

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

APJAKTU - CERD - Engineering Colleges - Financial Assistance to Student Project - Administrative Sanction - Accorded -Orders issued.

CERD

U.O.No. 933/2021/KTU

Thiruvananthapuram, Dated: 15.06.2021

- 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 Project for Financial Assistance.
5. Screening Committee meeting held on April /May 2021 for evaluation of project proposals.

ORDER

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

It was decided to extend the financial assistance to Students Project of all engineering colleges affiliated to KTU 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 April/May 2021 evaluated the project proposals forwarded from Engineering Colleges affiliated to KTU and recommended financial assistance to selected proposals as listed in Annexure 1.

Administrative sanction is therefore accorded for financial assistance to student project as detailed in Annexure I. The project shall be completed within a period of 1 year and the project should 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. 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 " S- 3- Research Activities-002-Innovative Student Project".

Orders are issued accordingly.

Sd/-

Dr. Shalij P.R *



Copy to:-

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

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



ANNEXURE-I - STUDENT PROJECT SELECTED LIST 2020-21

| SI No | Name of Principal Investigator | Name of Student Investigators | College | Branch | Title of the Project | Consumables | Equipments | Travel | Contingency | Amount sanctioned |
|-------|---|---|--|--------|--|-------------|------------|--------|-------------|-------------------|
| 1 | Dr. Sajith Vijayaraghavan | Athul T Devika Shaji Gaadha P Nath Shyama H | College of Engineering Trivandrum | ECE | Re-Vent: A Low-Cost Portable Ventilator for COVID-19 | 3500 | 30,000 | | 1500 | 35,000 |
| 2 | Dr. T Rajeev Professor | Ankith K Lekshmy P Merin Mariam Jose Sreejith KS | College of Engineering Trivandrum | EEE | Sustainable and Portable Electricity Delivery system | 2000 | 18,000 | 1700 | 1500 | 23,200 |
| 3 | Dr. Dinesh Gopinath Associate Professor | Adarsh M S Nair Basil P Mathew Jijo George Varghese Vishnu P Nambiar | College of Engineering Trivandrum | EEE | Photovoltaic array Emulator based on buck converter | 5000 | 20,000 | 3000 | 3000 | 31,000 |
| 4 | Jayakumar P Associate professor | Ansu Susan Bijoy Samanya Subash Maneesha Mohan HariPriya MD | College of Engineering Trivandrum | EEE | Intelligent Grid Tie Module | | 12,525 | 500 | 500 | 13,525 |
| 5 | Sajitha M Assistant Professor | A Sreelesh Saajid KS Sreerag K Sreeraj S. | Govt. Engg. College, Sreekrishnapuram. | EEE | Smart Energy Meter with remote load switching And anti energy theft system. | 10,000 | 22,000 | 1000 | 4000 | 37,000 |
| 6 | Dr. Sreelakshmi R Professor | Arjun K Ajay Krishnan P V Haseeb Rahman V K Sinadin Zidan K | GEC Thrissur | CSE | An alert hardware system to prevent intruder animals in huge agricultural lands using machine learning | 5000 | 20,000 | | 2000 | 27,000 |
| 7 | Biji G Assistant Professor | Jyothis J Joy Akbarsha Rahul Krishnan R Sini Sreekumar | GEC Barton Hill | EEE | Enhanced power quality electric vehicle changing system | 6000 | 30,000 | 2000 | 2000 | 40,000 |
| 8 | Sudheesh Kumar C P Associate Professor | Aakarsh S Abhilash P Abhinav K V Akshay C C | GCE Kannur | ME | Experimental investigation of rainfall induced noise from roofing sheets | 10,000 | 30,000 | 5000 | 5000 | 50,000 |
| 9 | Dr. Sajesh Kumar U Assistant Professor | Anupriya T V Aswin C P Harishma Hari Yadun Murali K | GCE Kannur | ECE | Design, verification and implementation of LoRa WAN based end to end communication system for air pollution monitoring | 7500 | 24,000 | | 2500 | 34,000 |
| 10 | Dr. U Prakash Professor | C Satheesh Sanjay Kumar S Raamesh Bhardwaj Nidhin Mohan J | Sree Chitra Thirunal College of Engineering Trivandrum | ME | Hybrid supercapacitor battery pack in electric scooter | 10,000 | 28,000 | 4000 | 3000 | 45,000 |



