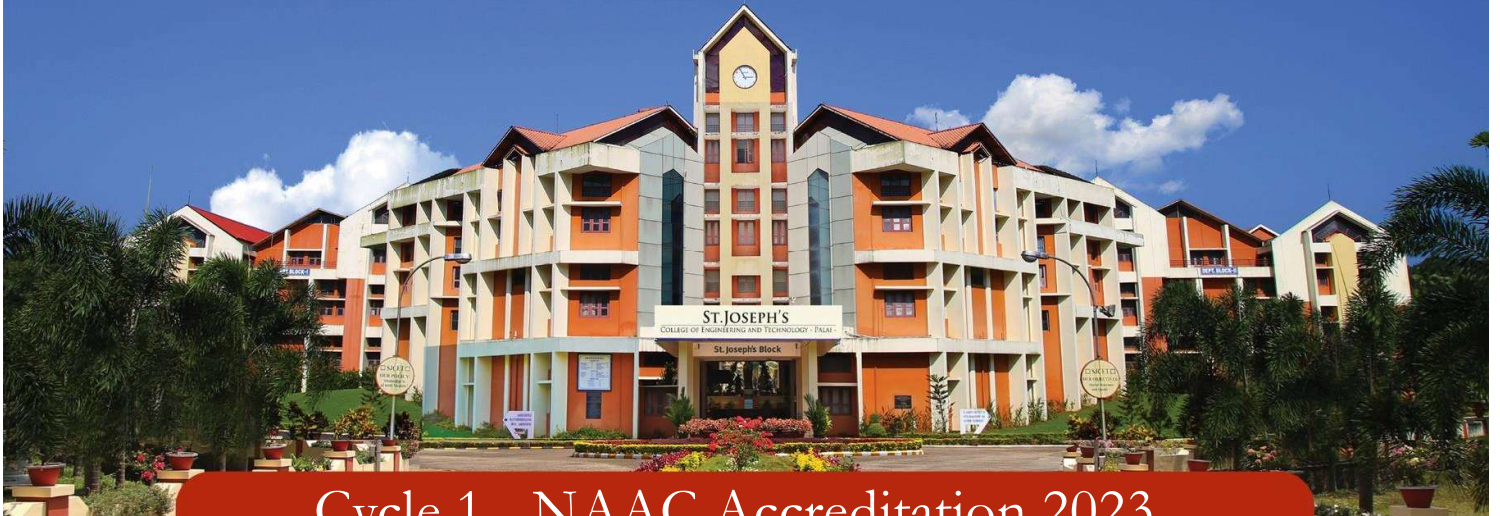




ST. JOSEPH'S

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



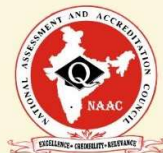
Cycle 1 - NAAC Accreditation 2023

Criterion - 7.2.1

Best Practices : Faculty Development and Research Promotion

7.2.1 Research Fund in the Academic year 2021-22

Submitted to:



National Assessment and Accreditation Council



ST. JOSEPH'S

COLLEGE OF ENGINEERING
AND TECHNOLOGY,
- PALAI -

Academic Year 2021-22

S.No	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Year	Amount Sanctioned	Name of the Funding Agency
1	Dr. Praseetha V M	CSE	2021-2022	16,300	CERD - APJAKTU-Kerala
2	Dr.Rajesh Baby Dr.George Tom Varghese	ME/EIE	2021-2022	45,000	CERD - APJAKTU-Kerala
3	Mr. Ivin Jose	ME	2021-2022	50,000	CERD - APJAKTU-Kerala
4	Dr. Madhukumar S	ECE	2021-2022	21,500	CERD - APJAKTU-Kerala
5	Mr. Anto Manuel	ECE	2021-2022	21,500	CERD - APJAKTU-Kerala
6	Mr. Sabarinath. G	ECE	2021-2022	12,35,085	AI for Earth Microsoft Azure Compute Gran
7	Dr.Lijo Paul(PI), Dr.Jilse Sebastian(Co-PI)	Mechanical Engineering	2021-2022	14,00,000	AICTE-RPS
Total Amount Sanctioned in Lakhs				27.28	

