Behaviour of Pile-Supported Structures During Strong ground Motions; Effects of 3-D Nonlinear Soil-Pile-Structure Interaction	Dr. B.K. Maheswari Deptt. Of Earthquake Engineering IIT-Roorkee Roorkee - 247667
83.	SR/S3/MERC-35/2004 22.03.2006	Heat Transfer & Pressure drop characteristics of laminar & turbulent flow through circular, rectangular & square ducts having axial and transverse corrugations and twisted-tapes with and without oblique teeth	Dr. S.K. Saha Deptt. Of Mechanical Engg. Bengal Engineering & Science College Shibpur Howrah - 711103
84.	SR/S3/MERC-20/2005 27.03.2006	Optimization of spray forming process used for the production of near-net-shape rapidly solidified materials	Dr. Devendra Singh Deptt. Of Metallurgical & Materials Engineering IIT-Roorkee Roorkee - 247667
85.	SR/S3/MERC/69/2005-SERC Engg. 28.03.2006	MeRC Internet Based Information Management System for mechanical Engineering Robotics and Civil Engineering Programme Advisory Committee	Prof. S.S. Pandey Deptt. Of Mechanical Engg. IIT-Bombay Powai Mumbai - 400076
86.	SR/S3/MERC/46/2005 28.03.2006	Thermoelastic Nonlinear Dynamic Analysis of Functionally graded Shells	Dr. B.P. Patel Deptt. Of Applied Mechanics IIT-Delhi, Hauz Khas New Delhi - 110016
87.	SR/S3/MERC/34/2005 31.03.2006	A 2 day workshop on Prediction of shrinkage of Cotton Knitted fabrics and its control with special emphasis for small scale manufacturing	Dr. Gurcharan Singh Deptt. Of Textile Engg. Giani Zail Singh College of Engg. & Technology Bhatinda - 151001