

RESEARCH PROJECT DETAILS (F.Y. 2021-22)

Summary							
Sr. No	Department	Ongoing Projects		Completed Project		Total	
		No of Project	Sanction amount	No of Project	Sanction amount	No of Project	Sanction amount
1	Department of Mechanical Engineering	20	4,78,83,899	1	27,72,000	21	5,06,55,899
2	Department of Chemistry	5	1,58,26,309	2	35,45,000	7	1,93,71,309
3	Department of Mathematics & Humanities	5	1,15,50,515	0	-	5	1,15,50,515
4	Department of Physics	13	4,23,32,557	0	-	13	4,23,32,557
5	Department of Civil Engineering	18	7,26,41,065	0	-	18	7,26,41,065
6	Department of Chemical Engineering	10	4,07,25,926	3	52,60,000	13	4,59,85,926
7	Department of Computer Sciece Engineering	2	1,97,90,571	0	-	2	1,97,90,571
8	Department of Electronics Engineering	8	3,05,46,222	0	-	8	3,05,46,222
9	Department of Electrical Engineering	5	1,83,24,295	0	-	5	1,83,24,295
	Total	86	29,96,21,359	6	1,15,77,000	92	31,11,98,359

DEPARTMENT OF MECHANICAL ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	Combustor Technology Development for small Gas Turbine / Turbo fan Engine	Dr. S. A. Channiwala	1,74,32,000	2 Years	02.05.17	Ongoing
2	Study of Slurry Erosion behaviour of Highly Entrophy Alloy Coating	Dr. Jyoti V. Meghani	27,72,000	2 years	22.08.17	Completed (2021-22)
3	Investigations on a Novel Stacked Minichannel Heat Sink using Efficient Coolants	Dr H B Mehta	24,47,500	3 years	5.10.17	Ongoing
4	Performance optimization of air conditioning system for automative sector using new LOW GWP R1234yf refrigerant	Dr. Ashok D. Parekh	21,45,000	36 Months	22.01.19	Ongoing
5	CSIR BHATNAGAR FELLOWSHIP 2018 "Dvelopment Of Hybrid Plasma Gasification Technology for MSW Management	Dr. S. A. Channiwala	78,00,000	36 Months	01.01.19	Ongoing

6	Investigations on Wear Characteristics of NiCrBSi Overlay Surface on 304 SS with and without Tungsten Carbide Reinforcement	Dr. V. D. Kalyankar	1,20,000	18 Months	11.10.19	Ongoing
7	Linear Stability Analysis of Interface Dynamics in Two Phase Jets	Dr. Jyotirmay Banerjee	6,60,000	3 Years	04.03.2020	Ongoing
8	Development Of A Novel High Entrophy Alloy Reinforced Magnesium Composites to Reduce Tension-Compression Yield Asymmetry Trough Ultrasonic Assisted Liquid State Processing Route	Dr. Biranchi Narayan Sahoo	28,64,340	2 Years	27.11.20	Ongoing
9	Industrial suitability and commercialization of novel SPIF process for DC04 steel and Ti Gr.2 materials	Dr. Amrut Shrikant Mulay	16,74,240	2 years	08.02.21	Ongoing
10	Investigations on Flow deflection about savonius Hydrokinetic Turbines and design evolution with Core Technical Concepts	Dr. Vimal K. Patel Dr. Vikram P. Rathod	20,24,000	3 years	18.3.21	Ongoing
11	Gujarat Robofest 2.0 Compitition (Making the robot at the power exoskeleton category)	Dr. Harshit K Dave	50,000	1 year	30.3.21	Ongoing
12	Gujarat Robofest 2.0 Compitition (Making the robot in the underwater robot category)	Dr. Harshit K Dave	50,000	1 year	30.3.21	Ongoing
13	Gujarat Robofest 2.0 Compitition (Making the robot at the pipe climbing robot category)	Dr. Harshit K Dave	50,000	1 year	30.3.21	Ongoing
14	Gujarat Robofest 2.0 Compitition (Making the robot at the four legged robot category)	Dr. Harshit K Dave	50,000	1 year	30.3.21	Ongoing
15	Solar Drying cum Moisture Extraction from Herbs	Dr. Rohan Pande	2,50,000	1 year	23.11.21	Ongoing
16	A loop Heat pipe based Novel BTMS for Hybrid Vehicales/ Electric Vehicles	Dr. Hement Mehta Dr. V. M. Patel Dr. Yaresh Yamsetty	36,44,696	2 Years	04.01.22	Ongoing
17	Mechanical and Microstructural Behaviour of Laser Based Direct Enegrgy Deposited wire Arc-Additive Manufactured Ti-6Al-4V Components	Dr. Biranchi Narayan Sahoo Dr. Ajay Kumar (IIT, Tirupati) Dr. Raju Prasad Mahto Dr. D. V. Kiran (IIT Tirupati)	10,60,000	3 years	11.01.22	Ongoing