Managed by the **Catholic Diocese of Palai** • Approved by AICTE • Affiliated to APJ Abdul Kalam Technological University, Kerala

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

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

RESEARCH SECTION

U.O.No. 964/2022/KTU

Thiruvananthapuram, Dated: 27.04.2022

- Read:-*1. Minutes of the 1st meeting of Engineering Research Council dated 27.01.2010.
2. Minutes of 2nd meeting of Executive Committee dated 21.10.2010.
3. Meeting of the 2nd Research Council dated 29.02.2017.
4. Proposals of Student Projects for Financial Assistance.
5. Screening Committee meeting held on March/April 2022 for evaluation of project proposals.

ORDER

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

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

The Screening Committee meetings held in March/April 2022 evaluated the project proposals forwarded from Engineering Colleges affiliated to the University and recommended financial assistance to selected proposals as per the List appended.

Administrative sanction is therefore accorded for financial assistance to student project as detailed in the list attached below. The project shall be completed within a period of 1 year and the project shall be completed with the students who presented the project before the Screening Committee.

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

The expenditure shall be met from the Head of Account "S 3022-Innovative Student Project".

Orders are issued accordingly.

Sd/-

Dr. Shalij P.R *
DEAN (Research)

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.



LIST of Selected STUDENT PROJECT 2021-22

Sl No	Name of Principal Investigator	Name of Student Investigators	Title of the Project	College	Consumables	Equipments	Travel	Contingency	Others	Amount sanctioned	DEPARTMENT
1	Lalu V Assistant Professor	Aparna E Diya G Meera S M Harini	Automated Vacuum Cleaner	College of Engineering Trivandrum	2000	15,000		1000		18,000	ECE
2	Sindhu N Associate Professor	Abhirami G S Lasitha E Rigzin Dolima Sezha Bijumon	Negative emotion alert system	College of Engineering Trivandrum	3500	6000		2500		12,000	ECE
3	Jisha VR Associate Professor	Ashna Nizam Aysha S Hasna M Rafi Rosemary Mathew	Design and development of a pond cleaning robot	College of Engineering Trivandrum	5000	27,500	1000	1000		34,500	EEE
4	Yashida Nadir Associate Professor	Swalitha PC Vybhav A Nambiar Vishnupriya ES Shehina SS	Tensile Bond strength properties of FRCM; AND ITS Strengthening effects on Structural Elements	College of Engineering Trivandrum.	8000	21,500	1000	4000 (Labour charges (5500))		40,000	CIVIL
5	Lea Mathew Associate Professor	Govind Jayakumar Abhirami P Aswana B Saurav Purushothaman	Prevalence of microplastics in table salt; sea water and beach sands of Trivandrum city	College of Engineering Trivandrum.	7000	25,000	2500	3800		38,300	CIVIL
6	Sidharthan S Assistant Professor	Abin Krishna V S Cherian G Kazhunnady Davis James Girinoath P A	Design and development of an automated system for assisting agriculture	RIT Kottayam	10,000	30,000		10,000		50,000	MECH
7	Dr. Upama Rajan M N Assistant Professor	Aparna A Ajith Jayan Ashly C. Dhanu Sidharth S	IOT based SMART IRRIGATION SYSTEM	RIT Kottayam	5000	15,000		2000		22,000	ECE
8	Dr. Manu V Thottakkad Assistant Professor	Abhijith P V Chithran K S	Property Evaluation of Nano Grease Produced from Vegetable Oil	Government Engineering College Kozhikode	10,000	20,000	5000	15,000		50,000	MECH
9	Sreejith S Assistant Professor	Akshay Dinesh Harshad T Anaz Moideen Sivadas Athulraj V K	Agrirobot (Agriculture Robot)	Government Engineering College Kozhikode	5000	7000		1000		13,000	ECE
10	Dr. Bindima T Assistant Professor Investigator Titto Anujan Assistant Professor	P V Vivek Kumar Hithesh Kumar K.A K Yadukrishnan Melvin Manuval Alestin Chummar	Gesture - controlled Augmentative and Alternative Communication Device	Government Engineering College Kozhikode	5000	10,000		2000		17,000	ECE
11	Dr. Abdu Rahman V Assistant Professor	Megha T P Reshma N Merin Thresia T Shilpa Unni	IoT based public vehicle tracking system	Government Engineering College Kozhikode	5000	7000		1000 (Expenses for fabrication of the prototype-1000)		14,000	ECE
12	Jinu Jayachandran Assistant Professor	Aslam E K Asif Sartaj Mohammed Adil Ashraf Mohammed rameesh CV	Smart Class room	GEC Wayanad		6500	500	500		7500	ECE