| | | | | | | | | | | |
|----|--|---|--|-------|--|--------|--------|------|------|--------|
| 11 | Dr. Lakshmi V S Assistant Professor | Midhun B M Midhun M Naveen Jo Sajan Neelima Anilkumar | Sree Chitra Thirunal College of Engineering Trivandrum | ECE | Automated Public Distribution System using Blockchain | 5000 | 15,000 | | 2500 | 22,500 |
| 12 | Vineetha Lekshmy P V Assistant Professor | Abdur Rameez S Anjali N Anupa Pradeep Shona Maria Shaji | Sree Chitra Thirunal College of Engineering Trivandrum | BTBC | Synthesis of Nanocellulose from Tapioca (Manihot esculenta) stem and leaves and the formulation of a bionanocomposite film reinforced with tapioca starch and glycerol for bio-packaging | 10,000 | 25,000 | | 5000 | 40,000 |
| 13 | Dr. R Sudhir Kumar Professor | Sai Prasanth N Jishnu S Novin Antony Sanal Kumar A | NSS College of Engineering Palakkad | ME | Development of Sensor Activated Safety System For Drowning Car | 10,000 | 30,000 | 5000 | 5000 | 50,000 |
| 14 | Dr. Sudha T Principal | Neha Rahul R Sreenidhi P A Vyjayanthi J Shenoy | NSS College of Engineering Palakkad | ECE | AI enabled remote medical assistant | 5000 | 9000 | | 1500 | 15,500 |
| 15 | Dr. Sreelekshmy Pillai G Assistant Professor | AGNES MARIKJ ANCYMOL STANLEY ATHIRA P HARITHA MS | NSS College of Engineering, Palakkad | Civil | FACILE IRRIGATION | 15,000 | 25,000 | 5000 | 5000 | 50,000 |
| 16 | PRADIP C Associate Professor | KRISHNA PRASAD R NIHAL FARHAN K T SANEESH T T SANJU P P | NSS College of Engineering, Palakkad | EEE | GREEN CHARGING STATION | 4000 | 15,500 | 2000 | 3000 | 24,500 |
| 17 | Dr. Surya S S Assistant Professor | Mohamed Nazique V S Muhammad Niyas Vishnu V S Mohamed Fuaadh K P | NSS College of Engineering, Palakkad | Civil | Liquid speed breaker | 10,000 | 20,000 | 5000 | 5000 | 40,000 |
| 18 | Nikhil Binoy C Associate Professor | Anjali Shah Dilijith R Thejaswikrishna L Thoufeek M | NSS College of Engineering, Palakkad | EEE | Gas leakage prediction and automation using Artificial neural network and Internet of Things | 5000 | 20,000 | 1000 | 4000 | 30,000 |
| 19 | Eldho Paul Assistant Professor | Thomas Chacko Adash V M Nevil Abraham Elias Sourav Sunil | Mar Athanasius College of Engineering, Kothamangalam | ME | Design and fabrication of Sapling planting machine | 10000 | 17,000 | 5000 | 5000 | 37,000 |
| 20 | Thomas Mohan Assistant Professor | Alwin Mathew Bennet Mathew Krishnakumar V S Sanjay Shajan | Mar Athanasius College of Engineering, Kothamangalam | ECE | Intelligent System of Crop fencing from wild animal attacks | 5000 | 15,000 | | 2500 | 22,500 |
| 21 | Dr. Siddharth Shelly Assistant Professor | Minnu Varghese Rohit Deepak Rugma N Shaji Thejus K. | Mar Athanasius College of Engineering, Kothamangalam | ECE | Navigation Method for Visually Impaired | 2000 | 7500 | | 2000 | 11,500 |