18	Design and Development of solar Driven Water Generation System based on Desiccant wheel	Dr. Amit Kumar	20,54,840	2 years	19.1.22	Ongoing
19	DST-FIST - To Strengthen the research facilities in the department	Dr. J Benerjee Dr. P.V. Bhale Dr. H. B. Mehta Dr. R.D. Shah Dr. Nikhil A. Baraiya Dr. Y. Naresh Dr. Rohan Pande	1,02,00,000	5 years	8.3.22	Ongoing
20	Finishing of 3D-Printed parts using an axial abrasive flow machining process	Dr Bhargave Prajwal Pathri (woven university Hyderabad, telangana) Dr.Shailendra Kumar (Mentor)	18,30,000	3 years	17.3.22	Ongoing
21	Development, Characterization and Performance Evaluation of Multi-Phase Composite Panels	Dr. Achchhe Lal	14,22,283	2 years	22.3.22	Ongoing

DEPARTMENT OF CHEMISTRY						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	DST Project -" Use of inorganic and hybrid sorbents / exchangers for removal of toxic metals from industrial waste water"	Dr. Kalpana C. Maheria(PI) Dr. Lalita Choudhary(Co.PI)	31,40,000	3 years	30.03.2015	Completed (2021-22)
2	SERB Project - Functional Variants of Mussel Inspired Biomaterial Surface; effect to Surface Functional Groups on antibiofilm Properties\	Dr.Rajendra Kumar	28,91,000	3 years	08.03.16	Ongoing
3	Design of Green Synthetic Approaches for Automatically Precise Nanocluster their specific Interactions : Development of Miniaturised Analytical Method	Dr. Suresh Kumar Kailasa Z.V.P. Murty(Co-PI)	35,04,655	3 Years	20.07.17	Ongoing
4	Micro structural aggregates in the task - specific Biodegradable Surface active "Greener""Ionics Liquids (CRS-M276)	Dr. Naved Malek	4,05,000	1 Year Ext up to 3 Years	18.12.17	Completed (2021-22)

5	Syntheses of Biologically active Heterocyclic Drug cores via multiple C-H bond Activation	Dr. Togati Naveen	33,95,830	3 years	29.9.21	Ongoing
6	Dye separation from Waste Water through Molecular Sieving Membranes of Covalent-Organic Frameworks	Dr. Ritambhara Jangir	28,53,784	2 Years	15.12.21	Ongoing
7	Development of autocatalytic enzyme-free nucleic acid amplification methods compatible with point of care diagnostics	Dr. subrata Dutta	31,81,040	2 years	04.01.22	Ongoing

DEPARTMENT OF MATHEMATICS& HUMANITIES						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	computational study on multi-dimensional stefan problems in biological tissues based on non-Fourier heat transfer model using mesh-free method	Dr.Sushil Kumar	16,20,518	36 Months	05.06.18	Ongoing
2	Simulation and Land data assimilation to community land model for improving rice crop dynamics	Dr. R. K .Jana	22,20,000	3 Years	11.03.2020	Ongoing
3	A Need-based Approach to Understanding the Employ ability skills of engineers	Dr. Urvashi Kaushal	50,000	2 years	17.06.21	Ongoing
4	DST-FIST	Prof. A. K. shukla Prof. V. H. Pradhan Dr. sushil kumar Dr. Jayesh M Dhodiya Dr. Ramakanta Meher	70,00,000	5 years	8.3.22	Ongoing
5	Numerical Simulation of cancer treatment therapies hyperthermia and chemotheraph in multi dimensional irregular domain	Dr. Sushil Kumar	6,60,000	3 years	15.3.22	Ongoing