13	Prof. Anas.M Assistant Professor	Arya Suresh Nithu Raveendran Jesin Vengilatt	Underwater Drone	Government Engineering College Wayanad	4000	20,000	2500	2500	29,000	ECE
14	Dr. Aji Joy Professor	Muhammed Shahid.K Ijaz E Ephraim Mathai	Design of a swarm of drones for courier service.	Mar Athanasius College of Engineering, Kothamangalam.	5000	18,000	2500	2500	25,500	ECE
15	Geethu James Assistant Professor	Akshay Johnson C.Amrutha Jerin George	Landslide detection and warning system	Mar Athanasius College of Engineering Kothamangalam	5000	25,000	2000	2000	34,000	EEE
16	Ninu Joy Professor	Munna.Mani Abhishek Mohan Adwaith S	Performance analysis of a complete EV powertrain using a microcontroller and Matlab simulink	Mar Athanasius College of Engineering Kothamangalam	1000	18,000	1000	1000	21,000	EEE
17	Dr. Elizabeth Isaac Assistant Professor	Alfiya Subair Anto Jose Anju C.A Jesvin Varghese Labeeb E.V	Wearable hand device for sign language prediction and audio output	Mar Athanasius College of Engineering, Kothamangalam.	500	20,000			20,500	CSE
18	Mohamed Shahid P. A Assistant Professor	Sreekanth M. Midhun Murali Abhinand A. Nandu Mohan	DESIGN OF A 2 DOFS DRIVING MECHANISM FOR A MOTION ASSISTED FINGER EXOSKELETON	TKM College of Engineering, Kollam	10,000		5000	15,000	30,000	MECH
19	Jyothis R Assistant Professor	Vishnu B Vinod Abel S Varghese Diwya T P Akshay Kannan	Robotic Doctor	TKM College of Engineering, Kollam	5000	25,000		3000	33,000	ECE
20	Shafi M N Assistant Professor	Vipin Krishna V Krishnanunni.S Rajasree.S Fathima.A	Multipurpose Hybrid VTOL UAVs	TKM College of Engineering, Kollam	2000	30,000			32,000	ECE
21	Dr. Nissan Kunju Assistant Professor	Agilezuevy K.R Shravana A.J Shahina S Devavriya J.	Design and Implementation of a cost- effective portable Electrical neuromuscular Stimulator.	TKM College of Engineering, Kollam	2500	4500		500	7500	ECE
22	Prof. Amina N Assistant Professor	Anagha M Das Akhilia Raveendran Mohammed Jaris J Neethu.K	IoT empowered smart farming	TKM College of Engineering, Kollam-		6000		1000	7000	ECE
23	Dr. Mathew P Abraham Assistant Professor	Bharat Vinod Binitha Merlin Philip Emil Roy Navami Diljee	Design and Development of inverted Pendulum Balancing Drone	TKM College of Engineering, Karicode	1000	40,000	1000	2500	44,500	EEE
24	Dr. Mohammed Mansoor O Assistant Professor	Anandu Ajayan Ajay Babu Anilbabu Athul Krishnan Nevin Binu	Low Cost Electronically Commutated Mixer Grinder	TKM College of Engineering, Karicode	3000	32,000	2000	3000	40,000	EEE
25	Dr. Priya K. L Assistant Professor	Gayathri H Gowtham Mohan Gopika Sankar M S Sreelekshmi S	Tidal and physico-chemical effects on the distribution of chlorophyll-a in the Ashtamudi estuary, India and Chikugo estuary, Japan	TKM College of Engineering Kollam	10,000	25,000	10,000	5,000	50,000	CIVIL
26	Dr. Priya K. L Assistant Professor	Abhijith R Nair Abhinand A S Viknesh C R Vishnu.Rai	A coupled RSGIS-Fuzzy Logic Model for Evaluation of Eutrophication Status of Freshwater Lakes	TKM College of Engineering Kollam	10,000	30,000	5000	5000	50,000	CIVIL



