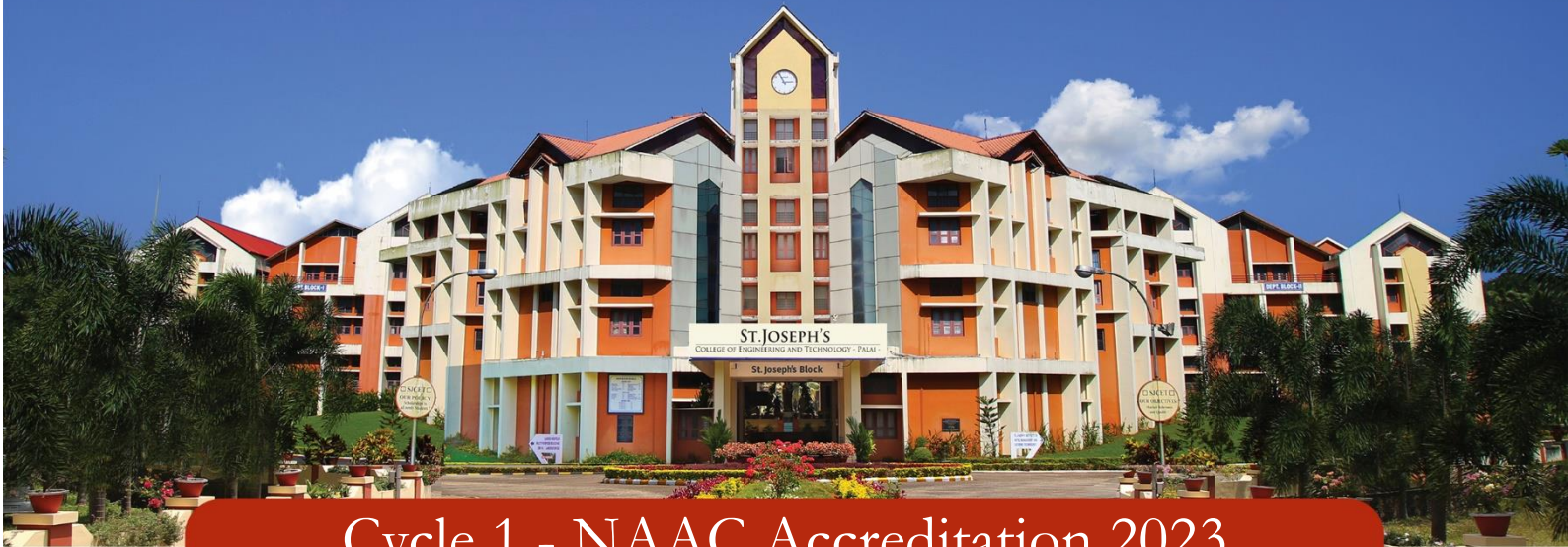




# ST. JOSEPH'S

COLLEGE OF ENGINEERING  
AND TECHNOLOGY,  
- PALAI -

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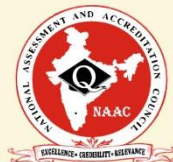
Cycle 1 - NAAC Accreditation 2023

Criterion - 3

## Research, Innovations & Extension

3.1.1 Research Fund in the Academic year 2022-23

*Submitted to:*



**National Assessment and Accreditation Council**



# ST. JOSEPH'S

COLLEGE OF ENGINEERING  
AND TECHNOLOGY,  
- PALAI -

### 3.1.1 Grants received from Government and non-governmental agencies for research projects, endowments in the institution during the academic year 2022-23

S.No	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Project Title	Amount Sanctioned/Utilization	Name of the Funding Agency
1	Dr. Jilse Sebastian (PI) Dr.Lijo Paul(Co-I)	ME	<a href="#">Synthesis of photo curable resin from cellulose nanocrystals</a>	32,000	<a href="#">APJAKTU-Kerala</a>
2	Dr. Rajesh Baby (PI) Dr. George Tom Varghese (Co-I)	ME	<a href="#">Smart Bed, A self-adjustable bed for bedridden patients to prevent bedsores</a>	36,500	
3	Dr. Bennet Kuriakose	CE	<a href="#">Self-healing concrete using bacteria from cow dung</a>	50,000	
4	Ms. Divya Sunny	CSE	<a href="#">SpecAssist - Live transcribing smart glasses</a>	18,835	
5	Mr. Ivin Jose	ME	<a href="#">Tool design and fabrication of Hybrid Electro Discharge Grinding Machining</a>	1,20,000	<a href="#">CERD -Research Seed Money</a>
6	Dr. Tomson Davis	ECE	<a href="#">Design of Low Complexity Digital Hearing Aid using Non-uniform Filter Banks</a>	1,65,000	<a href="#">APJAKTU-Kerala</a>
7	Mr. Sreesh P R	ECE	<a href="#">Student Mentorship Programme</a>	5,58,460 <a href="#">Utilization</a>	<a href="#">IEEE Kerala Section</a>
8	Dr.Rajesh Baby(PI), Mr.Babusanker S(Co-I)	ME	<a href="#">Design, fabrication and implementation of Phase Change Materials (PCMs) based passive cooling system for thermal management of Li-ion batteries used in Electric Vehicles</a>	15,10,615	<a href="#">ANERT</a>
<b>Total Amount Sanctioned in Lakhs</b>				<b>24.9141</b>	

**APJ Abdul Kalam Technological University  
Thiruvananthapuram**

**Abstract**

APJAKTU - Financial Assistance to Student Projects 2022-23 - Administrative Sanction accorded - Orders issued.

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**RESEARCH SECTION**

U.O.No. 672/2023/KTU

Thiruvananthapuram, Dated: 18.03.2023

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- Read:-*1. Minutes of the 1st meeting of Engineering Research Council dated 27.01.2010.  
2. Minutes of 2nd meeting of Executive Committee dated 21.10.2010.  
3. Meeting of the 2nd Research Council dated 29.02.2017.  
4. Proposals of Student Projects for Financial Assistance.  
5. Screening Committee meeting held on February 2023 for evaluation of project proposals.

**ORDER**

Vide paper read 1st above, the Engineering Research Council had approved the scheme for Financial Assistance to Student Projects for the Government Engineering Colleges. Vide paper read 2nd above, it was decided to extend the financial assistance to the student projects to the students of the Government aided and Government Controlled Engineering Colleges.

It was decided to extend the financial assistance to Student Projects for all engineering colleges affiliated to the University with NBA accreditation as per paper read 3rd above. It was also decided that the financial assistance will be provided as reimbursement of expenditure occurred for the sanctioned project.

The Screening Committee meetings held in February 2023 evaluated the project proposals forwarded from Engineering Colleges affiliated to the University and recommended financial assistance to selected proposals as per the List appended.

Administrative sanction is therefore accorded for financial assistance to student project for an amount of ₹46,58,352/- (Forty Six Lakhs Fifty Eight Thousand Three Hundred and Fifty Two only) as detailed in the list attached below. The project shall be completed within a period of 1 year and the project shall be completed with the students who presented the project before the Screening Committee.

The expenditure should be incurred as per the terms and conditions as per Annexure II attached. The amount will be reimbursed to the Principal of the concerned Colleges only after the successful completion of the project and on the production of certified bills & vouchers along with the audited utilization certificate, statement of expenditure and project completion report.

The expenditure shall be met from the Head of Account "CERD (Plan) 4181-6307-Innovative Student Project".

Orders are issued accordingly.

Sd/-

Dr. Shalij P.R \*  
DEAN (Research)

Copy to:-

1. Principals of Engineering Colleges.
2. Principal Investigators.





### Financial Assistance for Innovative Student Project- List of selected Projects 2022-23

#### College of Engineering Trivandrum

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	Remarks
1	Dr V R Rajeev Professor Co-Investigator Muhammed Arif M Associate Professor Dr Ajith G Nair Associate Professor	Sanjo Paul Kalluvilayathil Rojan Antony Abhinand G Jayashankar P	Mechanical	A parametric investigation and optimization study of TiSO <sub>2</sub> sludge as abrasive in water jet machining application	50,000	4,000	44,000	1,000	1,000	
2	Pradeep A Assistant Professor	Akshay P Nair Aravind K Varghese Ebin Joseph Goutham Joseph	Mechanical	Design and fabrication of LS-2 type parabolic trough collector for study of heat transfer fluid and seasonal orientation	50,000	19,000	25,000	1,000	5,000	
3	Dr Joseph Zacharias Professor	Alan B Thomas Joseph Varghese Ninan Tony Sarath Sojan	ECE	GPS spoofing and anti-spoofing using software defined radio (SDR)	45,000		40,000	1,000	4,000	
4	Dr. Sreelatha G. Professor Co-Investigator Dr. Biju K. S Associate Professor	Abhishek George Favas P Shane John Jose Sovin Don Desilva	ECE	Bathymetry Mapping using UAV	50,000		50,000			
5	Dr. Anitha Edison Professor Co-Investigator Lalu V Assistant Professor	Abhiram Krishnan ER Adarsh R Fathima BR Lynn Collins	ECE	Ofset Prediction Under Heterogeneous Traffic	40,000	3,000	35,000	1,000	1,000	
6	Ameenudeen P E Assistant Professor	Abhijith Narayan S Abhinand Sankar J Aditya S Amrita A Nair	ECE	Physical implementation of a reinforcement learning model with emphasis on reward side channels	25,000	1,500	21,000	1,500	1,000	