| | | | | | | | | | | |
|----|---|---|--|-------|--|--------|--------|------|------|--------|
| 22 | Thomas P Rajan Assistant Professor | Krishnaprasad T S Tom Jacob Bazil Bijoy Ruby N A | Mar Athanasius College of Engineering, Kothamangalam | EEE | A Fully Automated Nutmeg Decorticator and Grader of Seed Quality using Artificial Intelligence- Machine Learning | 5000 | 25,000 | 1000 | 4000 | 35,000 |
| 23 | Dr. Jisha P Abraham Professor | Amith Eldho James Arjun S Madhav Sunil | Mar Athanasius College of Engineering Kothamangalam | CSE | Bionic Arm with Augmented Reality Control System | 4000 | 42,000 | | 2000 | 48,000 |
| 24 | Sobhiraj N. Assistant Professor | Arya Krishnan M Anjana V S Feby Elizabeth John Gayathri V R | College of Engineering, Kottarakara | ECE | Automated Corona Prevention System | 3000 | 6000 | | 1500 | 10,500 |
| 25 | Reji A R Assistant Professor | Bobby R P Arjun R Augustine A V Veena U | College of Engineering & Management, Punnapra | EEE | RF BASED MARINE TRACKING AND COMMUNICATION SYSTEM FOR SMALL FISHING BOATS | 1000 | 7000 | 1000 | 3000 | 12,000 |
| 26 | Dancy Kurian Assistant Professor | AnilaKunjumon Elizabeth John Rafiya Al Ebrahim Rekha Treesa George | College of Engineering Karunagappally | CSE | An Automatic Entry System With Covid-19 Transportation Protocol and Ticket Validating Mechanism | 12,000 | | | 3000 | 15,000 |
| 27 | Rajesh P Assistant professor | Hareth Chandrasekar Sangeeth S Santhosh Shihas S Vaishak J | College of Engineering Pathanapuram | ECE | Arduino based real time drowsiness and fatigue detection smart helmet with wiper | 2000 | 3500 | | 2000 | 7500 |
| 28 | Minu Ann Jacob Assistant Professor | Alan Bince Arun Joseph Ristha R Steve Rozario | Model Engineering College, Thrikkakara | ECE | Hand exoskeleton for stroke rehabilitation | 1500 | 30,000 | | 1000 | 32,500 |
| 29 | Dr Minimol B Associate Professor | Abhida P Vijayakumar Amisha Surendren Deepika S Namitha Shajan | Model Engineering College, Thrikkakara | ECE | Cardiac Imaging using body surface potential mapping | 4000 | 16,000 | | 2500 | 22,500 |
| 30 | Vineetha K V Assistant Professor | Albin Kottaram | Model Engineering College, Thrikkakara | CSE | Open Source Game Engine with OpenGL | | 50,000 | | | 50,000 |
| 31 | Zareena Jamaluddin Assistant Professor | Sikhin V C Rinu Wilson Sandeep K V Jubin Johny | TKM College of Engineering | ECE | Automatic traffic rule violation monitormg system | 3000 | 10,000 | | 2500 | 15,500 |
| 32 | Kavitha Madhu Associate Professor | Sikhin V C Shwetha S | TKM College of Engineering | Civil | Overtaking accident prevention system | 10,000 | 13,000 | | | 23,000 |
| 33 | Dr. Bipin P R Associate Professor | Krishnaraj R Megha Sunil Nihala Suman M N Rose Mary Benedict | Adi Shankara Institute of Engineering & Technology | ECE | Development of a remote cardiac health monitoring system for COVID'19 patients using deep learning | 3000 | 11,000 | | 2500 | 16,500 |



| | | | | | | | | | | |
|----|---|--|--|-------|--|--------|--------|------|------|--------|
| 34 | Divya G Assistant professor | Aiswarya P L Krishna Chandran Ajay Suresh | Adi Shankara Institute of Engineering & Technology | CSE | Wrist wearable quarantine tracker using geo- fencing | 8000 | | | 2000 | 10,000 |
| 35 | Dr. Rejeesh C R Associate Professor | Basil Sunny Alukka Issac Paul | Federal Institute of Science And Technology Ernakulam | ME | Physio-Mechanical characterization of light weight composite pavement tiles made from recycled expanded polysterene. | 5,000 | 15,000 | 5000 | 5000 | 30,000 |
| 36 | Noble G Assistant professor | Meera R Jona Elsa Joy Upanya U Pai Sanjana Joshy | Federal Institute of Science And Technology Ernakulam | ECE | Fast walk through gateway | 7500 | 12,500 | | 3000 | 23,000 |
| 37 | Muhamed Noufal C Assistant Professor | Daniel Sunny Delwin D Arickal Jerom Joyan Krishna Prasad N | Federal Institute of Science And Technology Ernakulam | EEE | DESIGN AND DEVELOPMENT OF A LOW COST HOME AUTOMATION SWITCH | 5000 | 5000 | 2500 | 2500 | 15,000 |
| 38 | Dr. Jestin Joy Assistant Professor | Anupriya Dominic Betty Perumayan Dharwish Raj Haneena Mohamed | Federal Institute of Science and Technology Ernakulam | CSE | Investigating the accessibility of University websites in the state of Kerala | 2000 | | 1500 | 1500 | 5000 |
| 39 | Kapil Das Assistant Professor | Abdul Habeeb Abhijith M P Arjun A R Rejo C J | Jyothi Engineering college Thrissur | EEE | IoT based fault detector for power distribution lines | 2000 | 7500 | 1000 | 2000 | 12,500 |
| 40 | Dr. Rajesh T N Associate professor | HarishankarS Madhav Mural Aswin A Asokan Rejath R S | Mar Baselios College of Engineering and Technology, Thiruvananthapuram, | ME | Design and development of a centrifugal supercharger system for lean supercharging of a single cylinder SI engine | 10,000 | 12,500 | 5000 | 5000 | 32,500 |
| 41 | LANI RACHEL MATHEW Assistant Professor | ANEETA SABUDEEPTHI G A SOWMIYA V V S DEVIKA | Mar Baselios College of Engineering & Technology Thiruvananthapuram | ECE | Speech therapy system for Cleft Lip/Palate Patients | 2500 | 6500 | | 2000 | 11,000 |
| 42 | Arun J.S Assistant Professor | Anjana Santhosh Arun Y Meenakshy Sunil | Mar Baselios College of Engineering & Technology Thiruvananthapuram | ECE | Voice Actuated Backrest For Paralysis Palliation | 2000 | 5000 | | 2000 | 9000 |
| 43 | Dr. Neethu Roy Professor | Athira V R Difani M Saji Malavika V Roshan Shaji | Mar Baselios College of Engineering & Technology Trivandrum | Civil | Development of a flexible pavement design strategy for highways considering the effect of dynamic loading | 2100 | 18900 | 3000 | 2000 | 26,000 |