27	Femina A Associate Professor	Ansi AS Devipriya Mudiylil Hina Mol Yadu Krishnan V	Removal of Heavy Metal from Water using Agro-waste	TKM College of Engineering, Kollam.	3000	10,000	1000	1000 (10,000/- for analysis)	25,000	CHEMICA L/BIOTEC H
28	Dr.Habeeb Muhammed MA Assistant Professor	Anitha Jose Joseph Martin Parvathy Santhosh Bhadran Vishnu Sabadev	Fabrication of NIR luminescent gols nanocluster NIR Plasmonic Copper Sulphide nanoparticle hybrid for bioapplications	TKM College of Engineering Kollam	10,000	33,000	2000	5000	50,000	CHEMICA L/BIOTEC H
29	Prof. Nikhil Binoy C Associate Professor	Sreeja Baijali Vismaya K Jinsha C	Detection of Pipeline Crack and Clog detection Robot using Convolutional Neural Network.	NSS College of Engineering NSS Nagar, Akathethara, Palakkad.	2000	5000		500	7500	ECE
30	KEERTHI KRISHNAN K Assistant Professor	Abhishek.A Govind Vijayan Vishnu Nisimi PT	Smart Assistance Glove with Gesture Recognition.	NSS College of Engineering NSS Nagar, Akathethara, Palakkad	2500	3500		1500	7500	ECE
31	Dr.MayaMohan AssociateProfessorand Head	AmalRosh Anoloseph Vyshnav Prasanth SouravMenon	Intrusion Detection in Home IoT Network Using Deep Learning.	NSS College of Engineering NSS Nagar, Akathethara, Palakkad,	3400	13,800		1500	18,700	CSE
32	Soja Salim Professor Assistant	S Aravind P Lakshmi Sara Sulthana Shaili	Satellite Imagery to map translation	SCT College of Engineering, Pappanamcode				5000	5000	CSE
33	Dr. Soniya B Professor	Sukanya M V Arun T Jose Aarcha J R	Multimodal FakeNews Detection using hybrid RNN-CNN approach	SCT College of Engineering. Pappanamcode		50000 (for purchase of GPU)			50,000	CSE
34	Biju Jacob Assistant Professor	Albin L Vinod Aswathy p Chandran Manya Madhu.B Naveen Antony Devi Krishna	Comparative Study of Methods for restoration of biological soil crust in ecosystems disturbed by excessive surface runoff	Sree Chitra Thirunal College of Engineering Pappanamcode	10,000	30,000	2000	5000	47,000	CHEMICA L/BIOTEC H
35	Smt Gayathri V Assistant Professor	Diya Sharma Jeswin Elizabeth James Navaneeth Subash	Comparative Study of biohydrogen Production in Microalgae and bacteria through fermentation process	Sree Chitra Thirunal College of Engineering Pappanamcode	10,000	30,000	2000	5000	47,000	CHEMICA L/BIOTEC H
36	Biju Jacob Assistant Professor	Anslet Mary Abhinav Anil Anupama SS V Reshmi	Analysis and Optimisation of Process Parametres for Improving the Self Healing Capacity of Immobilized Bacteria Based Concrete	Sree Chitra Thirunal College of Engineering Pappanamcode	9960	29,000	2000	5000	45,960	CHEMICA L/BIOTEC H
37	Venkitaraj K P Assistant Professor	Aneesh A Arun B Aswathy Elizabeth Jacob Aswathy Ramesh	Thermal Management of Photovoltaic Cell using PCM FOR Improved Efficiency and Power Output	College of Engineering Adoor	10,000	33,000	2000	5000	50,000	MECH
38	Deebu U S Professor Assistant	Amanand R Bhatt Ananthu Krishnan Arjun C O Shifas Sibaiban	Smart door system with COVID-19 risk factor evaluation, contactless data acquisition and sanitization.	College of Engineering, Adoor	2000	12,000		2000	16,000	ECE