7	Dr Jisha V R Professor	Adith R K Chirag B Chandran Joel Pat David Padmanabhan Rajesh Nair	EEE	Aero Amphibious vehicle	50,000	5,000	43,000	1,000	1,000	
8	Dr Jayakumar P Associate Professor	Manu Moncy Nanditha S Nikhil TS Sreelakshmi S	EEE	Power Flow Management in Bidirectional DC-DC Converter	20,514	4,100	13,299	1,640	1,475	
9	Monish M Assistant Professor	Abin Philip Jeswin Jaimon KeertanaSujit Sanjay P J	EEE	Design and Implementation of Control Strategy for the Performance Improvement of Switched Reluctance Motor	35,000	7,000	20,000	4,000	4,000	
10	Sini T Assistant professor	Deon Mathew Dhanya S S Krishnamoorthy Malavika P V	Civil	Performance Evaluation Of Bamboo Geocell Reinforced soil	20,000	6,000		3,000	6,000	Others 5,000/-
11	Dr. Piyoosh P Assistant professor	Antony S John Chethana Pradeep Hazel Mary Kampakkaran Nandana Sony	CSE	LexRead - Development of an open-source interactive and customizable reader-writer application for users with dyslexia and related conditions	17,860	17,860				
12	Dr. Ajeesh Ramanujan AssociateProfessor	Fausan Asharaf Aswin A P Bayan K Muhammed Fazil	CSE	MeetShort: Automatic Meeting Summariser	13,300	13,300				
13	Dr Sumesh Divakaran HOD	Nanda Kishor M Pai Natasha Mathew Purnami Pradeep Sourav Satheesh	CSE	Beyond Graduation - Smart Alumni Management Platform	12,800		7,800		5,000	



14	Dr. Piyoosh P Assistant professor	Sudev Suresh Sreedevi Ajai Krishna K V Aryasree S S Deepika Mohan	CSE	Project Mudrika - A secure and transparent disaster management infrastructure powered by blockchain	16,250	10,000	6,250			
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**Government Engineering College Thrissur**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
15	Dr Sajith Babu C Professor	Vaisakh P Jasir V A V Pratheeshkumar Paul Jojo Parokkaran	Mechanical	Synthesis of Mg-Hydroxyapatite /bioactive glass nano powder compasites and their characterization	44,650	10,000	21,500	1,000	12,150	
16	Dr. A R Jayan. Professor Co-Investigator Riyas KS Assistant Professor	ANJANA N SATHYAN ASWIN RAMESH GAYATHRY MENON JOHN JTHARAYIL	ECE	AUTOMATED SOLAR PANEL CLEANER	12,690	3,000	7,690	1,000	1,000	
17	Abdul Raouf Khalid Assistant Professor	Adithya Krishnu Gopikrishnan TC Steenaxavier Vinin F	ECE	Wall Painting Robot	30,000	3,000	25,000	1,000	1,000	
18	Binitha Joseph Mampilly Associate Professor	Amal Leven Amulya M S Chris Joseph Easwari M	EEE	Electromagnetic Suspension System with Energy Regeneration	44,300	5,000	34,000	2,500	2,800	
19	Dr. RAJESH K. Associate Professor	JEREMIYA MATHEW KHURAIJAM RICKY MARIA PAULSON MOHAMMED SHERIN ELACHOLA	EEE	AN ECO-FRIENDLY CROP PROTECTION SYSTEM	45,640	4,000	35,640	2,000	4,000	
20	Deepak B Assistant Professor	Lakshmi Sreedhar Sanika Abhayadev J Sreelakshmi Sruthi K S	Civil	Predictive Model for Strength of Geopolymer Mortar Using Machine Learning	48,846	14,450	26,896	500	1,000	Chemical tests 6,000/-



21	Deepak B Assistant Professor	Sajith Krishna M Sudheeran VS Vaishnavy Sabu Nath Mohammed Hashir K K	Civil	Comparative study of different supplementary cementitious materials	49,788	3,220	30,068	1,000	3,500	Chemical tests 12,000/-
22	Dr. Manilal A M Associate Professor	Aksa John Bhavana VK Kartik S Menon Midhunkrishnan S	BTBC- CH-FT	Photocatalytic Splitting of Water using Silver-doped TiO2 Nanoparticles	37,208	7,208	25,000	2,000	3,000	
23	Dr. Praseetha PNair Associate Professor	Afsal E Amal Joseph Anand Krishna RajV Krishna Suresh	BTBC- CH-FT	Synthesis of Fuel oil by catalytic pyrolysis of polyethylene.	32,000	6,000	8,000	5,000	5,000	Characterization 8,000
24	Ranjana R Assistant Professor	Nayana Rajan Rohith Lakhan K Sakshy Joseph Thejas V S	BTBC- CH-FT	Catalytic Conversion of Glycerol to Ethanol Using Silver-impregnated Zeolite as Catalyst	49,900	8,900	15,000	3,000	3,000	Characterization 20,000
25	Dr Sajeena Beevi B Associate Professor	Hasnath Femi P Muhsina H S Suhail Asharaf Vivek vijayan	BTBC- CH-FT	Synthesis of nanoencapsulated phase change material for thermal energy storage	50,000	5,000	20,000	2,000	3,000	Characterization 20,000
26	Ajeesh KN Associate Professor	Abhijith Manoj Aparna K Menon Hariprasad MB Meghana CS	BTBC- CH-FT	Selective Extraction of lithium from spent Li-Ion Battery	30,000	4,500	6,000	3,000	3,000	Characterization 13,500

#### GEC Sreekrishnapuram

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
27	Dr. Joseph Peter Assistant Professor Co-Investigator Dr. Vinitha Chellappan Associate Professor	Sreenath U Athira R Sabna K I Haritha E S	EEE	Isolated DC-DC converter fed space vector PWM modulated	47,000	10,000	30,000	2,000	5,000	





SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
28	Dr. Manish M Assistant Professor Co-Investigator Dr. Swapnesh S Assistant Professor	Hari Krishnan Akash Antony Ambady Krishnanath Sradha S	Mechanical	Posterior Chest Vibrator	50,000	10,000	35,000	2,000	3,000	
29	Dr. Manojkumar M Associate Professor Co-Investigator Dr. Swapnesh S Assistant Professor	Sharvari Bhat K M Samnoon Mu-ad T K Haneen Nishoy Alappat N	Mechanical	Portable Tile Glue Application Machine with Adjustable Glue Thickness	42,491	2,000	34,991	2,500	3,000	
30	Salih Sulaiman Assistant Professor	Abhiram N K Amal J Alappat Muhammed Shameem VP Vinayak Vikram	ECE	AUTOMATIC COPRA, ARECA NUT DRYING AND MONITORING MACHINE	40,000	4,000	31,000	1,000	4,000	
31	Dr Upama Rajan Associate Professor	Alan Antony Amruth P Arya Thomas Elizabeth Mariva Siby	ECE	Library Assistant Robo Arm	45,000	4,000	37,000	1,000	3,000	
32	Dr. Johnson Mathew Head of the Department Co- Investigator Dr. Dolly Mary Abraham Professor	Abhiram L Hareendran Jyothilakshmi B Shabana S Swathi S	EEE	Axial Load-power flexible autonomous ALFA BLDC Motor	50,000	4,500	33,500	2,000	10,000	
33	Dr Dhanya B S Associate Professor	Aswin M Harinandan S B Nikhil Abe Victor Sreekuttan K B	Civil	Mechanical and shrinkage characteristics of hybrid fiber reinforced concrete with different binder system for white topping application	50,000	10,000	30,000	5,000	5,000	



**GCE Kannur**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
34	Nishanth K Assistant Professor	Abhishek Bhaktha K Gautham MP Nandakumar V Nithin Rai PR	Mechanical	Experimental investigations on the performance of surgical mask incinerator with the aid of distributed heat source	26,800	6,300	13,000	5,000	2,500	
35	Laseena C A Assistant Professor	Adersh B S Aruna S Najila T Amrutha S	ECE	ANIMAL DETECTION AND MONITORING USING LORAWAN	19,500		19,500			
36	Dr. Ranjith Ram Professor	Anusree R Deepika Raj Nambiar R Goutham Shahmin K	ECE	Real-time disease detection in cardamom plant leaves	23,000		23,000			
37	Dr Ajith M S Assistant Professor	Aiswarya B Mohan Ajith Krishnan Anjali S K Devu K V Sharanya Raghu T P	Civil	Comparative Study on Internal Curing of Concrete	46,000	13,000	30,000	2,000	1,000	