| | | | | | | | | | | |
|----|--|---|--|-------|--|--------|--------|------|--------|--------|
| 44 | Dr. Jisha S V Assistant Professor | Anju Stephen Anusha Babu Tony T Joseph Haris Ahammed S | Mar Baselios College of Engineering & Technology Thiruvananthapuram | Civil | Evaluation of the performance of ultra thin white topped pavement incorporating geosynthesis | 2500 | 9500 | 2000 | 3000 | 17,000 |
| 45 | Dr. Tessy Mathew Associate Professor | Bharath T U Kavya Suresh Sikha Shaji Subalesh S | Mar Baselios College of Engineering & Technology Thiruvananthapuram | CSE | Identifying texting idiolects using transformers | | | | 10,000 | 10,000 |
| 46 | SheenuP Assistant Professor | Noel Mathew Jacob Vaishnavi Sreekumar | Mar Baselios College of Engineering & Technology Thiruvananthapuram | EEE | IoT based dam monitoring and Pre disaster management | 4000 | 5000 | 1000 | 2000 | 12,000 |
| 47 | Dhanya Mathew Assistant Professor | Diana John Esther Gayathri G R Kripa Bi noy Neha S S | Marian Engineering College Trivandrum | ECE | Smart assistive device for speech impaired using silent sound technology | | 5000 | 1000 | 2500 | 8500 |
| 48 | S. Nurulhidaya Assistant Professor | Sneha Schristopher Ashik Muhammed Arya A V Elza Elezabeth Joseph | Marian Engineering College Trivandrum | ECE | Remote health monitoring for covid -19 | | 6000 | | 2500 | 8500 |
| 49 | Deepu R S Assistant Professor | Akhil V S Lakshmi B S Cindrella Gilson Mohammed Akshay S | Marian Engineering College Trivandrum | EEE | Prepaid Energy meter with e - wallet | 10,000 | 5000 | 1000 | 4000 | 20,000 |
| 50 | Dr Archana J Satheesh Assistant Professor | Farha S Fathima Mohammed Sajin Salim Nikhil P Joseph Nishara S J | Marian Engineering College Trivandrum | Civil | Utilization of Pulp Black Liquor as admixture in concrete | 8000 | 15,000 | 3000 | 5000 | 31,000 |
| 51 | Nishley Elizabeth Joseph Assistant Professor | Vaishnav G Sandra Sivaprasad Megha M S | Marian Engineering College Trivandrum | CSE | Student Pay (S-Pay) - Secure payment system for students | 6000 | | | 2000 | 8000 |
| 52 | Neethu Sajeev Assistant Professor | Shefaana Sharin Sreelakshmi N Thaha Mussamil K | MEA Engineering College Malappuram | EEE | Voting System with Fingerprint Sensor and GSM | 9000 | | 1000 | 3000 | 13,000 |
| 53 | Dr. Neelakantan P C Principal | albin Kuriakose Vaishnavi G Rao Joseph D Kalapurackal Anjana P | Muthoot Institute of Technology and Science Cochin | ECE | Deep learning for wireless channel estimation | | 15,000 | | 2500 | 17,500 |
| 54 | Dhileep M Associate Professor | Aswin V Adhithya V Raghav Gadha V Gopan Reuben John Cherian | Muthoot Institute of Technology and Science Ernakulam | Civil | OCEAN WAVE ENERGY HARVESTING SEAWALL | 5600 | 16,875 | 2125 | 2400 | 27,000 |