39	V. Praseeda Lekshmi Professor	Keerthi Nair Sangeetha.B Aditya Anoop Harikrishnan G	Traffic Surveillance System and Criminal detection using Image Processing and deep Learning	College of Engineering Perumon	5000	15,000		1000		21,000	ECE
40	Archa A.B Assistant Professor	Anagha Iyotish Fathima.M Gayathry.S Sangeetha Santhosh	Foresight for visually impaired people	College of Engineering Perumon	4000	8000		1000		13,000	ECE
41	Saritha M Assistant Professor	Vivek VS Sabari S Asan John Britto Karthik S	Water Cleaning Vacuum Pump and Quality	College of Engineering Perumon	5000	15,000	2000	2000		24,000	EEE
42	Rajesh.MS Assistant Professor	Sanjith.S Nimmy John Gowri Menon B Abhijith	Automatic Floor Cleaning Sanitizing Robot	College of Engineering Chengannur	5000	7500		1500		14,000	ECE
43	Dr. Sarah Jacob Associate Professor	Vishal B Nayana Girish Shamnad S	Pill Dispenser	College of Engineering Chengannur	5000	10,000		2500		17,500	ECE
44	Deepa J Professor	Abhishek P B Adithya Anil Anjali Balakrishnan Athena Anna Sabu	Wild Elephant Intrusion Detection System using Image Processing Techniques	College of Engineering Chengannur	2500	8000	1000	1000		12,500	ECE
45	Sherin Joseph Assistant Professor	Adithya Ahalya A Kumar Amrutha Mohan Shravan Sa	Smart cap for visually impaired	College of Engineering Chengannur	1000	11,000	1000	2000 (Rs. 1000/- for Research literature)		16,000	EEE
46	Rakesh R J Assistant Professor	Ajith Krishna S A Bona Das Vijaya Lekshmi M V Gokul Krishna V S	Smart Aqaaponics System	College of Engineering Mutta thara	600	8980		4500		14,080	CSE
47	Joby James Professor	Abhijith S Syam Saseendran	Detecting buried human bodies using ground penetrating radar in FPGA.	College of Engineering, Kidangoor	2500	4500		1000		8000	ECE
48	ASWATHY N PROFESSOR	AISHA MEHRIN K I ASWANI M RAVI AUSHINI JOSE MANJOORAN FARHAN NAJEEB FINTO SHAJAN	MED-MATE	Adishankara Institute of Engineering and Technology ASI	5000	6000		1000		12,000	ECE