DEPARTMENT OF PHYSICS

Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	BRNS Project –Ground – State properties of low dimensional quantum systems.	Dr. L. K.Saini	14,49,250	3 years	27.09.13	Ongoing
2	SERB Project – Strongly – correlated electronics materials, Topological quantum nano – materials	Dr. L. K. Saini	14,04,000	3 years	24.02.14	Ongoing
3	SERB Project - Novel perovskite-based solar cells : Investigation of potential properties using ab-initio approaches	Dr. Y. A. Sonavne	30,09,000	3 years	02.03.2017	Ongoing
4	Development of Novel Cluster Assembled Material from Potential Cluster Motifs : A new Insight under density Functional Investigation	Dr. Debesh Ranjan Roy	27,69,594	3 Years	03.07.17	Ongoing
5	conducting polymer nanocomposite (CPC) for selective and sensitive sensor detection of explosive array	Dr. Swati Saxena	19,20,000	24 Months	25.09.18	Ongoing
6	FIST - 2017	Dr. Vipul Kheraj	1,18,00,000	5 years	18.06.19	Ongoing
7	"TEC Data ingestion to ionospheric models from Indian EIA region to improve model predictions"	Dr. Sheetal P. Karia	25,50,000	3 Years	05.07.19	Ongoing
8	Study of breakup reactions involving weakly bound projectile nuclei at Coulomb barrier energies	Dr. Dipika B. Patel	21,31,200	2 Years	19.02.2020	Ongoing
9	Group III-V Inorganic Semiconductor Clusters for Future Nanoelectronics Applications	Dr. Debesh Ranjan Roy	33,67,513	3 Years	16.01.21	Ongoing
10	Physics and application of Plasma-surface interaction: tuning effect of Pulsed microwave electric field and magnetic field	Dr. Shail Pandey	35,00,000	6 years	16.07.21	Ongoing
11	Investigation of Novel Heusler Alloy thin Films for Energy and spintronics Applications	Dr. Himanshu Pandey	47,30,000	3 years	6.12.21	Ongoing

12	Nanostructured metal oxide-drug assemblies and their interaction mechanism with biomolecules: A joint experimental and first principal investigation for possible therapeutic applications	Dr. Sutapa Mondal Roy, Uka-Tarasadia univ. Dr. Debesh Ranjan Roy	18,30,000	3 Years	20.1.22	Ongoing
13	Systematic study of exotic nuclear systems using macro-microscopic and phenomenological approach	Dr. Rajni Sunil Kumar Dr. A.K.Rai (Mentor)	18,72,000	3 years	03.02.22	Ongoing

DEPARTMENT OF CIVIL ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	Strengthens the research facilities in the area of :Flow Structures and Turbines	Dr. V. L. Manekar	1,75,00,000	5 Years	21.11.14	Ongoing
2	Some Studies on Performance of Previous Concrete for improving soft Ground	Pof. J. B. Patel	6,92,000	2 Years	20.06.16	Ongoing
3	DST - NIMAT (MOU - EDI) - To create techno-entrepreneurs and resource persons through Entrepreneur Development Programme Strategy	Dr. C. D. Modhera	2,00,000	3 years	22.08.16	Ongoing
4	Unnat Bharat Abhiyan Cell	Dr. K. D. Yadav	1,75,000	1 years	23.2.17	Ongoing
5	Preparation of State of Art Report (SOAR) on Preparation of Constriction Safety Manual	Dr. Dilip Patel	8,36,900	6 Months	21.07.17	Ongoing
6	IT Indian Heritage Platform Enhancing Cultural Resilience in India by Applying Digital Technologies to the Indian Tangible and Intangible Heritage	Dr. D. A. Patel	10,00,000	24 Months	15.02.18	Ongoing
7	Impact of Climate change on water Resources of Sabarmati Basin	Dr.Vimal Mishra Dr.P. L. Patel	84,91,560	3 Years	19.03.18	Ongoing
8	Impact of Climate change on Water Resources of Tapi Basin	Dr.P. L.Patel Dr.P. V. Timbadiya Dr.Rohit Goyal Dr.Vishnu prasad	1,35,84,560	3 Years	13.03.18 (07.11.2016 Saction Date)	Ongoing
9	Securing Water for Agricultural and Food Sustainability: Developing Transdisciplinary Approach to Groundwater Management	Dr. J. N. Patel	58,51,495	24 Months	30.04.19	Ongoing