| | | | | | | | | | | |
|----|--|--|---|-------|--|--------|--------|------|------|--------|
| 55 | Sunith John David Assistant Professor | Ansa Muhammed Jeeva Maryam Oommen Reshma Raj R Samal Ummer | Muthoot Institute of Technology and Science Ernakulam | Civil | AUTOMATED INFILTROMETER | 8000 | 15,000 | 2500 | 2500 | 28,000 |
| 56 | Dr. Gylson Thomas Professor | Vishal V Kurup Rahul G Kartha Rahul KR Elna T.Thampi | Muthoot Institute of Technology & Science Ernakulam | EEE | Portable Emergency Mechanical Ventilator | 5000 | 10,000 | 3000 | 2000 | 20,000 |
| 57 | Dr. Manoj G Tharian Associate Professor | Alan James Hamza Ramzan Zafar Jobin Francis Joel John | Rajagiri School of Engineering & Technology Ernakulam | ME | Design and development of an atmospheric water generator using thermoelectric cooling | 10,000 | 17,000 | 5000 | 5000 | 37,000 |
| 58 | Vineeth Krishna P Assistant Professor | Sam Mathew Tharachan Prathik Thomas Mathew Marina Jacob Yash Rakesh | Rajagiri School of Engineering & Technology Ernakulam | ME | Foldable boat | 10,000 | 10,000 | 5000 | 5000 | 30,000 |
| 59 | Dr. Rajesh Baby Associate Professor | Jayadevu P R Bevin Prakash Mathew Felix Devasia Arun Asok | St. Joseph's College of Engineering and Technology, Palai | ME | Design and development of an Origami Inspired Gripper for picking objects of variable geometry | 5000 | 17,000 | 5000 | 5000 | 32,000 |
| 60 | Dr. Giby Jose Associate Professor | Anjitha Theres Thomas Amalu Sebastian Christo Johns Joel George | St. Joseph's College of Engineering and Technology, Palai | ECE | Automatic braking system in handicapped scooter | 5000 | 2000 | | 3000 | 10,000 |
| 61 | Anto Manuel Assistant Professor | Sooraj Seby Anson Merlin Mathew Sony J Thomas Renu R | St. Joseph's College of Engineering and Technology, Palai | ECE | MEDIGLOVE | 1000 | 2000 | | 2000 | 5000 |
| 62 | Ritwik. A Assistant Professor | Joel Thomas Shamily TP Sudhi.S Zepheniah C Joseph | Toch Institute of Science & Technology Ernakulam | ME | Design and fabrication of portable fumigating vehicle | 10,000 | 17,000 | 5000 | 5000 | 37,000 |
| 63 | Sivi Varghese Assistant Professor | Anand P K Noval Joseph Rohith Ashiq Shaj | Toch Institute of Science & Technology Ernakulam | ME | Estimation of fire safety distance using heat flux sensors and predicting thermal hazards from process industry fires. | 7000 | 11,000 | 3500 | 3500 | 25,000 |
| 64 | Dr. G Glan Devadhas Professor | Robin Jose Jiss Mathew | Vimal Jyothi Engineering College Kannur | ECE | Road safety and navigation assistance system | 4000 | 10,000 | | 2500 | 16,500 |
| 65 | Jijo Joseph Assistant Professor | Anandhapadmanabhan M Rijil T Anil Jeswin Thomas Dilnet Sajeev | Vimal Jyothi Engineering College Kannur | EEE | Myoelectric prosthetic hand | 3500 | 20,000 | 1000 | 2000 | 26,500 |



Annexure II

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Centre for Engineering Research and Development
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 CERD 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 and Utilization Certificate in the prescribed format duly attested by the head of the institution shall be submitted within one month of completion of the project for reimbursement of expenditure. Requests for reimbursement shall not be considered after the date of submission of documents as above.
6. On all publications resulting from the finding of the research/project of CERD, due acknowledgement shall be given to CERD under KTU.
7. 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.
8. 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:

