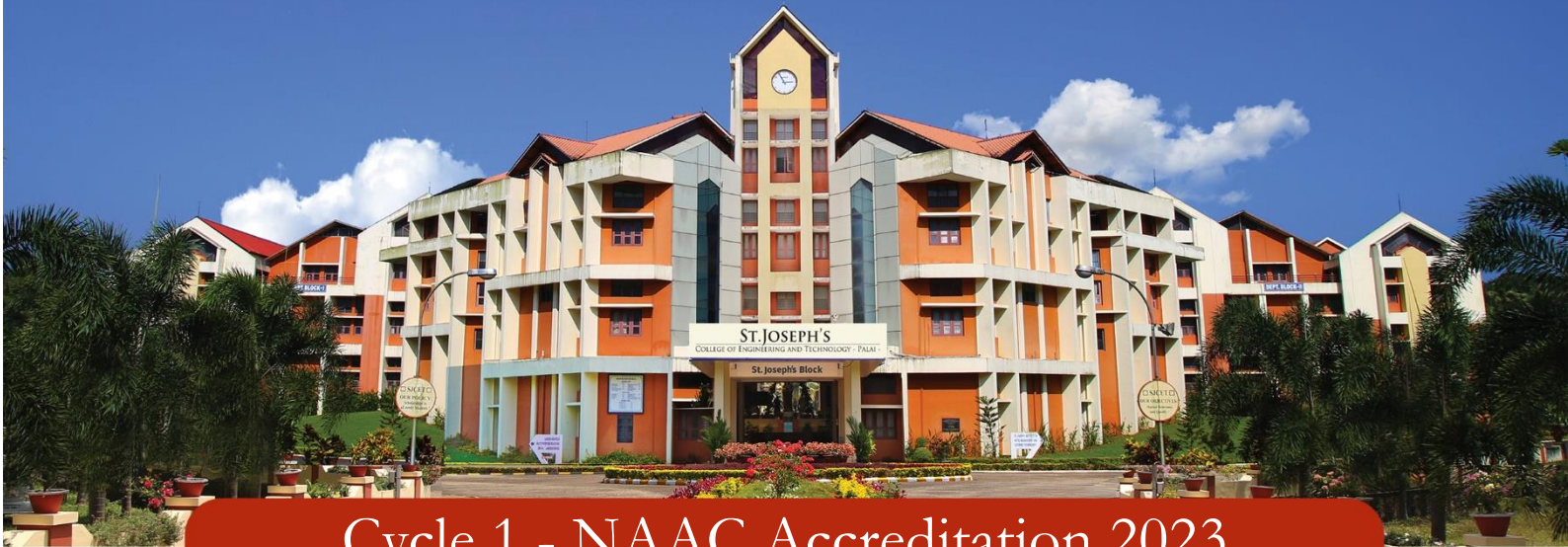




# ST. JOSEPH'S

COLLEGE OF ENGINEERING  
AND TECHNOLOGY,  
- PALAI -

Choondacherry P.O., Palai, Kottayam Pin 686579, Kerala, India  
Phone: +91 4822-239700, 239301, 239302  
Email: info@sjcetpalai.ac.in • Website: www.sjcetpalai.ac.in



Cycle 1 - NAAC Accreditation 2023

Criterion - 3

## Research, Innovations & Extension

3.1.1 Research Fund in the Academic year 2020-21

*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 2020-21

S.No	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Project Title	Amount Sanctioned/Utilization	Name of the Funding Agency
1	Mr. Dinu George	ME	<a href="#">Experimental Investigation of a Photo-Voltaic Thermal (PVT) collector integrated mixed mode solar dryer for drying cassava</a>	1,10,000 <a href="#">Utilization</a>	<a href="#">CERD - Research Seed Money</a> <a href="#">APJAKTU-Kerala</a>
2	Dr. Arun P	ECE	<a href="#">COVBOT- An IoT based intelligent wall mount multi-functional screening system</a>	40,000 <a href="#">Utilization</a>	
3	Dr. Rajesh Baby	ME	<a href="#">Design and development of an Origami inspired Gripper for picking objects of variable geometry</a>	32,000 <a href="#">Utilization</a>	<a href="#">APJAKTU-Kerala</a>
4	Dr. Giby Jose	ECE	<a href="#">Automatic Breaking system in Handicapped Scooter</a>	10,000 <a href="#">Utilization</a>	
5	Mr. Anto Manuel	ECE	<a href="#">MEDIGLOVE</a>	5000	
6	Dr. Joby P P	CSE	<a href="#">Ride Sharing Platform</a>	10,000 <a href="#">Utilization</a>	<a href="#">KSCSTE</a>
7	Dr. Madhukumar S	ECE	<a href="#">Medical Assistive Technology Robot (MAT Robo)</a>	39,000 <a href="#">Utilization</a>	<a href="#">IEEE HAC R10</a> <a href="#">HTA</a>
8	Dr. Arun. P	ECE	<a href="#">PREVENTIA</a>	28,400 <a href="#">Utilization</a>	<a href="#">IEEE HAC R10</a> <a href="#">HTA</a>
9	Dr. Arun. P	ECE	<a href="#">AILE</a>	12,000 <a href="#">Utilization</a>	<a href="#">IEEE HAC</a>
10	Dr. Rajesh Baby	ME	<a href="#">Experimental Investigations on Nano enhanced Phase Change Materials for latent heat storage applications</a>	18,30,000 <a href="#">Utilization</a>	<a href="#">(SERB) TARE Fellowship</a>
<b>Total Amount Sanctioned in Lakhs</b>				<b>21.164</b>	