**GEC Kozhikode**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
38	Dr. Baburaj M Associate Professor	Adharsh G S Vishnu Hari M Vishnu Muraleedharan Robin Rajeev Daniel	ECE	"MULLTRENNER"- Automatic Waste Segregation	32,000		32,000			

**GEC Wayanad**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
39	Dr. Ahammed Muneer K V Associate Professor	Aparna VJ Sharikh M Yyshnav K	ECE	Glenohumeral-Elbow Therapy BOT(GET-BOD)	36,000	4,000	28,500	1,000	2,500	
40	Dr. Arun Varghese Assistant Professor	Akshay K S Naveen P T Shahir N C Rishika B Ram	ECE	Autonomous Drone for Area Monitoring and Delivering Products	40,000	4,000	32,000	1,000	3,000	
41	Binoy K P Assistant Professor	RABEEH E MURSHID C T. RANEEES M NANDHU KRISHNA B	EEE	Super capacitor and Battery Power Management for EV	30,000	2,500	21,500	3,000	3,000	
42	Dr. Jayaprakash. P Professor	Rafeetha V C Amna Shirin N K Aparna P R Sahla Mariyam CP	EEE	Solar Powered Induction Cooker	50,000	10,000	39,000		1,000	

#### GEC Barton Hill

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
43	Dr. Nelsa Abraham Associate Professor Co-Investigator Beena.S Assistant Professor	RISHAB AALAYATHIL ARDRA S GAYATHRY SV NAZRIN ANSARI	ECE	HYBRID ENERGY HARVESTING FOR IoT DEVICES	30,000	6,000	19,000	1,000	4,000	

#### Mar Athanasius College of Engineering Kothamangalam

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
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44	Kiran Christopher Assistant Professor Co-Investigator Nithin Eldho Subhash Assistant Professor	Praison A S Neelima KS John Lee Joseph G Akhil Krishnan	Mechanical	Automatic Copra Extraction System	50,000	10,000	35,000	1,000	4,000	
45	Dr Biju B Professor Co-Investigator Dr Shankar Krishnapillai Professor	Ajith Krishna Sajeev Aswin Saneesh Sarath P S Vyshnav K	Mechanical	Energy Harvesting using Tulip Turbine	40,000	5,000	25,000	5,000	5,000	
46	Anjaly Viswan Assistant Professor Co-Investigator Dr. Aji Joy Professor	Jyotsna S Darsana Sabu Anjana N K Aswin K	ECE	Solar powered automatic cloth drying rack	20,000	7,000	10,000		3,000	
47	Dr. Siny Paul Professor Co-Investigator Jeena Joy Associate Professor	Ajesh S Anandhu Prakash Akshay Jyothis M Anand E.S	EEE	Nanocomposite Based Electrical Insulation in High Voltage	39,600	5,100	32,500	1,000	1,000	
48	Emmanuel Babu P Assistant Professor Co-Investigator Mohitha Thomas Assistant Professor	Abin Shaji Arya Sunil Sudheema K Vysakh K T	EEE	Nutmeg Decortication and Seed Quality Grading System	47,360	4,500	36,860	3,000	3,000	
49	Alpha Lukose Assistant Professor Co-Investigator Elson John Professor	Anjala Fathima Aysha Ameen T S Raniya Nousheen Baker Vishnupriya P J	Civil	Flood control system using self raising blood barrier for Kerala	33,000	7,500	16,500	4,500	4,500	
50	Pristy Paul T Assistant Professor Co-Investigator Dr Elizabeth Isaac Assistant Professor	Roshan R. Sandra Mariyam Jacob Blessey Maria Saju	CSE	Blockchain Enabled Clustered Edge Intelligent Devices	29,961	1,000	27,961	1,000		



51	Dr Elizabeth Isaac Assistant Professor Co-Investigator Leya Elizabeth Sunny Assistant Professor	Jazeel Anwar Manu P S Vidya V	CSE	Automatic robotic arm for pepper plucking	45,000		45,000			
52	Dr. Jisha P Abraham Professor Co-Investigator Dr Elizabeth Isaac Assistant Professor	Abisha Simon Malavika Raju Sreekala K R	CSE	Bionic hand for amputee using myoelectric direct control systeem	50,000	500	48,500	500	500	

**Model Engineering College, Thrikkakara**

SI No	Name of Princpal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
53	Jagadeesh Kumar P Assistant Professor Co-Investigator Pradeep M Associate Professor	Kalyani Pradeep Kiran Ajith Joseph Jeswin Pius	ECE	Fall Detection using mmWave Radar Sensor	30,000	25,000		3,000	2,000	
54	Dr. Preetha Theresa Joy Professor Co-Investigator Sreekumar K Assistant Professor	Adithya A Aldrin Jenson Gouri Hariharan Nayana Vinod	CSE	MULTI-LAYERED ARCHITECTURE FOR ANOMALY DETECTION IN SURVEILLANCE NETWORKS USING DISTRIBUTED COMPUTING	50,000	4,000	46,000			
55	Sreekumar K Assistant Professor	Krishnendu nambiar Nikita Menon Sharat Jacob Jacob Rahulkrishna V Nambiar	CSE	Building A General-purpose Compute-efficient Training Mechanism For Language	50,000	4,200	45,800			

**SCT College of Engineering, Thiruvananthapuram**

SI No	Name of Princpal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
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56	Dr Sheeja M K HOD	Jassim Shaji K J Abhirami Rohith G Sarma Sruthi B Nair	ECE	Visualization of Thermal Diffusivity using DHI (Digital Holographic Interferometry)	35,000	1,000	32,000	1,000	1,000	
57	SubhaV Assistant Professor	Sravan H Varun Asokan Nivya PS	ECE	Lung Cancer Cell Enhancement Detection using Fourier Ptychography Microscopy.	20,000		20,000			
58	Dr. Kamal Krishna R Assistant Professor Co-Investigator Dr. Arun M Assistant Professor	Anand M S Suryajith SS Akhilesh R Akshaj B	Mechanical	Performance enhancement techniques of Gasoline engines Retrofitted with CNG fuel system.	50,000	9,000	35,000	1,000	5,000	
59	Syama R Assistant Professor	Afreen A Habeeb Dhanya S B Nithin P	CSE	Home automation using AR	20,500	5,000	12,500	2,000	1,000	
60	Susmitha Kumari S Assistant Professor Co-Investigator Jickson D H Assistant Professor	Aishathul Haniyya Ann Elza George Parvathy S Sidharth S	BTBC- CH-FT	A study of the impact of various drying techniques on the performance of solid state fermentation process for Prodigiosin production.	50,000	10,000	30,000	5,000	5,000	
61	Gayathri V Assistant Professor Co-Investigator Dr K.B Radhakrishnan Professor & Head	V VISHAL MOORTHY SREERAJ BITTU THOMAS CK ASWATHI	BTBC- CH-FT	Struvite Production & Treatment of Dairy waste Water using Fluidized Bed Reactor	50,000	9,000	33,000	5,000	3,000	
62	Biju Jacob Professor Co-Investigator Susmithakumari S Assistant Professor	Parvathy P Safna Siraj T.S Sagarkrishna G Lekshminarayanan Potti S	BTBC- CH-FT	COMPARATIVE STUDIES ON THE EFFECT OF VARIOUS BACTERIAL CARRIERS IN SELF-HEALING CONCRETE	50,000	20,000	10,000	10,000	10,000	



Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
63	Dr. Anzar S M Assistant professor	Zainudheen Abdul Muiz Akshay Ravikumar Savithri Krishna	ECE	AI based automatic lie detection system using electroencephalogram	40,000	2,000	33,500	1,500	3,000	
64	Dr. Mathew Skaria Professor Co-Investigator ABHIJITH ARUN ASSISTANT PROFESSOR	AHAMMED THANZIL S GANANDHU KRISHNA SAMEER R AHAMMED EASA A	Mechanical	RECLAMATION OF CATHODE MATERIALS FROM LITHIUM ION BATTERIES THROUGH CRYOGENIC BALL MILLING SETUP	50,000	10,000	35,000	2,000	3,000	

**NSS College of Engineering, Palakkad**

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
65	Dr. Suresh PR Professor Co-Investigator Dr. VINOD V Professor	Adithya S Afrad Hussian Ajay A Aswin R Nath Dhananjay P S	Mechanical	Convertible Wheel Chair Cum Bed	50,000	5,000	39,000	1,000	5,000	
66	Dr Sreelekshmi Pillai G Assistant Professor	Arya K S Balakrishnan N Goutham Manikandan Devika Selvan	Civil	Study of strength and swell characteristics of Palakkad black cotton stabilized using industrial wastes	50,000	12,000	30,000	3,000	5,000	
67	Dr Keerthy M Simon Assistant professor Co-Investigator Dr Rejani V U Associate Professor	Aparna C B Bhavya Prasanth Chaithanya S	Civil	Influence of waste cooking oil on enhancing the properties of aged bitumen	50,000	9,000	35,000	4,000	2,000	
68	Dr Biju M S Associate Professor Co-Investigator Chippy M Rajan Assistant Professor	Joney Ori P V Mohammed Farhan Saket Narayanan Tharun Nath N	Civil	Enhancing the Properties of Recycled Gypsum Using Polymers	44,000	8,000	25,000	5,000	6,000	