49	Abi Varghese Assistant Professor	Abhishek Prasad Albin Alex Uzhuwathu Ananthu Ramesh Ansan P Sam	Ergonomic modification and bio-mechanical analysis of the rubber tapping knife (michie gollodege knife) for improving body posture of rubber tapper.	Amal Jyothi College of Engineering, Kanjirappally	10,000	25,000	2500	5000	42,500	MECH
50	Abubeker K M Professor K.G Sathesh Kumar Professor and HoD	Abey Joshy Arunima Tressa George G Gopika	Hardware and Open Source Software Deployment for Real-Time Monitoring of Hypoglycemia and Hypoglycemia Using Non-Invasive Biosensors and Machine Learning approaches.	Amal Jyothi College of Engineering Kanjirappally	5000	15,000		2000	22,000	ECE
51	Dr. S. N. Kumar Professor	Alen J James Andrew Dixen Naamah Susan Saji Riva Thomas	Portable Embedded System for Stress measurement- An aid for Human Health Care	Amal Jyothi College of Engineering Kanjirappally, Kottavam	1000	6000	1000	2000	10,000	EEE
52	Dr. Nimi Ann Vincent Assistant Professor Colnvestigator Anaswara S Assistant Professor	Neethu S Jomol Mariam Joseph Thomas P Joseph Roja S Emmanuel	A preliminary experimental study of mitigating coastal sand dune erosion by microbially induced carbonate precipitation (micp) using laboratory microcosm.	Amal Jyothi College of Engineering Kanjirappally	6000	15,000	4000	3000	28,000	CIVIL
53	Dr. Vishnu.M Assistant Professor	Digin Tense Jubin Biju Thomas Sreelakshmi NV Sruthy Jayasankar	Biodegradable Chitosan-Based Film for Food packaging	Amal Jyothi College of Engineering Kanjirappally	5000	15,000	2000	5000	27,000	CHEMICAL/BIOTECH H
54	Dr. Vishnu.M Assistant Professor	Thomas J Kallapurakel Jithin Jacob	Microbial Oil from Wastewater	Amal Jyothi College of Engineering Kanjirappally	7000	15,000	2000	2000	26,000	CHEMICAL/BIOTECH H
55	Dr. Biju C V Professor	Jobin C J Edwin Anto Amal Paulson Mariya Shobby	Development and testing of resonance free mechanical structures for enhanced stability in dynamic conditions	Jyothi Engineering College Thrissur	10,000	20,000	5000	10,000	45,000	MECH
56	Arun J S Assistant Professor	Miladh Muhammed S Vishnu P Kumar Joshin Samuel	ROS based autonomous hospital assistant robot	Mar Baselios College of Engineering and Technology, Trivandrum,	3500	20,000		2500	26,000	ECE
57	Dr. M J Jayashree Professor	Aswin Nandu A C Harikrishna Sharma Gokul G S Tushar Kumar	Gesture controlled stair climbing wheelchair	Mar Baselios College of Engineering and Technology, Trivandrum,	4000	20,000		2000	26,000	ECE
58	Dr. Jayakumar J Professor	Jobin J, Mr. Rohith M, Mr.Visakh Neelakantan	Development of IOT based energy autonomous parking sensor device	Mar Baselios College of Engineering and Technology, Trivandrum,	3000	10,000		2000	15,000	ECE
59	Sherin Mathew Assistant Professor	Abhiram S Madhu Anakha S Karthik Santhosh Sifa, Balsa S.H	Blind spot detectors at A- Pillars for Road Safety	Mar Baselios College of Engineering and Technology	2000	4250	1000	1000	8,250	CIVIL