# 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 2/4643/2020

Dated: 02.09.2021

From

The DEAN (Research)

To

The Principal

St. Josephs College of Engineering and Technology

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. Dr. Arun P, Associate Professor in ECE.
2. Dinu George, Assistant Professor in Mechanical 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 :





Sl.No	Name of Principal Investigator	Branch	Title of the Project	Amount sanctioned	First Installment	Second Installment	Consumables	Equipments	Travel	Contingency
1	Dr. Arun P Associate Professor	ECE	COVBOT -An IoT based intelligent wall mount multi-functional screening system	40,000	20,000	20,000	5,000	20,000	5,000	10,000
2	Dinu George Assistant Professor	Mechanical Engineering	Experimental Investigation of a Photo-Voltaic Thermal (PVT) Collector Integrated Mixed	1,10,000	75,000	35,000	20,000	70,000	10,000	10,000



## UTILIZATION CERTIFICATE

Certified that out of Rs 1,10,000/- sanctioned by APJKTU CERD towards financial assistance for the project/ titled Experimental Investigation of a Photovoltaic Thermal (PV/T) Collector Integrated Mixed Mode Drying System with PCM based Thermal Storage for drying of Cassava (File No. KTU/RESEARCH 2/4643/2020) an amount of Rs 43,237.56/- was utilized from the available fund of Rs 75,000/- from the first installment received for the purpose for which it was sanctioned, leaving a balance of Rs 31,762.44/- at end of the financial year 2022-23 (31/03/2023) for utilization in subsequent year.

DINUGBORE  
b/c  
31/3/23  
Name and signature of  
Principal Investigator

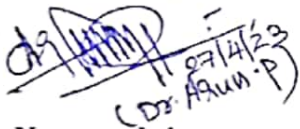
Name and signature of  
Finance Officer

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

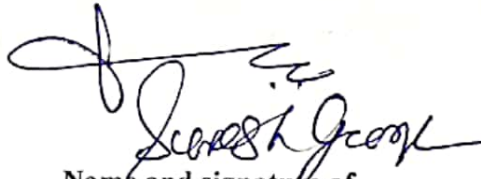


## UTILIZATION CERTIFICATE

Certified that out of Rs. 40,000/- sanctioned by Research Seed Money (RSM) scheme of KTU towards financial assistance for the project/student project titled COVBOT -An IoT based intelligent wall mount multi-functional screening system (File No./Letter No. KTU/RESEARCH 2/4643/2020 Dated: 02.09.2021) an amount of Rs. 20,000/- was utilized for the purpose for which it was sanctioned, leaving a balance of Rs. 20,000/- at end of the financial year 27<sup>th</sup> April 2023 for utilization in subsequent year.

  
(Dr. Arun P)

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



**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. Sreealakshmi 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 MARIAKU ANCY MOL 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	KRISHINA 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 Diljith 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, Punnappra	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 Ibrahim 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 violation monitoring 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 geofencing	8000				2000	10,000
35	Dr. Rejesh 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 polystyrene.	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	Muhammed 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 MATHIEW 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 Sajji 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 Basellos 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. Tessa Mathew Associate Professor	Bharath T U Kavya Suresh Sikha Shaji Subalash S	Mar Basellos College of Engineering & Technology Thiruvananthapuram	CSE	Identifying texting idioms using transformers				10,000	10,000
46	Sheenu P Assistant Professor	Noel Mathew Jacob Vaishnavi Sreeekumar	Mar Basellos 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 Christophher 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 INFILTRMETER	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 Annalu Sebastian Christo Johns Joel George	St. Joseph's College of Engineering and Technology, Palai	ECE	Automatic braking system in handicapped scooter	5000	2000	3000	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	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	Svi 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 Gian Devadhas Professor	Robin Jose Jiss Mathew	Vimal Jyothi Engineering College Kannur	ECE	Road safety and navigation assistance system	4000	10,000	2500	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:



**UTILIZATION CERTIFICATE**

Certified that out of Rs 32,000 sanctioned by Centre for Engineering Research and Development of APJ Abdul Kalam Technological University towards financial assistance for the student project titled 'Design and development of an Origami Inspired Gripper for picking objects of variable geometry', an amount of Rs 38649.32 was utilized for the purpose for which it was sanctioned, ~~leaving a balance of Rs. ....~~ at the close of 07/02/2022 as shown in the Statement of Expenditure annexed.