**College of Engineering Pathanapuram**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
69	Thulaseedharan R Assistant Professor Co-Investigator Vimal S V Assistant Professor	Arun U P Yadhu Krishnan Rijo Rajan Jobish T G	Mechanical	Clam meat separation and cleaning mechanism	50,000	31,700	12,300	1,000	5,000	
70	Sreesh P S Assistant Professor Co-Investigator Afsal M Assistant Professor	Akhil S Amaljith MS Sreehari S	Mechanical	Design and development of a semi automatic weaving machine to convert tailoring waste to door mat	48,800	9,600	29,600	4,800	4,800	
71	Dr. Siva Bala P Assistant Professor Co-Investigator Remya S R Assistant Professor	Pranav P G Rajalakshmi S Kumar Aswin P S Arundhathi A M	Civil	Construction of prototype of cell filled concrete block pavement and its structural & economical analysis	50,000	10,000	30,000	5,000	5,000	
72	Deepa R Assistant professor Co-Investigator Dr. Siva Bala. P Assistant professor	Fathima J Gokulkrishna S Bhavya A	Civil	Development of a low cost mixed media biofilter for the removal of iron content from water sources surrounding KMMI area Chavara	50,000	7,500	32,500	5,000	5,000	
73	Prasanth.R Assistant Professor Co-Investigator Sruthi S V Assistant Professor	Ajas S Mohammed Ajay Sivan Sagar Reji. Said Ali I	CSE	Borewell Rescue Robot Using Haptic Flow Sensor	33,900		30,900	1,000	2,000	

**College of Engineering, Adoor**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
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74	Dr. Jayachandran ES Professor and HOD	Abhiram Mohan Gayathri Hari Malavika P Arabhi Radhakrishnan	ECE	Low Cost Portable Ventilator	30,000	3,000	21,500	1,000	4,500	
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**College of Engineering, Attingal**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
75	Mini Kumari G Assistant Professor Co-Investigator Sajitha V Raj Assistant Professor	Surya M Siji S R Archana Jayaprakash Lekshmi J	ECE	Solar powered automatic cloth rack	30,000	15,000	12,000	1,000	2,000	

**College of Engineering Chengannur**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
76	Raji A Assistant Professor	Akshay Pradeep Krishna Ajith Malavika Santhosh Nikhil Jayakumar	ECE	Smart machine learning based pen dispenser	18,000	4,000	11,000	1,000	2,000	

**College of Engineering Kidangoor**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
77	Shiney Thankachan Assistant Professor Co-Investigator Dr. Silpa S Prasad Assistant Professor	Jikku Vijay A Sana Jayasankar R	ECE	Metamaterial Incorporated wearable antenna for 5G application	25,000	5,000	15,000	2,000	3,000	



78	Sonima M.P Assistant Professor Co-Investigator Praseetha K Head Of The Department	Aromal Salimon Sidharth Saju Arun E V Irshad I	EEE	PRELIMINARY ACTION CONTROL FOR PREVENTION OF WILDFIRE AND DROUGHT USING IOT AND LORA DEVICE BY FOREST WEATHER FORECASTING	25,180	4,200	16,980	2,000	2,000	
79	Praseetha K Head Of The Department Co-Investigator Aparna Jose Assistant Professor	Albin J Babu Athul Rajan JohnShaji Sooraj Sunil	EEE	EV REGENERATION THROUGH AIR AND MAGNETIC SHOCK	48,500	4,000	42,000	1,500	1,000	
80	Bindiya Hari P Assistant Professor Co-Investigator .Remya KrishnanR Assistant Professor	FathimaYoosuf Bhagya P V Sreesankar T S Mathew Zacharia	Civil	Treatment of Textile Wastewater Banana Trunk using Adsorbents	29,799	9,000	15,799	3,000	2,000	
81	Bindiya Hari P Assistant Professor Co-Investigator Divya S Nair HOD	Bilfi M Abraham B Vasudev Nanditha P Sandra H Pillai	Civil	"Dairy Wastewater sludge Treatment Electricity Microbial Fuel Cell"	25,250	13,250	7,000	3,000	2,000	
82	Divya S Nair Assistant Professor & HOD Co-Investigator Bhavya G Nair Assistant Professor	Aiswarya Anil Anchala Monichan Sony T Saji	Civil	INVESTIGATION ON SUGARCANE BAGASSE ASH BASED GEOPOLYMER BRICK	50,000	14,000	33,500	2,500		
83	Dr. Ojus Thomas Lee Associate Professor Co- Investigator Chitra Merin Varghese Assistant Professor	Sreejith S S Jayakrishnan Akshara Santhosh Ardra Haridas	CSE	Reading Device for deaf and blind in real time speech	22,000	2,000	17,000	1,500	1,500	



Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
84	Shahimol Basheer Assistant professor Co-Investigator Dr. Biju K HOD	Abhinand M Ryan Joe Sajeev Mariyappan M	EEE	Dynamic Wireless Power Transfer for Electric Vehicles	26,500	5,000	18,000	1,000	2,500	

#### College of Engineering Trikaripur

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
85	VIJIMOL VIJAYAN Assistant Professor Co-Investigator Binesh Mohan P Assistant Professor	ATHULJYOTHI FATHIMATH RAHNA SWETHA K ROSHAN M	EEE	A NOVEL CURVE ASSIST BRAKING SYSTEM BASED ON HOUGH TRANSFORM USING RASWROAT ALGORITHM	45,965	5,000	35,965	2,500	2,500	
86	Prasoon PP Assistant Professor Co-Investigator Thamara C Assistant Professor	Adithyan A S Veena Baburaj Anju KK Athira P R	Civil	Biocompatible Water Quality Improvement Using Natural Agents	21,000	12,000	2,000	3,000	4,000	

#### LBS Institute of Technology for Women Thiruvananthapuram

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
87	Dr Suma Sekhar Associate Professor	Fathima N Jumana B Nila A Sandra S Chandran	ECE	Underwater audio and data transmission using Li-Fi	10,000	5,000		2,500	2,500	
88	Dr Resmi R Assistant Professor Co-Investigator Dr Deepesh Edwin Assistant Professor	Ashmitha B.S Goury Nandhana N.S Harsha Hari Jisha Rani G.S	ECE	UV disinfection Device	15,000	3,000	3,000	3,500	5,500	



89	Dr Sajan K Jose Associate Professor	Divya S Kumar Jasmin S Jyothi S Lekshmi P J	Civil	Partial replacement of cement with phosphogypsum and bagasse ash in foamed concrete	26,077	4,733	17,844	2,500	1,000	
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**LBS College of Engineering, Kasaragod**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
90	Sheeja V Assistant Professor Co-Investigator Baby Sindhu A V Assistant Professor	Nithin T A Muhammed Hussair KP Aswin K T Vignesh U	EEE	Design and development of motor drive system for electric tiller	41,000	2,000	34,000	3,000	2,000	

**Adi Shankara Institute of Science & Technology Kalady**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
91	Dr. Jithesh k Associate Professor Co-Investigator Dr. Eldose K K Professor	Goutham Reji Jestin Joseph Joel Shaji Joseph Babu	Mechanical	3D Printing filament from waste plastic	19,000	3,000	12,000	2,000	2,000	
92	Dr. Ajay Kumar Associate Professor Co-Investigator Albins Paul Assistant Professor	Abhirami KB Gopika Rajeev Devikalekshmi J Shenoj D Keerthana Prasad	ECE	Implementation of 2 - Way Interactive Digital Notice Board	18,250	5,250	7,500	2,500	3,000	
93	Dr. P. Jeno Paul Professor Co-Investigator Alan P Mathew Associate Professor	Ajay George Balasankar R Saranjith M S S Chandrachoodan	EEE	Multi sensor regenerative charging for electric vehicles	14,500	3,000	7,500	2,000	2,000	
94	Harshananda TN Assistant Professor Co-Investigator Clydin P A Assistant Professor	Niya Thomas Niranjan Krishnan KA Afsal Fathima Noura	Civil	Development of landslide prediction system	19,150		15,150	3,000	1,000	