10	Development of Framework to Measure Sustainability Index Of Transportation Systems In Indian Metropolitan Cities	Dr. Shriniwas Arkatkar Dr. G. J. Joshi	82,32,000	36 Months	22.02.19	Ongoing
11	Warrant for Automation of toll Plazas under Mixed Traffic Conditions	Dr. Ashish Dhamania	7,67,000	2 Years	13.4.21	Ongoing
12	Graphane-Based Nano materials in Property Enhancement of Cement Composites & Concrete under GIJCOST STI Policy	Dr. Gaurang R. Vesmawala	27,77,500	3 Years	08.06.21	Ongoing
13	Conflict Assessment at Diverging and merging area of Toll plaza by surrogate safety measures under mixed traffic conditions	Dr. Ashish Dhamania Dr. A Mohan Rao Sr. Pr. CSIR, New Delhi	21,30,000	2 Years	10.08.21	Ongoing
14	Development of Trip Genration Manual for Indian cities	Dr. Shriniwas Arkatkar Dr. G J Joshi	8,69,000	3 Years	31.12.21	Ongoing
15	Augmenting Ridership in Operating Metro Rail in Indian Cities	Dr. Gaurang J. Joshi Dr. S.S. Arkatkar	10,50,000	1 year	25.1.22	Ongoing
16	Local scouring around tandem and staggered bridge piers on non uniform mobile bed	Dr. P. V. Timbadiya Prof P.L. Patel	58,75,890	3 years	03.02.22	Ongoing
17	CCPDM-Circular Cemetitions Products Embedding Digital Manufacturing	Dr. D.A.Patel Dr. Kashyap Patel Dr. B.Kondrivendam	4,04,160	1 years	11.02.22	Ongoing
18	Performance Evaluation of Cement Concrete Pavements in Rural Roads	Dr. Shriniwas Arkatkar Dr. G J Joshi	22,04,000	1 year	30.3.22	Ongoing

DEPARTMENT OF CHEMICAL ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	SERB Project - " A Study on ultrasound assisted crystallization of clopidogrel hydrogen sulfate"	Dr. S. R.Patel	15,76,000	2 Years	08.07.15	Ongoing
2	Study of Microbial Consotria in Microbial fuel cell	Dr. A. K.Mungray	17,05,000	3 Years	28.07.15	Ongoing

3	GUJCOST Project Studies on interfacial characteristics of Liquid system	Dr. V. N. Lad	5,10,000	3 years	28.03.16	Completed (2021-22)
4	SERB Project - Integration of Septic Tank and Microbial fuel cell : Novel Hybrid system for sustainable treatment of domestic waste water	Dr. Arvind Kumar Mungray	31,18,000	3 Years	14.03.17	Completed (2021-22)
5	Synthesis and Characterization of semiconductor / oxide materials for cost effective pervoskite solar cells modules	Dr. Jignasa V. Gohel	16,32,000	3 Years	28.06.17	Completed (2021-22)
6	The near future air cathode Osmotic microbial fuel cell (OMFC) for wastewater treatment,electricity generation and pure water extraction	Dr.Alka A. Mungray	28,46,000	3 years	20.03.18	Ongoing
7	Mango Waste Valorization Throgh Biorefining Concept: A Sustainable and Greener Approch	Dr. Meghal A. Desai Dr. Girirajsinh C. Jadeja	50,60,880	36 Months	10.10.18	Ongoing
8	Ultrasonic Microreactor for Production of Nano-Micro Particles of Poorly water Soluble Active Pharmaceutical Ingredients (API)	Dr. Sanjaykumar Rameshbhai Patel	51,41,750	36 Months	01.06.19	Ongoing
9	Development of composite thin fillms with simultaneous different and magnetic properties	Dr. V. N. Lad	25,30,884	2 Years	25.02.20	Ongoing
10	Synthesis of Artifical Sweeteners and High Value Chemicals from Biorenewable Resources using Noble Metal Aerogel Catalysts	Prof. Jigisha Prarikh	21,45,264	3 Years	28.5.20	Ongoing
11	Development of Drug Delievry System Based on phase Change Materials	Dr. Jigisha Parikh Dr. S K Sundar	43,67,264	3 years	2.3.22	Ongoing
12	Production of Crude Oil and Phosphate Fertilizer from the Faecal Sludge : A Complete Solution for the Zero Liquid Discharge	Dr. Arvind Mugrey	36,13,764	3 years	5.3.22	Ongoing
13	DST-FIST-CHED	Dr. Jigisha parikh Dr. Meghal Desai Dr. Sanjay R. Patel Dr. G C Jadeja Dr. Chetan Patel	1,68,00,000	5 years	31.3.22	Ongoing