RAJESH BABY (Appl. Belong)

**Name & Signature  
of Principal Investigator**

**Name & Signature  
of Head of the Institution**

DR. J. DAVID  
Principal  
St. Joseph's College of Engg. &  
Technology, Palai  
Kerala - 686 579

**Name & Signature  
of Accounts officer/  
Chartered Accountant**

**Office Seal**





## STATEMENT OF EXPENDITURE

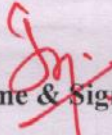
**Project Title:** Cabby- Ride Sharing Platform

**File No./ Letter no.:** 00684/SPS 65/2021/KSCSTE


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

Receipts	Amount (Rs.)	Payments	Amount (Rs.)
Amount sanctioned from KSCSTE (to be receivable)	10,000	API Services- Google Cloud	2407 ✓
		Equipment- Mobile (2)	19,998 ✓
		Equipment- Power Bank	399 ✓
		Travel Allowance	1000
<b>Total</b>		<b>Total</b>	<b>23,804</b>

Certified that I have exercised all kinds of checks to see that the grant has been utilized for the purpose for which it was sanctioned by KSCSTE.

  
Name & Signature  
of Principal Investigator

Dr. JOBY P P, B. E., M.Tech., Ph. D.  
Professor & Head  
Department of Computer Science & Engg.  
St. Joseph's College of Engg. & Technology Palai  
Choondacherry P. O., Kottayam - 686 579

  
Name & Signature  
of Head of the Institution

DR. J. DAVID  
Principal  
St. Joseph's College of Engg. &  
Technology, Palai  
Kerala - 686 579



Name & Signature  
of Chartered Accountant


For **BSJ & ASSOCIATES**  
Chartered Accountants  
FRN. 010560S  
  
CA. TOLY Y KAPPA  
Partner, M.No. 219807


UIN: 21219867AAAAGU1774

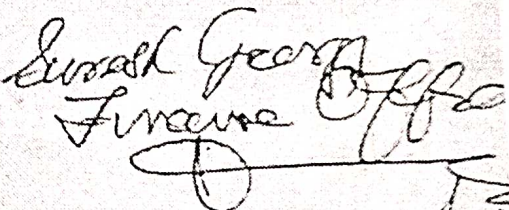


UTILIZATION CERTIFICATE

Certified that out of Rs. 10,000/- sanctioned by Centre for Engineering Research and Development of APJ Abdul Kalam Technological University towards financial assistance for the student project titled 'Automatic Braking System for Handicapped<sup>200704</sup>', an amount of Rs. 15,148/- was utilized for the purpose for which it was sanctioned, leaving a balance of Rs. 5,148/- at the close of 10/2/2022 as shown in the Statement of Expenditure annexed.

  
DR. GIBY M S  
Name & Signature  
of Principal Investigator

  
Name & Signature  
of Head of the Institution  
DR. J. DAVID  
Principal  
St. Joseph's College of Engg. &  
Technology  
Kerala

  
Name & Signature  
of Accounts officer/  
Chartered Accountant  
10/2/22







# Kerala State Council for Science, Technology and Environment

29.10.2021

Prof (Dr.) K.P. Sudheer  
Executive Vice President  
KSCSTE, Pattom

Letter No. 00684/SPS 65/2021/KSCSTE

Dear Dr. Joby P P

Sub:- Financial assistance for Student Project scheme of KSCSTE reg.  
Ref:- Your application received under Student Project scheme

This is to invite your attention to the reference cited and to inform that the project proposal titled "Ride Sharing Platform." submitted by Dr. Joby P P as PI and Saranya S, Leion Sunny, Riya Theresa Abraham, Chrisbin Sunny as student investigator(s) has been approved. An amount of ₹10000/- is sanctioned by the Council. The budget estimate of the project is as detailed below.

SL.NO.	ITEMS	AMOUNT(₹)
1	Consumables	0
2	Minor equipments	3000
3	Travel	2000
4	Research Literature & Documentation	3000
5	Others (for analysis)	2000
	<b>Total</b>	<b>10000</b>

The PI has to submit the signed Terms and Conditions (as per the guidelines) and the date of start of the project within two weeks to the undersigned. The project should be completed within six months and submit the certified soft copy of the final report (in pdf to [sed.kscste@kerala.gov.in](mailto:sed.kscste@kerala.gov.in)), audited Statement of Expenditure and Utilization Certificate counter signed by the Head of the Institution for releasing the grant. The format for final report, SE and UC can be downloaded from [www.kscste.kerala.gov.in](http://www.kscste.kerala.gov.in).

Thanking you,

Yours sincerely,

Prof (Dr.) K.P. Sudheer

To

The Principal, St. Josephs College Of Engineering And Technology Palai, 686579

Copy to:


Dr. Joby P P, Professor and Head of CSE Department, SJ CET, Computer Science & Engineering, St. Josephs College Of Engineering And Technology Palai-686579  
Saranya S, Leion Sunny, Riya Theresa Abraham, Chrisbin Sunny student(s), St. Josephs College Of Engineering And Technology Palai-686579

## UTILIZATION CERTIFICATE

Certified that out of Rs. 10,000 sanctioned by Kerala State Council for Science, Technology and Environment towards financial assistance for the student project titled 'Cabby - Ride Sharing Platform' (File No./Letter No.: 00684/SPS 65/2021/KSCSTE ), an amount of Rs. 10,000 was utilized for the purpose for which it was sanctioned, leaving a balance of Rs. -13,804 at the close of 15 July 2021 as shown in the Statement of Expenditure annexed.