95	Dona Joy Assistant professor Co-Investigator Dr. A N Swaminathan Associate professor Co-Investigator	Martin Baby Ramkumar S Vishnu Raju Krishna das P M	Civil	Estimation of congestion cost evaluation and solution	12,153		10,400	753	1,000	
96	Manesh T Associate Professor Co-Investigator Rose Mary Varghese Assistant Professor	Dona Antony C S Pooja Akshara S	CSE	On the detection of DoS attacks towards WiFi and IoT networks	17,350	1,000	12,350	2,000	2,000	
97	Prabhu M Assistant Professor Co-Investigator Sobha T Assistant Professor	Afsana Shahul Aiswarya Vijay Akhil Babu	CSE	Counterfeit drug detection using blockchain and machine learning	13,000	12,000		1,000		
98	Simi M S Assistant Professor Co-Investigator Gripsy Paul Assistant Professor	Abhishek Hareesan Menon Alfiya M J Hamna Hassan V M	CSE	Emergency assistance for paralyzed using eye blink detection	13,325		10,325	1,000	2,000	

**Amal Jyothi College of Engineering, Kottayam**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
99	Mathew J Joseph Assistant Professor Co-Investigator George Sebastian Assistant Professor	NOHIN SALVE OONNITTAN NEERAJ RAJEEV NAIR ALAN JOSE JOSHUA PHILIP THOMAS	Mechanical	Assistive Tilting Mechanisms for Vertical Flow Pumps in Kuttanad	11,000	3,000	4,000	2,000	2,000	
100	Muth S Assistant Professor Co-Investigator Reeju Elisa Baby Assistant Professor	Kevin K Abraham Tojin Tom Varghese Toufeeq P Taje	ECE	3D Printer & Filament Making Machine	27,700	7,200	13,100	3,400	4,000	



101	Dennis Thomas Assistant Professor Co-Investigator Dr S N Kumar Assistant Professor	Abhay Chandran Abin K Babu Deon P Charly Jith John Daniel	EEE	Ultrasound imaging system	31,400	6,000	20,400	3,000	2,000	
102	Sreeja C Assistant Professor Co-Investigator Dr. Godwinraj D Associate Professor	Edwin K Biju Eric Lukose Gladson Jiji Naveen C Abraham	EEE	Hysteresis Compensation for the motion tracking of piezoelectric actuator in Nano-Positioning	34,500	8,000	20,500	3,000	3,000	
103	Dr. Mini Mathew Professor	Gifty Mary Mathew Leni Ann Biju Grace Susan Binu Geo George Joice	Civil	Recycling and reusing of waste materials red mud (RM), M sand dust and rice husk ash as artificial coarse aggregate for construction by geopolymerization for	45,000	7,000	30,000	3,000	5,000	
104	Dr. Aju Mathew George Assistant Professor	An Mariya Deve MD Aswani Unni Bhagya S Abin Joseph	Civil	Biosorption Studies on Simultaneous Removal of Multi-metal ions Chromium (Cr VI) and Copper (Cu II) from Aqueous Solution using Novel biosorbent Synthesized from <i>Salvinia Minima</i>	21,000	8,000	5,000	4,000	4,000	
105	Surej Rajan C, Assistant Professor Co-Investigator Dr Soney C George	Joshua Thomas Alex Kavya Manoj S K Midhun Men	BTBC- CH-FT	Flame retardant Melamine incorporated NR-NBR/Nano/Micro clay composites oil seals for oil rig applications	27,678	7,908	11,862	3,954	3,954	
106	Nikhi Maria Raju Assistant Professor Co-Investigator Dr Soney C George	Manjima K peter Philip Sabadh	BTBC- CH-FT	Bioinspired ZnO blended electrospun polyurethane membrane for air pollution	32,000	8,000	16,000	4,000	4,000	

**Federal Institute of Science And Technology Ernakulam**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
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107	Ambili A R Assistant Professor Co-Investigator Dr S Krishnakumar Professor	Manal Zubair Nima Mehrin Muskan M A Nima Subair	ECE	CERTEDETECTRONv2.0 - To develop a system of Engineering students which can categorize students certificate for the automatic calculation of activity points	32,000	8,000	17,000	4,000	3,000	
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**JyothiEngineeringCollege,Thrissur**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
108	Dr. Anooa Jose Chittilappilly HOD Co Investigator JineshK J AssistantProfessor	Anakha Subrahmanian Aswin V Emil Kitho N C	Mechanical	Attachable E-hand bike for wheelchair	35,000	10,000	15,000	5,000	5,000	

**Marian Engineering College Thiruvananthapuram**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
109	Sanobiya BS Assistant Professor Co-Investigator Renju CM Assistant Professor	Abhinand M G Adarsh Murali Nikhitha Dharmendran Steni S	Civil	DEVELOPMENT OF GEOPOLYMER PAVERBLOCKS AT AMBIENT CURING	30,250	8,600	9,750	4,400	7,500	
110	Greeshma T Assistant Professor	Rubeena Nazeer C. Brahma Dathan Akshay Madhu Krishananunni A	Civil	Analysing Emission Hotspot Along Urban corridors	22,250		14,750	7,500		
111	Dr Sheeja Augstin A Professor Co-Investigator Sreena V G Assistant Professor	Akhil Krishna U Athul S George Ananya Kurian S Praneel	CSE	Web Accessible -Video Conferencing App with Sign Language Recognition System	35,000	10,000	15,000	5,000	5,000	

**Mar Baselios Christian College of Engineering & Technology, Peermade**



Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
112	Vishnu.V.Gopi Assistant Professor	Adarsh Koshy John Adheena Dileep Allwin Jacob Giya Mary George	ECE	Portable and Foldable Electric Scooter for Smart Cities	40,000	6,000	30,000	2,000	2,000	

**Mar Baselios College of Engineering and Technology, Thiruvananthapuram**

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
113	Dr.Jayakumar J Head & Professor	Amal Anilkumar Faiz.an Ahamed Dawood Josipha Sebastian Nandan S	ECE	Development of Transit signal priority module with integrated AI assistant	25,500	3,000	17,500	2,000	3,000	
114	Amritha B.J. Assistant Professor	Abhinav A. Pillai Aravind U.R. Varun George	ECE	Electric Wheelchair with Sip and Puff Technology, for quadriplegic/ALS patients	29,000	2,000	23,000	2,000	2,000	
115	Dr Nisha G K Professor Co-Investigator Sandhya P Assistant Professor	Mayoorika Venu Tomin J S Vaishnav Dev Vivin John Thomas	EEE	Two wheeler EV with regenerative braking and V2X technology	27,500	4,000	22,500		1,000	
116	Dr Neethu Roy Professor	Aswin Asok N Thanzeer Arun Raj A Nirmal Sabu Isaac	Civil	Development of Cement Treated Subbase (CTSB) Mix having Partial Replacement of Coarse Aggregates with Construction Demolition Waste for Optimum Permeability and Strength	28,000	2,500	22,000	2,000	1,500	
117	Dr Jisha S V Associate Professor	Arpitha R Nair Asmidh N S Ganga Gopan Govind S P	Civil	Mitigation measures using. Soil bioengineering in rainfall induced landslide prone areas	33,500	10,000	16,500	5,000	2,000	





118	Dr. Jaya S. Pillai Assistant Professor	Devika Jose Feba Ann Varughese Navajith Sasi Pallavi Premjith	Civil	Wastewater treatment combined with CO2 biofixation and biofuel production using indigenous microalgae	50,000	13,000	34,000	1,000	2,000	
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**Muthoot Institute of Technology and Science Ernakulam**

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
119	Dr. Praveen K M Assistant Professor Co-Investigator Ashna Varghese Assistant Professor	Abhishek P Abraham Varghese Aby P Aji Nosh Peter	Mechanical	Development of fish scale derived Nano-Hydroxyapatite (HAp) based paints and putties for wall coating and crack filling	28,500	9,800	9,000	4,800	4,900	
120	Dr. Mary Lissy P N Associate Professor	Karishma Anna Jolly Sandra Sathyan Sradha Shaji Sreelakshmi M S	Civil	Surface modified nanocellulose membrane in the removal of Cr(VI) from aqueous media.	30,000	8,000	16,000	3,000	3,000	
121	Sruthy T G Assistant Professor	Ashil M A Athira Anil S Balagopal U S Aaliva	Civil	Jute - Pineapple (Jupine) Geotextile for Ground Improvement	25,400	6,400	17,000		2,000	
122	Dhanya Sudarsan Assistant Professor	Rohan Mathew Philip Ashwin Shaji Rishabh K Raj Fathima Althaf	CSE	Breast Cancer Detection and Classification using Patch-Based Learning Techniques	22,200	4,500	12,000	2,850	2,850	

**Rajagiri School of Engineering & Technology Ernakulam**

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
123	Seema Safar Assistant Professor	Abhijith Das Amijith M M Devika M Joshy Diva Theresa Sunil	CSE	Enriching transformers for image captioning using fourier transforms	30,000		25,000	5,000		