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	ISEA Project - " Phase - II released Grant in Aid"	Dr. D. C. Jinwala	1,85,70,000	5 years	12.02.16	Ongoing
2	Design and Implemetation of Secure Service and Attribute-based Authorization Model in Dynamic and constrained- specific IoT Environment	Dr. Udai Pratap Rao	12,20,571	2 years	12.12.21	Ongoing

DEPARTMENT OF ELECTRONICS ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	SMDP Project - " SMDP C2SD Project"(Special Manpower Development Programme Chips to System Design	Dr. A. D. Darji(PI) Prof. Pinal J. Engineer(Co-PI)	99,72,000	5 years	04.02.15	Ongoing
2	" Young Faculty Research Fellowship	Dr Piyush N. Patel	14,80,000	2 Year Ext up to 5 Years	15.01.18	Ongoing
3	study&implimentation of generative Aelversariaol network (GANS) for image super-resolution :Application to image capture using CCTV Camera	Dr. kishor P. Upla	23,03,180	36 Months	21.08.18	Ongoing
4	Fractal metamaterial and its application to wearable antennas	Dr. Kirti Inamdar Dr. Upena D. Dalal	30,14,420	36 Months	10.10.18	Ongoing
5	Design and Development of Co-Planar Waveguide based Wearable Bio-Sensor for Medical Application	Dr. Piyush Patel Dr. Jignesh Sarvaiya	17,69,000	2 Years	8.7.20	Ongoing
6	Deep learning based signal classification for position accuracy of Navlc/GPS.	Dr. Darshna dipen jaggiwala Dr. Sweta shah (Mentor)	24,80,220	2 years	12.10.21	Ongoing
7	Caps Network-International Network for capsule Imaging in Enoscopy	Norway University of Science and technology (NTNU) DR. Kishor P. Upla (Co-pi)	61,00,000	5 years	3.02.22	Ongoing

8	Design and development of MEMS - based portable platform with inoselesctive Self-Assemble Monolayer SAMs for the detection of toxic Metal Ions HMLs in ground water	Dr.Anand Darji Dr. Dinesh Rotake	34,27,402	3 years	30.3.22	Ongoing
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DEPARTMENT OF ELECTRICAL ENGINEERING						
Sr. No.	Name of Project	Name of Co-ordinator	Grant Sanctioned	Duration	Date of Allotment	Status
1	SERB Project - Development of Control Algorithms for shunt and series connected Custom Power Devices.	Dr. Sabha Raj Arya	44,10,560	3 years	17.08.16	Ongoing
2	Development of enhanced Predictive Current Control and Predictive Torue Control strategies for Open-end Winding Permanent Magnet Synchronous Motor Drive with less torque ripple for Electric Vehicales	Dr. Kunisetti V. Praveen kumar	28,96,910	2 Years	19.01.21	Ongoing
3	Design and control of renewable energy based AC Microgrid Systems	Dr.Rajeseckharareddy Chilipi	32,94,500	2 years	29.12.21	Ongoing
4	Hardware Implementation of 3SS Inverter Configuration in solar Grid-Tried Systems for Effective energy Utilization Using Wide Bandgap Switches	Dr. Jammala Venkatramanaiah	46,31,264	3 years	16.3.22	Ongoing
5	Wide Band Gap Device Based Next-Generation Intelligent Electric Tranction Drive System for Electric Vehicle Application	Dr. Sukanta Halder	30,91,061	3 Years	31.3.22	Ongoing