  
Name & Signature  
of Principal Investigator

Dr. JOBY P P, B. E., M.Tech., Ph. D.  
Professor & Head  
Department of Computer Science & Engg.  
St. Joseph's College of Engg. & Technology  
Choondachery P. O., Kottayam - 686 579

  
Name & Signature  
of Head of the Institution

DR. J. DAVID  
Principal  
St. Joseph's College of Engg. &  
Technology, Palai  
Kerala - 686 579

Seal & Signature  
of Chartered Accountant

For **BSJ & ASSOCIATES**  
Chartered Accountants  
FRN 010560S

  
CA. TOLY T KAPPEN  
Partner, M.No. 219867

UOIN: 21219867AAAAGU1774





Date: 15-07-2021

To: R. Samrat Pradeep & Dr. Madhukumar S

Email: [sampradeep@ieee.org](mailto:sampradeep@ieee.org) & [madlekarthi@gmail.com](mailto:madlekarthi@gmail.com)

On behalf of the IEEE Region 10 & IEEE Humanitarian Activities Committee (HAC): Congratulations! The IEEE Region 10 & IEEE HAC Review Committee, has approved a grant of \$488.00 for the project named "Medical Assistive Technology Robot (MAT Robo)" (R10- HTA- 012). Our offer of this grant is subject to your agreement to:

1. Use the grant funds only as specified in the approved grant proposal.
2. Maintain your records to show and account for the uses of grant funds and retain all original receipts.
3. Allow the IEEE Humanitarian Activities Committee access to records to verify grant expenditures and activities.
4. Provide written acknowledgement of receipt of grant funds.
5. Repay any portion of the funds not used for the specified purposes.
6. Refrain from use of the funds for any purpose prohibited by law.
7. Cooperate with any efforts of the IEEE HAC to publicize the grant award.
8. Comply with reasonable requests for information about program activities.
9. Meet terms and conditions specified in the addendum to this letter.

All grants are made in accordance with current and applicable laws and pursuant to the Internal Revenue Service Code and the regulations issued thereunder.

If you agree to these terms, please sign via the electronic method used to send it to you (DocuSign). We appreciate being able to assist in the success of your project.

Sincerely,



Deepak Mathur  
Director 2021-2022,  
IEEE Region 10 (Asia & Pacific)



Jing Dong  
Chair, HTA 2021  
IEEE Region 10 (Asia & Pacific)

I certify that I accept the terms outlined in this letter:

Signature: \_\_\_\_\_

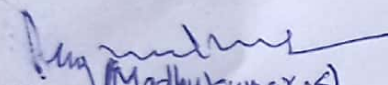
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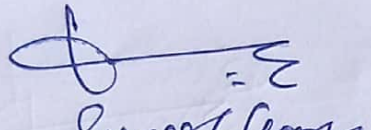
Title (role) for Project: \_\_\_\_\_

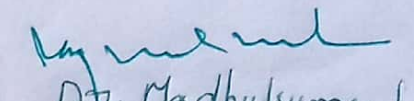
Date: 15.07.2021

## UTILIZATION CERTIFICATE

Certified that out of Rs. 39,000/- sanctioned by IEEE HAC & R10 funded project grant towards financial assistance for the project/student project titled Medical Assistive Technology Robot (MAT-Robo) (E-mail IEEE/R10-HTA-012/KS/2021 Dated: 15.07.2021) an amount of Rs. 39,000/- was utilized for the purpose for which it was sanctioned, leaving zero balance.

  
Name and signature of  
Principal Investigator

  
Name and signature of  
Finance Officer

  
Name and signature of  
Head of the Institution

PRINCIPAL  
ST. JOSEPH'S COLLEGE OF  
ENGG. & TECHNOLOGY, PALAI



Date: 15-07-2021

To: Arnold Shaiju & **Dr.Arun.P**

Email: [arnoldshaiju@ieee.org](mailto:arnoldshaiju@ieee.org)/ [Link2arun.p@gmail.com](mailto:Link2arun.p@gmail.com)

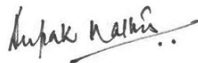
On behalf of the IEEE Region 10 & IEEE Humanitarian Activities Committee (HAC): **Congratulations!** The IEEE Region 10 & IEEE HAC Review Committee, has approved a grant of **\$355.00** for the project named **"Preventia" (R10- HTA- 015)**. Our offer of this grant is subject to your agreement to:

1. Use the grant funds only as specified in the approved grant proposal.
2. Maintain your records to show and account for the uses of grant funds and retain all original receipts.
3. Allow the IEEE Humanitarian Activities Committee access to records to verify grant expenditures and activities.
- 4. Provide written acknowledgement of receipt of grant funds.**
5. Repay any portion of the funds not used for the specified purposes.
6. Refrain from use of the funds for any purpose prohibited by law.
7. Cooperate with any efforts of the IEEE HAC to publicize the grant award.
8. Comply with reasonable requests for information about program activities.
9. Meet terms and conditions specified in the addendum to this letter.