**Saintgits College of Engineering Kottayam**



Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
124	Arun K Varghese Assistant Professor Co-Investigator Harinarayanan Namboothiri MG Assistant Professor	Abel Thomas Adithya Kiran S Ajil B Kallukalam Alen Mammen Varghese	Mechanical	Automated Trash Segregator	31,500	7,500	17,500	4,500	2,000	
125	Daru Anna Thomas Assistant Professor Co - Investigator Ancy Sara Varghese Assistant Professor	Abin Shaji Adhin M B Surya Kumar Maheswari V Nair	EEE	Automatic Rubber Latex Coagulation Machine	30,725	8,600	14,175	3,700	4,250	
126	Arun G Sankar Assistant Professor Co-Investigator Arsha Giri Assistant Professor	Anila Sreelakshmi Anu Mary Alex Feba Varghese Akhil Reny Chacko	Civil	Treatment of Industrial Wastewater to analyze the Efficiency of Constructed Wetlands	35,000	10,000	15,000	5,000	5,000	
127	Jithin Kurian Andrews Assistant Professor Co-Investigator Dr. Susan Rose Professor	Don James Christy Kuriakose Devesh K Nampoothiri Ashwin Joseph	Civil	Rejuvenation of Scarified Bituminous Pavement Materials	35,000	10,000	15,000	5,000	5,000	
128	Alice Johny Assistant Professor Co-Investigator M Gayathri Devi Assistant Professor	Josh Abraham Kuriakose Kiran K Mathew Shawn Markose Puthenpurakkal Vishal Thomas	Civil	Smart Wrap: The Future of Sustainable Building Insulation with Recycled PET and Thermoelectric Materials	30,232	10,465	9767	5,000	5,000	
129	Dr. Jobil J Arackal Assistant Professor	Abhishek A Ambily Jolly Mohammed Shafin Sha Nandu V M	BTBC-CH-FT	Development and fabrication of portable analyzer for quality Determination of Honey Using	28,000	4,000	22,000	1,000	1,000	
130	Dr. Anshy Oonittan Assistant professor	EMIL ALEX Y MATHEWS ROSHIN KURIAN JAYASURYA V SNEHA SATHEESH	BTBC-CH-FT	Treatment of Wastewater in Cement industry Using Electrochemical Methods	7,250	2,000	3,250	1,000	1,000	



SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
131	Dr Gibin George Assistant Professor Co-Investigator Vishnu H Assistant Professor	Aman S Arun P Gopikrishna Premchand Richu Shaju	Mechanical	Biodegradable packing peanuts based on banana leaf ribs.	17,500	1,000	12,500	2,000	2,000	
132	Vinoj P G Assistant Professor Co-Investigator Dr Varun G Menon Professor	Anandu Suresh Sagar P Gokul Sayuj MJ Yunus A A	ECE	Forest fire fighting using FPV drone	25,000	10,000	5,000	5,000	5,000	
133	Susmi Jacob Assistant Professor Co-Investigator Dr Varun G Menon Professor	Mahesh S Mahesh V C Suhail Nassar	CSE	A deep learning model for smart phone authentication during voice interaction through in ear wearable sensors	26,500	2,000	16,500	4,000	4,000	

**Sree Buddha College of Engineering Pattoor**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
134	Dr J B Sajin Associate Professor Co-Investigator Dr M S Senthil Saravanan Professor	Chikku Mathew Nithin Sabu Parameswaran Namboothiri K Pranav K	Mechanical	Design and feasibility studies on natural cellulose for baby diapers	20,000	10,000		5,000	5,000	

**St. Joseph's College of Engineering & Technology, Palai**

SI No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
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135	Dr. Jilse Sebastian Associate Professor Co-Investigator Dr Lijo Paul Associate Professor	Jackson Joy Jobin P J Jobin George Yadukrishna B	Mechanical	Synthesis of photo curable resin from cellulose nanocrystals	32,000	15,000	9,500	2,500	5,000	
136	Dr. Rajesh Baby Associate Professor Co-Investigator Dr.George Tom Varghese	Jeswin Philip Jinish K Reji. Rejoy George Diya Jose	Mechanical	Smart Bed, A self adjustable bed for bedridden patients to prevent bedsore	36,500	10,000	16,500	5,000	5,000	
137	Dr. Bennet Kuriakose Associate Professor	Akshaya Varghese Amrutha Shaji Diyana Tomy Jomet Thomas	Civil	SELF HEALING CONCRETE USING BACTERIA FROM COW DUNG	50,000	42,500		2,500	5,000	
138	Divya Sunny Assistant Professor	Sathwik P Nair Rajat Mathew Noel Jacob	CSE	SpecAssist - Live transcribing smartglasses	18,835		14,835	2,000	2,000	

**Vidya Academy of Science and Technology, Thrissur**

Sl No	Name of Principal Investigator	Name of Student Investigators	Branch	Title of the Project	Amount Sanctioned	Consumables	Equipments	Travel	Contingency	
139	Dr. Anjali P Sasidharan Assistant Professor Co-Investigator Chithira Ajeeth Assistant Professor	Rahna K Rajeev John J Emmatty Helma Mariya Davis	Civil	Microbe Induced Calcium Carbonate Precipitate Mediated Brick Manufacturing	39,000	25,000	4,000	5,000	5,000	



## Annexure II

### APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

#### **Terms & Conditions for Financial Assistance to Student Projects**

1. The amount has to be utilized as per budget provision under each head.
2. The purchase of equipments shall be in accordance with the store purchase rules. All equipment purchased will be the property of the University and the stock entry of the items purchased shall be maintained in the College. Purchase of computers/peripherals is not allowed unless specifically mentioned in the sanction order.
3. The stock entries of consumables purchased shall also be done in the consumables stock register of College. Purchase of stationery shall be for project purpose only. Printing charges for multiple copies of the project report will not be admissible.
4. The maximum duration of the project is one year from the date of sanction. It is the discretion of the University to settle amount towards the purchase of those items not clearly mentioned, if any, in the project proposal.
5. On completion of the project, detailed report of the research work, audited statement of accounts Utilization Certificate and Expenditure Statement in the prescribed format duly attested by the head of the institution along with original bills towards expenditure incurred with payment certificate of the Principal Investigator shall be submitted within one month of completion of the project for reimbursement of expenditure. The Bank Account details of the Principal shall be submitted along with the request for reimbursement. Requests for reimbursement shall not be considered after the date of submission of documents as above.
6. For reimbursement of expenses under the head **Travel**, Train tickets/Bus tickets/Taxi receipts, in original, affixing payment certificate of the Principal Investigator specifying the purpose of travel with actual distance of journey and fare shall be submitted.
7. On all publications resulting from the finding of the research/project, due acknowledgement shall be given to the University.
8. Book or literature purchased, if any, should be taken into the Stock Register of Central Library or Department library and then distributed to the investigators.
9. The expenditure under the head **Others** is admissible as per the budget proposed. All other expenditure has to be included in the head Contingencies.

Title of Project

Signature of Principal Investigator:

Name:

Office address:





# APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

CET campus, Thiruvananthapuram - 695 016

Ph: 0471 2598122; Fax: 2598522 [www.ktu.edu.in](http://www.ktu.edu.in) Email: [university@ktu.edu.in](mailto:university@ktu.edu.in)

No. KTU/RESEARCH 3/1082/2022

Dated: 26.02.2023

From

The DEAN (Research)

To

The Principal,

St. Josephs College of Engineering, Palai.

Sir,

Sub:- APJAKTU - CERD - Research Seed Money Scheme - Projects Selected for funding - reg:-

I am glad to inform you that the project proposals as listed in Annexure I are provisionally selected for funding under Research Seed Money (RSM) scheme of KTU.

The expenditure should be incurred as per the sanctioned budget heads and in accordance with terms and conditions given in Annexure II. Format of MOU to be furnished by the college is given as Annexure III.

The Principal Investigators may please be directed to forward request (in Annexure II) for releasing the fund with Bank Account details. The fund will be released only after settling pending accounts of the principal investigator in CERD, if any. Any request received after three months from the date of this letter will not be considered.

Yours faithfully

Dr. Shalij P.R \*

DEAN (Research)

Copy To

1. Ivin Jose, Assistant Professor in Mechanical Engineering.
2. Dr. Tomson Devis, Assistant Professor in Electronics and Communication Engineering.

\* This is a computer system (Digital File) generated letter. Hence there is no need for a physical signature.





## Annexure II

### **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY Centre for Engineering Research and Development Request for releasing RSM grant**

Title of Project:

Date of sanction:

Amount sanctioned:

Account No and bank details:

#### Terms & Conditions for Research Seed Money Scheme

1. The amount sanctioned for the project shall be deposited in a separate joint A/c of Principal Investigator and Head of the institution where the Principal Investigator works. (Name of A/c: CERD Research Seed Money - File No.)
2. The maximum duration of the project will be three years from the date of start of the project
3. The amount has to be utilized as per budget provision under each head. It is the discretion of the University to settle amount towards the purchase of those items not clearly mentioned, if any, in the project proposal.
4. The purchase of equipments shall be in accordance with the store purchase rules. All equipment purchased will be the property of CERD and the stock entry of the items purchased shall be maintained in the College signed by the Investigator, Lab in charge and Principal. Purchase of computers/peripherals is not allowed unless specifically mentioned in the sanction order.
5. For Private self financing Colleges, 50% of the actual Equipment cost subjected to the maximum of sanctioned amount will be reimbursed by KTU if and only if the proof of remittance of other 50% is produced by the college.
6. The stock entries of consumables purchased shall also be done in the consumables stock register of College. Purchase of stationery shall be for project purpose only.
7. Books and literature purchased should be taken into the Stock Register of Central Library or Department library and then distributed to the investigators.