All grants are made in accordance with current and applicable laws and pursuant to the Internal Revenue Service Code and the regulations issued thereunder.

If you agree to these terms, please sign via the electronic method used to send it to you (DocuSign). We appreciate being able to assist in the success of your project.

**Sincerely,**



**Deepak Mathur**  
**Director 2021-2022,**  
**IEEE Region 10 (Asia & Pacific)**



**Jing Dong**  
**Chair, HTA 2021**  
**IEEE Region 10 (Asia & Pacific)**

I certify that I accept the terms outlined in this letter:

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title (role) for Project: \_\_\_\_\_

Date: 15.07.2021

Addendum to Award Letter for

**“Arnold Shaiju & Dr.Arun.P”  
 (“Preventia”)**

Grant Reference number: **R10-HTA-015**

*Please refer to this number in all communications regarding this grant.*

**1. Publicity**

The grantee shall mention that the Project is sponsored by IEEE Region 10 & IEEE HAC (the “Sponsorship”) in all press releases, news conferences and other media contacts concerning the Project. All materials developed or published by the Project, including brochures, announcements, flyers, manuals and reports, shall mention the Sponsorship. The grantee shall send to the IEEE Humanitarian Activities Committee copies of all publicity regarding the grant, including print media and information materials that are related to the Project. Copies of the IEEE Humanitarian Activities Committee logo suitable for reproduction are included for your convenience.

**2. Accounting**

The grantee is responsible for the expenditure of the grant funds and for maintaining adequate supporting records consistent with generally accepted accounting procedures.

**3. Reports**

A complete project and financial report for the Project must be provided within fifteen (15) days after the completion of the grant period based on the below schedule. Brief monthly updates, ideally with photos or video for social media sharing, are also requested.

<u>Beginning date</u>	<u>Ending Date</u>	<u>Final Report Due Date</u>
15-07-2021	31-12-2021	15-01-2022 <i>or 15 days after Actual Completion</i>

HAC may occasionally reach out to you for updates after the term of the project; likewise, HAC welcomes periodic updates, including pictures and/or videos, as you have available.

**4. Payment Schedule**

Unless otherwise agreed in writing by IEEE Humanitarian Activities Committee, the grant award shall be paid as indicated below:

- **US \$355.00 will be transferred to IEEE Kerala Section account for disbursement to this project.**
- **Funds will be sent in two installments. The first installment will advance 50% of the total amount and the second (balance amount) installment will be issued after the submission of the final report and accounting of expenses (with proper receipts)**



The grant award shall be paid to the grantee after the IEEE Humanitarian Activities Committee receives an executed copy of the Grant Award Letter.

Initials: \_\_\_\_\_

#### **5. Equipment**

Title to equipment purchased shall be vested in the grantee with the understanding that the equipment will be used for the Project, or similar activities, for which it was obtained.

#### **6. Reversion of Grant Funds**

The grantee will return to the IEEE Humanitarian Activities Committee any portion of the funds not used for the specified purposes at the close of the grant period. Funds also will be promptly returned if the IEEE Humanitarian Activities Committee determines that the grantee has not performed in accordance with the Award Letter or has not met the specific grant conditions of the Project and its supporting budget.

#### **7. Special Conditions**

Project lead will ensure that every participant in the Project signs IEEE Release Form prior to participating in the Project. The grantee will sign the Intellectual Property Policy prior to receiving the grant funds and undertaking any work on the Project. The Project lead will keep a copy of all signed documents and submit them to the IEEE Humanitarian Activities Committee together with the first and final reports.

#### **8. Grant Renewal**

Unless otherwise stipulated in writing, this grant is made with the understanding that the IEEE Humanitarian Activities Committee has no obligation to provide other or additional support to the grantee.

#### **9. Legal Compliance**

The grantee currently complies and will comply with all state and federal laws and regulations, including laws concerning civil and human rights, and will ensure that the Project will be free of any discrimination based on race, color, national origin, physical disability, religion, gender, or age.

#### **10. Data Privacy**

In the event the Project collects, uses, processes, or otherwise involves the personal data of any individual, the grantee agrees that they shall, to the maximum extent possible, respect the privacy of those individuals. Grantee will comply with all applicable data privacy laws or regulations.

Initials: \_\_\_\_\_

AQIS Status

+ AQIS Status

- AQIS Status

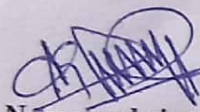
Submit 5 of 10+

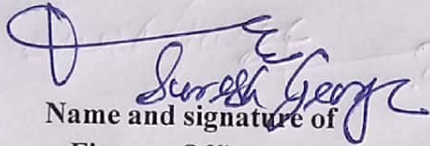
Academic Year 2020-2021	AQIS Application Id 1-9285521989	Permanent Institute Id 1-4839781
Name of the Institute ST. JOSEPH'S COLLEGE OF ENGINEERING	Scheme RPS - Research Promotion Scheme	Department** ELECTRONICS AND COMMUNICATIONS
Faculty Id** 1-440227131	Title Dr.	First Name ARUN
Surname PEETHAMBARAN	Status Expert Evaluation Completed	Final Status Proposal is evaluated and qualified

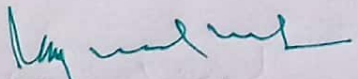


## UTILIZATION CERTIFICATE

Certified that out of Rs. 28,400/- sanctioned by IEEE HAC & R10 funded project grant towards financial assistance for the project/student project titled PREVENTIA (E-mail IEEE/R10-HTA-014/KS/2021 Dated: 15.07.2021) an amount of Rs. 28,400/- was utilized for the purpose for which it was sanctioned, leaving zero balance.

  
15/7/21  
(Dr. Anus.P)  
Name and signature of  
Principal Investigator

  
Name and signature of  
Finance Officer

  
Dr. Madhukumar  
Name and signature of  
Head of the Institution

PRINCIPAL  
ST. JOSEPH'S COLLEGE OF  
ENGG. & TECHNOLOGY, PALAI





## IEEE Region-10(Asia Pacific) Educational Activity Proposal Acceptance

June,2021

To,

Dr. Arun P,

IEEE Student Branch of St. Joseph College of Engineering and Technology, Palai (Kerala Section),  
IEEE India Section

**Subject:** Regarding approval of \$150 for the proposal submitted under IEEE R-10 EAC's Call For Proposal For "Reaching Local Initiatives"

Dear Dr. Arun P,

This is to convey the sanction of the fund of \$150 for the conduct of a proposal titled as "AILE (Proposal ID:148)" to IEEE India Section under IEEE R-10 EAC Reaching Local Initiative.

This fund will be released as per guidelines mentioned in the Call for proposal.  
(Guidelines given on following link: <https://ea.ieeer10.org/2021-announcement/> )

The coordinator for the proposed event/activity(ies) will be Dr. Arun P and shall comply with the deadlines & other documentation post conduct of proposed event/activity(ies).

This is only sanction communication and should not be treated as assurance to get the grant-which shall be transferred to the respective OU as per IEEE R-10 norms only after complying with the conditions and submission of documents required for the reimbursement within timelines.

In case there is change in coordinator/theme, you are requested to inform the EAC in advance via email at [region10eab@gmail.com](mailto:region10eab@gmail.com)

Regards,

**Dr. Preeti Bajaj**


2021-22 R10 Educational Activities Committee Chair

Copy forwarded for information and necessary action:

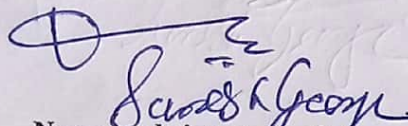
1. Dr. Arun P, IEEE India Section
2. Chair, India
3. Chair, IEEE R-10

## UTILIZATION CERTIFICATE

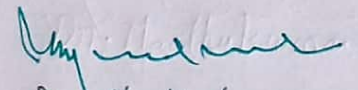
Certified that out of Rs. 12,000/- sanctioned by IEEE Region-10 (Asia Pacific) Educational Activity Reaching Local Initiative funded project grant towards financial assistance for the project/student project titled AILE (E-mail IEEE R-10 EAC-148/KS/2021 Dated: 11.06.2021) an amount of Rs. 12,000/- was utilized for the purpose for which it was sanctioned, leaving zero balance.

  
29/12/21  
(Dr. Arun P.)

Name and signature of  
Principal Investigator

  
James George

Name and signature of  
Finance Officer

  
Dr. Madhukumar

Name and signature of  
Head of the Institution

PRINCIPAL  
ST. JOSEPH'S COLLEGE OF  
ENGG. & TECHNOLOGY, PALAI





FILE NO. TAR/2021/000380  
SCIENCE & ENGINEERING RESEARCH BOARD(SERB)  
(A statutory body of the Department of Science & Technology, government of India)

Science and Engineering Research Board  
3rd & 4th Floor, Block II  
Technology Bhavan, New Mehrauli Road  
New Delhi - 110016

Dated: 03-Feb-2022

**ORDER**

Subject: Financial Sanction under Teachers Associateship for Research Excellence (TARE) to **Dr. Rajesh Baby, St. Joseph's College Of Engineering And Technology, Palai , Bharananganam Pravithanam Road Kottayam, Palai, Choondacherry, Kerala, Kottayam, Kerala-686579**- under the mentorship of Dr. Sabu Thomas, at **Mahatma Gandhi University Athirampuzha Medical College Road, Priyadarsini Hills P.O, Athirampuzha - 686560**- Release of 1st grant.

Sanction of **Science and Engineering Research Board (SERB)** is hereby accorded to the above mentioned grant at a total cost of **Rs. 18,30,000/- (Rs. Rupees Eighteen Lakh Thirty Thousand only Only)** for a duration of 36 months.