8. The interest accrued will also be accounted in the project.
9. On completion of the project, detailed report of the research work (hard and soft copies), audited statement of accounts and Utilization Certificate in the prescribed format duly attested by the head of the institution shall be submitted within one month on completion of the project for settlement of accounts.
10. If the project is not completed within the time limit, the grant amount should be reimbursed along with the interest accrued.
11. The CERD reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilized or appropriate progress is not being made. In addition, the CERD may designate Scientist/Specialist or an Expert Panel to periodically review the work done. The Principal Investigator has to appear for the periodic review meetings.
12. If the PI to whom the project has been sanctioned, leaves the Institution, the Head of Institution/PI shall inform the same to the CERD and in consultation with the CERD, evolve steps to ensure successful completion of the project, before relieving the PI.
13. Investigators must acknowledge the CERD in reports and technical/scientific papers published based on the research work done under the project. Investigators are requested to publish some of the research papers emerging out of the project work in leading Journals.
14. If the results of research are to be legally protected by way of patent/copy rights etc. the results should not be published without action being taken to secure legal protection for the research results.
15. The knowledge generated from the project will be the property of the CERD and should be properly acknowledged. Transfer of technology generated shall be done in consultation with the CERD.

We agree to the terms and conditions stated above. Please transfer the amount to the above bank account.

Signature of Principal Investigator:

Name:

Designation:

Signature of Head of Institution:



Name:

Office Address:

Seal



**Annexure III**  
**(Stamp paper Rs 200)**  
**MEMORANDUM OF UNDERSTANDING [MOU]**  
**BETWEEN**  
**-Name of Self Financing Engineering College-**  
**AND**  
**APJ Abdul Kalam Technological University (KTU),**  
**THIRUVANANTHAPURAM**

This Memorandum of Understanding is entered into at Thiruvananthapuram on this --- Day of Month Year

BETWEEN

**-Name of Self Financing Engineering College- affiliated to APJ Abdul Kalam Technological University (herein after referred to as COLLEGE) which expression shall unless it be repugnant to the context or meaning thereof to be deemed to mean and include its successors and assigns, represented by The Principal, ---Name of college- place of college -, of the ONE PART.**

AND

**APJ Abdul Kalam Technological University, CET campus, Thiruvananthapuram-695016 (herein after referred to as KTU) which expression shall, unless it be repugnant to or inconsistent with subject or context thereof, include and be deemed to include their heirs, successors and assigns, represented by The Dean (Research), APJ Abdul Kalam Technological University, Thiruvananthapuram 695016 of the OTHER PART.**

**1. TERMS OF UNDERSTANDING**

- 1.1. This memorandum of understanding lists out the terms of releasing and utilization of CERD research seed money fund sanctioned to a faculty of COLLEGE for the year -----.
- 1.2. The scheme is constituted for the purpose of providing assistance in the form of grants to initiate research work in Engineering and Technology with particular relevance to the State of Kerala in the economic and industrial development.



- 1.3. Grant will be released to the principal investigator of the project through the Head of the institution.
- 1.4. The maximum duration of the project will be three years from the date of start of the project
- 1.5. On completion of the project, one copy of the final project report on the work done should be sent to the CERD along with the utilization certificate (UC) and statement of expenditure (SE).
- 1.6. The institute will maintain separate audited accounts for the project.
- 1.7. The institute will not entrust the implementation of the work for which the grant is being sanctioned to another institution nor will it divert the grant receipts to other institute as assistance.
- 1.8. The CERD reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilized or appropriate progress is not being made. In addition, the CERD may designate a Scientist/Specialist or an Expert Panel to review the work done.
- 1.9. If the PI to whom the project has been sanctioned leaves the Institution, the Head of Institution/PI will inform the same to the CERD and in consultation with the CERD, evolve steps to ensure successful completion of the project, before relieving the PI.
- 1.10. Investigators must acknowledge the CERD in reports and technical/scientific papers published based on the research work done under the project. Investigators are requested to publish some of the research papers emerging out of the project work in leading Journals.
- 1.11. If the results of research are to be legally protected by way of patent/copy rights etc. the results should not be published without action being taken to secure legal protection for the research results.
- 1.12. The knowledge generated from the project will be the property of the CERD and should be properly acknowledged. Transfer of technology generated shall be done in consultation with the CERD.
- 1.13. For Private self financing Colleges, 50% of the actual Equipment cost subjected to the maximum of sanctioned amount will be reimbursed by KTU if and only if the proof of remittance of other 50% is produced by the COLLEGE.
- 1.14. The equipment details must be entered in the stock register of the college and signed by the Investigator, Lab in charge and Principal.
- 1.15. The college should submit annually the status and details of earlier grants received from KTU with pending statement if any.



- 1.16. The grant amount should be deposited in a separate bank account in the name of the Principal investigator and Head of Institution jointly.
- 1.17. The interest accrued shall also be accounted in the project.
- 1.18. If the project is not completed within the time limit, the grant amount should be reimbursed along with interest accrued.

We agree to the terms and conditions stated above.

## **2. SCOPE OF MOU**

Nothing in this Memorandum is intended to or shall be deemed to establish an exclusive relationship between the parties or to restrict any activities that either party would otherwise be able to undertake. Nothing in this Memorandum is intended to or shall be deemed to establish any partnership or joint venture between the parties or constitute any activities that either party would otherwise be able to undertake.

## **3. PERIOD**

This MOU shall be perpetual. This agreement will be amended or modified by the University at any time.

## **4. DISPUTE RESOLUTION AND ARBITRATION**

This memorandum of understanding shall be governed by the laws of Union of India and State of Kerala. Any dispute arising with this MOU shall be brought to the notice of the Vice-chancellors of the parties who shall try to resolve them, failing which legal reasoning be taken in the jurisdiction of court in Thiruvananthapuram.

The terms and conditions of this memorandum of understanding shall not be disclosed to any third parties by any party of this memorandum of understanding without the prior written consent of both parties.

## **5. FORCE MAJEURE**

Without prejudice to accrued liabilities and rights, no party shall have any liability whatsoever to the other Party or be deemed to be in default by reason of delay or failure in performance under this memorandum of understanding to the extent that such delay or failure is caused by or arises from acts or circumstance or events beyond the reasonable control of that party, including but not limited to acts of god, acts or regulations of any governmental authority, war or national emergency, accident, fire, riot, strikes, lock-outs, industrial disputes, natural catastrophes or epidemics.



Each Party shall bear its own losses arising from such force majeure event(s), if any.

## 6. INTELLECTUAL PROPERTY

All prior information, design and data existing with either party before the signing of this MoU (pre-existing IP) shall be the sole property of the concerned party. All Intellectual Property including design information, designs, source codes and data generated through the collaboration under this MOU shall be as mutually agreed in writing and also as per the guide line of the funding agency, if such an agency is involved. Any IPR arising specifically out of this collaboration will be owned by both parties, except when mutually agreed in writing otherwise.

**IN WITNESS WHEREOF**, the parties hereto have caused this memorandum of understanding to be executed in duplicate, through their representatives at Thiruvananthapuram in the day and year first above written:

Now the memorandum of understanding witnesses as follows.

**Principal  
Name of College  
University  
Place**

**Dean (Research)  
APJ Abdul Kalam Technological  
Thiruvananthapuram 695016**

**Witness: 1**

Signature :

Name :

**Witness: 1**

Signature :

Name :

**Witness: 2**

Signature :

**Witness: 2**

Signature :



St. Josephs College of  
Engineering and Technology,  
Palai

SL No	Name of Principal Investigator	Title of the project	Branch	Amount Sanctioned	Ist installment	2nd installment	Consumables	Equipment	Travel	Contingency
1	Ivin Jose Assistant Professor	Tool design and fabrication of Hybrid Electro Discharge Grinding Machining.	ME	120,000	100,000	20,000	40,000	60,000	10,000	10,000
2	Dr. Tomson Devis Assistant Professor	Design of Low Complexity Digital Hearing Aid using Non-uniform Filter Banks	ECE	165,000	115,000	50,000	10,000	140,000	5,000	10,000





Lijo Paul &lt;lijo.paul@sjcetpalai.ac.in&gt;

## Fwd: Fund intimation email

**Sreesh P R** <sreeshpr@sjcetpalai.ac.in>  
To: Lijo Paul <lijo.paul@sjcetpalai.ac.in>

Wed, Jan 25, 2023 at 12:22 PM

----- Forwarded message -----

From: **IEEE KERALA SECTION** <ieeeks.keralasection@gmail.com>

Date: Fri, Nov 4, 2022 at 3:14 PM

Subject: Fund intimation email

To: Sreesh P R <sreeshpr@sjcetpalai.ac.in>, Jachin Thomas <jachinbency@ieee.org>, Mini Ulanat <miniu@ieee.org>, Biju K. <bijuk@ieee.org>

Dear **Sreesh Sir**,

We have received the following fund to your college

<p><b>CAS04- Chapter Initiative for #24 Student Mentorship Programme</b>  <b>Dr Biju K, Treasurer, IEEE Kerala Section,</b>  <a href="mailto:bijuk@ieee.org">bijuk@ieee.org</a></p>	<p><b>558,460.00</b></p>
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Please send us the fund request form for **RS 556960** after deducting the Operational charges in order to process the fund

Please send **'Reply all' mail to our fund intimation email.**

Attached is the fund request form in order to process the fund

thanks

Saraswathy S

### IEEE Kerala Section

Harmonieeee, 1st Floor, Cherian's Square,  
 Ambujavilasom Road, PB - 77, GPO,  
 Thiruvananthapuram, PIN - 695001,  
 Kerala, India.