The date of start of the project will be 13 December, 2021. The items of expenditure for which the total allocation of **Rs. 18,30,000/-** has been approved are given below:

The following budget is proposed for

**St. Joseph's College Of Engineering And Technology, Palai , Bharananganam Pravithanam Road Kottayam, Palai, Choondacherry, Kerala, Kottayam, Kerala-686579 (Parent)**

Sl. No.	Budget Head	Amount
1.	Fellowship	Rs. 0 (@0/- per month (consolidated))
2.	Research Grant	Rs. 2,50,000/- per annum
3.	Overheads	Rs. 25,000/- per annum

**Mahatma Gandhi University Athirampuzha Medical College Road, Priyadarsini Hills P.O, Athirampuzha - 686560 (Host)**

Sl. No.	Budget Head	Amount
1.	Fellowship	Rs. 60,000 (on completion of 90 days mandatory attendance in the host institute every year)
2.	Research Grant	Rs. 2,50,000/- per annum
3.	Overheads	Rs. 25,000/- per annum

2. Sanction of the SERB is also accorded to the payment of **Rs. 2,75,000/- (Rupees Two Lakh Seventy Five Thousand only)** to **St. Joseph's College Of Engineering And Technology, Palai, Bharananganam Pravithanam Road Kottayam, Palai, Choondacherry, Kerala , Rs. 3,35,000/- (Rupees Three Lakh Thirty Five Thousand only)** to **Mahatma Gandhi University Athirampuzha Medical College Road, Priyadarsini Hills P.O, Athirampuzha - 686560** being the first installment of the grant for the year 2021-2022 for implementation of the said research project.

3. The expenditure involved is debitable to

**Fund for Science & Engineering Research (FSER)**

This release is being made under Teachers Associateship For Research Excellence (TARE). (Mechanical & Manufacturing Engineering & Robotics)

4. The Sanction has been issued to with the approval of the competent authority vide Diary No. SERB/F/7988/2021-2022 dated 03 February, 2022

5. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website ([www.serb.gov.in](http://www.serb.gov.in)).

6. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.

7. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.

8. The release amount of **Rs. 2,75,000/- (Rupees Two Lakh Seventy Five Thousand only)** will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

**St. Joseph's College of Engineering and Technology, Palai , Bharananganam pravithanam road kottayam, palai, choondacherry, kerala, Kottayam, Kerala-686579 (Parent) :**

PFMS Unique Code	KLKT00003148
Account Name	ST.JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY, PALAI
Account Number	0708053000000013
Bank Name & Branch	THE SOUTH INDIAN BANK LTD CHOONDACHERRY[708]CHOONDACHERRY PO.KOTTAYAM,KERALA-686579
IFSC/RTGS Code	SIBL0000708
Email address of PI	rbaby55@gmail.com
Email id of A/C Holder	principal@sjcetpalai.ac.in
Email address of concerned officer	ms_tare@serbonline.in

The release amount of **Rs. 3,35,000/- (Rupees Three Lakh Thirty Five Thousand only)** will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:



PFMS Unique Code	MGUKKK
Account Name	Finance Officer, Mahatma Gandhi University
Account Number	67167956413
Bank Name & Branch	State Bank of India M.G.University Campus P.D.Hills Post, Athirampuzha 686560
IFSC/RTGS Code	SBIN0070669
Email address of PI	rbaby55@gmail.com
Email id of A/C Holder	fo@mgu.ac.in
Email id of Mentor	Dr. Sabu Thomas

9.Both the institutes will furnish Utilization certificate(UCs) financial year wise to the SERB and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

10. The institute will maintain separate audited accounts for the fellowship. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.


11. The File no. TAR/2021/000380 may also be mentioned in all research communications arising from the above project with due acknowledgement of SERB.

12. As this is the first grant for the fellowship, no previous U/C is required.

13. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.

14. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.


15. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science & Engineering Research Board, a statutory body of Department of Science & Technology (DST), Government of India.

  
(Dr. T Thangaradjou)  
Scientist F  
msls@serb.gov.in

To,  
Under Secretary  
SERB, New Delhi

Copy forwarded for information and necessary action to: -

1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy
4.	(i) Dr. Rajesh Baby Mechanical Engineering St. Joseph's College of Engineering and Technology, Palai , Bharananganam pravithanam road kottayam, palai, choondacherry, kerala, Kottayam, Kerala-686579 Email: rbaby55@gmail.com Mobile: 919447921482  (ii) Dr. Sabu Thomas Mahatma Gandhi University Athirampuzha Medical College Road, Priyadarsini Hills P.O, Athirampuzha - 686560  (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit <a href="http://www.serb.gov.in">www.serb.gov.in</a> .)
5.	(i) PRINCIPAL, St. Joseph's College Of Engineering And Technology, Palai, Bharananganam Pravithanam Road Kottayam, Palai, Choondacherry, Kerala  (ii)Vice Chancellor Mahatma Gandhi University Athirampuzha Medical College Road, Priyadarsini Hills P.O, Athirampuzha - 686560  (Receipt of Grant may be intimated by name to the undersigned)

  
(Dr. T Thangaradjou)  
Scientist F  
msls@serb.gov.in

**GFR 12 – A**  
**UTILIZATION CERTIFICATE (UC) FOR THE YEAR 2021-2022**  
**in respect of RECURRING**  
**as on 31/03/2022 to be submitted to SERB**

1. Name of the grant receiving Organization: St. Joseph's College of Engineering and Technology, Palai.
2. Name of Principal Investigator (PI): Dr. Rajesh Baby
3. SERB Sanction order no. & date: SERB/F/7988/2021-2022 dated 03 February, 2022
4. Title of the Project: Experimental investigations on Nano-Enhanced Phase Change Materials for latent heat storage applications
5. Name of the SERB Scheme: TARE
6. Whether recurring or non-recurring grants: RECURRING
7. Grants position at the beginning of the financial year

- |       |  |   |     |
|-------|--|---|-----|
| (i)   | Carry forward from previous financial year | : | NIL |
| (ii)  | Others, If any                             | : | NIL |
| (iii) | Total                                      | : | NIL |

8. Details of grants received, expenditure incurred and closing balances:

Unspent balance of grants received previous years	Interest Earned thereon	Interest deposited back to the SERB	Grants received during the year			Total available funds (1+2-3+4)	Expenditure incurred	Closing balances (5-6)
1	2	3	4			5	6	7
NIL	NIL	NIL	Sanction No:	Date:	Amount:	2,75,000	0	2,75,000
			SERB/F/7988/2021 2022	03/02/20 22	2,75,000			

Component wise utilization of grants:

Grants-in-aid- General	Grant-in-aid-creation for capital assets	Total
NIL	NIL	NIL

Details of grants position at the end of the year

- |       |  |   |          |
|-------|--|---|----------|
| (i)   | Balance available at end of financial year     | : | 2,75,000 |
| (ii)  | Unspent balance refunded to SERB (If any)      | : | NIL      |
| (iii) | Balance carried forward to next financial year | : | 2,75,000 |




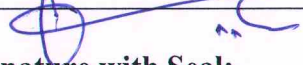

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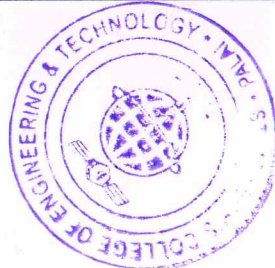
Certified that I have satisfied the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
- (vii) It has been ensured that the physical and financial performance under TARE scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II.

Date: 28/05/2022

Place: Palai

<b>Signature of PI :</b>  <b>(RAJESH BABU)</b>	 <b>Signature with Seal:</b> <b>Finance Officer</b> <b>St. Joseph's College of Engineering- and Technology, Palai, Kottayam, PIN:686 579</b> <b>Name: Juvish George</b> <b>Chief Finance Officer</b>	 <b>Signature with Seal:</b> <b>DR. V.P. DEVASSIA</b> <b>Principal</b> <b>St. Joseph's College of Engg. &amp; Technology</b> <b>Palai, Kerala - 686 579</b> <b>Name:</b> <b>Head of Organisation</b>
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**UTILIZATION CERTIFICATE (UC) FOR THE YEAR 2021-2022**  
**in respect of RECURRING**  
**as on 31/03/2022 to be submitted to SERB**

1. Name of the grant receiving Organization: Mahatma Gandhi University, Athirampuzha, Kottayam
2. Name of Principal Investigator (PI): Dr. Rajesh Baby
3. SERB Sanction order no. & date: SERB/F/7988/2021-2022 dated 03 February 2022
4. Title of the Project: Experimental Investigations on Nano-Enhanced phase change materials for latent heat storage applications
5. Name of the SERB Scheme: TARE
6. Whether recurring or non-recurring grants: RECURRING
7. Grants position at the beginning of the financial year

- |       |  |   |     |
|-------|--|---|-----|
| (i)   | Carry forward from previous financial year | : | NIL |
| (ii)  | Others, If any                             | : | NIL |
| (iii) | Total                                      | : | NIL |

8. Details of grants received, expenditure incurred and closing balances:

Unspent balance of grants received previous years	Interest Earned thereon	Interest deposited back to the SERB	Grants received during the year			Total available funds (1+2-3+4)	Expenditure incurred	Closing balances (5-6)
1	2	3	4			5	6	7
NIL	NIL	NIL	Sanction No:	Date:	Amount:	3,35,000	0	3,35,000
			SERB/F/7988/2021-2022	03/02/2022	3,35,000			

Component wise utilization of grants:

Grants-in-aid- General	Grant-in-aid-creation for capital assets	Total
NIL	NIL	NIL

Details of grants position at the end of the year

- |       |  |   |          |
|-------|--|---|----------|
| (i)   | Balance available at end of financial year     | : | 3,35,000 |
| (ii)  | Unspent balance refunded to SERB (If any)      | : | NIL      |
| (iii) | Balance carried forward to next financial year | : | 3,35,000 |

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- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
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- (vii) It has been ensured that the physical and financial performance under TARE scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II.

Date: 27-05-2022

Place: Kottayam

<p><b>Signature of PI :</b></p> <p><i>Rajesh Baby</i> (RAJESH BABY)</p>	<p><b>Signature with Seal:</b></p> <p><i>[Signature]</i></p> <p>BIJU MATHEW Finance Officer M.G. University Priyadarshini Hills P.O Kottayam - 686 560 Chief Finance Officer</p>	<p><b>Signature with Seal:</b></p> <p><i>[Signature]</i></p> <p>Name: (Dr.) PRAKASH KUMAR B REGISTRAR Head of Organisation M.G. University Priyadarshini Hills P.O., Kottayam-686 560</p>
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