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web: [www.ieee.org/kerala](http://www.ieee.org/kerala)

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**SREESH P R**

**ASSISTANT PROFESSOR**

**DEPT.OF ECE**

**St. Joseph's College of Engineering & Technology, Palai**

**Choondacherry P O**

**Bharananganam**


**Palai, Kottayam, 686579**

**Fund Release Request Specimen - IEEE (1).docx**  
16K



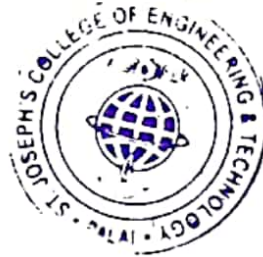
## UTILIZATION CERTIFICATE

Certified that out of Rs. 558,460.00/- sanctioned by IEEE CAS04- Chapter Initiative grant towards financial assistance for the project/student project titled Student Mentorship Programme (E-mail IEEEMGA/CAS04/KS/2022 Dated: 04.08.2022) an amount of Rs. 558,460.00/- was utilized for the purpose for which it was sanctioned, leaving zero balance.

  
16/11/23  
SREESH P.R.  
Name and signature of  
Principal Investigator

  
Name and signature of  
Finance Officer

  
Name and signature of  
Head of the Institution  
**DR. V.P. DEVASSIA**  
Principal  
**St. Joseph's College of Engg. & Technology**  
Palai, Kerala - 686 579





**അനേർട്ട്**  
**ANERT**

Agency for New and renewable Energy Research and Technology  
നവീനവും പുനരുജ്ജ്വലനവുമായ ഊർജ്ജ ഗവേഷണങ്ങൾക്കും സാങ്കേതിക വിദ്യകൾക്കുമുള്ള ഏജൻസി  
DEPARTMENT OF POWER, GOVERNMENT OF KERALA  
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Proceedings of the CHIEF EXECUTIVE OFFICER  
(Present: NARENDRA NATH VELURI I F S)

**Abstract**

SRI 2020-21-Project Proposal SRI-43/2020-21 titled "Design, Fabrication and Implementation of PCMs Based Passive Cooling System for Thermal Management of Li-ion Batteries Used in Electric Vehicles" from **Dr. Rajesh Baby**, Associate Professor and Dean Research, St. Joseph's College of Engineering & Technology, Palai- Sanction of Financial Support and Release of First Instalment-Order.

File No.: ANERT-RD/25/2022-T8

16-02-2023

A.F. No. 314/2023/ANERT

- Ref:
1. Guidelines of the ANERT Programme on Supporting R&D and Innovation (SRI) 2020-21.
  2. Note No. ANERT-TECH/259/ 2020- S(NEP) dt. 16/09/2021
  3. Note No. ANERT-TECH/259/ 2020- S(NEP) dt. 04/07/2022
  4. MoM of Proposal Evaluation Committee (Group 2) meeting held on 31/08/2022
  5. Note No. ANERT-TECH/259/ 2020- S(NEP) dt. 05/11/2022
  6. Project Proposal SRI-43/2020-21 from Dr. Rajesh Baby, Associate Professor and Dean Research, St. Joseph's College of Engineering & Technology, Palai.
  7. Lr. No. ANERT-RD/25/2022-T8 dt. 22/01/2023
  8. Undertaking dt. 08/02/2023 and related details received on 13/02/2023.

**ORDER**

Supporting R&D and Innovation (SRI) 2020-21 is a programme by ANERT to promote innovative ideas and technology adaptations in Renewable Energy. The Guidelines for this programme were finalised (Ref. 1) and project proposals for financial support were invited from various institutions/organisations and NGOs in Kerala. In response, 56 project proposals from various institutions were received by ANERT. From these proposals, 24 were short-listed by the Internal Screening Committee (Ref. 2) and presented before the Proposal Evaluation Committee (PEC) which recommended 10 proposals for financial support (Ref. 3 and 4). Accordingly ANERT decided to financially support those 10 proposals (Ref. 5).

Project Proposal SRI-43/2020-21 titled "Design, Fabrication and Implementation of PCMs Based Passive Cooling System for Thermal Management of Li-ion Batteries Used in Electric Vehicles" from Dr. Rajesh Baby, Associate Professor and Dean Research, St. Joseph's College of Engineering & Technology, Palai-686-579 (Ref. 6) was among the recommended proposals. Vide Ref. 7, an amount of Rs. 12,49,520/- (Rupees Twelve lakh forty nine thousand five hundred and twenty only) out of the accepted budget of Rs. 15,10,615/- was approved to

A.F. No. 314/2023/ANERT

be provided as financial support from ANERT and the Principal Investigator was requested to submit an undertaking, detailed timeline and bank account details for release of the first instalment of financial support. The required documents and details have been received by ANERT (Ref. 8). Therefore, sanction is hereby accorded for providing an amount of Rs. 12,49,520/- (Rupees Twelve lakh forty nine thousand five hundred and twenty only) as financial support for execution of the project proposal SRI-43/2020-21 (as detailed in the below table) strictly adhering to the Guidelines of the programme. **Sanction is also accorded for release of an amount of Rs. 3,12,380/- (Rupees three lakh twelve thousand three hundred and eighty only) as first instalment of the financial support** and for e-transfer of this amount to the bank account created for implementation and management of the project, the details of which are available in the below table.

1	Name of the project	Design, Fabrication and Implementation of PCMs Based Passive Cooling System for Thermal Management of Li-ion Batteries Used in Electric Vehicles	
2	Reference Number	SRI-43/2020-21	
3	Details of Investigators	<p><b>Principal Investigator:</b> Dr. Rajesh Baby, Associate Professor and Dean Research, St. Joseph's College of Engineering &amp; Technology, Palai-686 579.</p> <p><b>Co-Investigator:</b> Mr. Babu Sanker S, Assistant Professor, ME, St. Joseph's College of Engineering &amp; Technology, Palai-686 579.</p>	
4	Objectives	<p>1) Determine the optimum amount of PCM used, the power level of the source and the usage mode of the device for heat transfer enhancement in a PCM composite heat sink for Li-ion battery thermal management.</p> <p>2) To quantify the heat transfer enhancement with the baseline case (PCM filled heat sink without TCE) for all the thermal conductivity enhancers.</p> <p>3) Determine the effects of various phase change materials (n-eicosane, n-docosane) on the performance of the battery thermal management system.</p> <p>4) Develop an Artificial Neural Network (ANN) - Genetic Algorithm (GA) hybrid optimization technique to obtain an optimised battery thermal management system.</p>	
5	Duration of the Project	2 years from 16-02-2023	
6	Sanctioned Financial Support	Rs. 12,49,520/-	
7	First Instalment Sanctioned	Rs. 3,12,380/-	
8	Details of Bank Account	Account Holder	M/S. SJCET ANERT SRI 43
		Account No.	0708053000006591
		Type of Account	S.B
		Name of Bank	South Indian Bank
		Branch Details	Choondacherry
		IFS Code	SIBL0000708

This expenditure is to be met from the provision for the subhead C1.e Supporting R&D and Innovation of the scheme "ANERT as Knowledge Hub for Renewable Energy" under the Head of A/c 2810-00-800-90-08-35-00 in

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the ANERT budget for the year 2022-23. Further instalments will be released as decided by ANERT only after receiving the Progress Reports. Final instalment will be released after completion of the project and submission of the specified documents by the Principal Investigator.



NARENDRA NATH VELURI I F S  
CHIEF EXECUTIVE OFFICER

Copy to:

1. The Principal, St. Joseph's College of Engineering & Technology, Palai, Choondacherry P O, Kottayam - 686 579
2. Dr. Rajesh Baby, Associate Professor and Dean Research, ME, St. Joseph's College of Engineering & Technology, Palai. Choondacherry P O, Kottayam-686 579
3. Finance Section/Cashier