60	Dr. M Satyakumar Professor	Bijin S Russel Merlin P K Sandra A L Visakh S R	Two wheeler curve detection and pollution warning systems	Mar Baselios College of Engineering and Technology	2600	4000	1300	1300	9,200	CIVIL
61	Sreeja S R Assistant Professor	Aparna LS Chelsia Eapen Muthulakshmi S Paliyath S Aju	Surround Perception and Audio Directing Device	Mar Baselios College of Engineering and Technology, Trivandrum,	7000	18,750			25,750	CSE
62	Subha P S Professor	Abhyshk R Srutyhy Selvan Pereira Alka Gilbert Sabarish	Braille printer	Marian Engineering College	5000		1000	2500	8500	ECE
63	Soorya SR Professor	Abdul Fayad Mohammed Yafi Shalima RS Ahmad Shiras Pooja Ajin	AUTOMATED WASTE SEGRAGATOR	Marian Engineering College Trivandrum	6500		2000	1500	20,000	CIVIL
64	Kannan K Assistant Professor	Aarcha MS Adarsh S Nair Ijas Ahamed Neha Felix	Effect of Geocell Reinforcement on Lateritic soils with Underground Void	Marian Engineering College Trivandrum	1200		4000	3000	46,300	CIVIL
65	Dr. Rittin Abraham Kurien Assistant Professor	Ashwin Santhosh Daniel Paul Gowrisankar B Kurup Greshma Susan Reji	Finite Element Analysis and Experimental Investigations on Natural Fiber Composites from Vetiver and Jute for Sustainable, Eco- friendly and Commercial Applications: Development, Mechanical and Morphological Property Estimation.	Saintgits College of Engineering	9950	25,000	4950	4970	44,870	MECH
66	Anu Raj Assistant Professor	Anju Sosa John Greshma Thomas Sona Susan Zacharia	IoT based real time air & noise pollution alert system for asthma and angina patients.	Saintgits College of Engineering Kottayam	2000	7500		500	10,000	ECE
67	Harinarayanan Namboothiri M G Assistant Professor	Arjun K S Abijith Arun Anpin Mary John Kevin Kallikkunnil Varghese	Isolation Robot (ISO-BOT) for patient health care.	Saintgits College of Engineering Kottayam	5000	10,000		1000	16,000	ECE
68	Dr. N. Mahendran HOD	Abrar Ahmad Mallah Jerlin P Varghese Joenty Jose Matthew Philipo	Hybrid Outdoor Lighting System using Gravitational Force	Saintgits College of Engineering Kottayam	1500	1750	1000	1000	5250	EEE



69	Dr. Rajesh Baby Professor	Associate	Bilbin Mathew Paul Varghese Alan Philip Rajan	Development of an automatic height adjusting pillow to relieve chronic neck pain. (cervicalgia).	St. Joseph's College of Engineering and Technology Palai.	10,000	25,000	5000	5000	45,000	MECH
70	Ivin Jose Assistant Professor		Timothy Benny Akhil Krishnan Genesis J Cheruvallil Benjamin Tomv	Tool design and fabrication of hybrid electro discharge grinding setup for microchannels	St. Joseph's College of Engineering and Technology Palai.	10,000	25,000	10,000	5000	50,000	MECH
71	Dr. Madhukumar S Professor		Prince Jose Vijay Varghese Amal Varghese	Borewell rescue robot	St. Joseph's College of Engineering & Technology Palai	5000	15,000	1500		21,500	ECE
72	Anto Manuel Professor	Assistant	Jubin Thomas Adithya Sunil, Ben Alphin Binny, Jobin Benny Roshan Raieev	An Intelligent Device To Predict Cloud Burst	St. Joseph's College of Engineering and Technology Palai.	5000	15,000	1500		21,500	ECE
73	Dr. Praseetha V M Associate Professor		Anjana V M Tinu Sam Mariam Shaji Tressa Mary Joseph	Gesture based device controlling system	St. Joseph's College of Engineering and Technology Palai.	3000	11,500	1800		16,300	CSE
74	Dr. Georgina Binoy Joseph Associate Professor		Akshara Sajeewan Ann Mary Abraham Aswathy Meria Peter Honeyamol M Jose	SMART MIRROR	Toc H Institute of Science and Technology	2000	10,000	1500		13,500	ECE
75	Girish.P Assistant Professor		Anagha Biju Betty George KP Manjulika Sneha Baby.KX	ACQ-LERT SYSTEM	Toc H Institute of Science and Technology	2000	8000	1500		11,500	ECE
76	Dr. Rosebell Paul Professor	Asst.	Neeraj M Neeraj Sagar Vaibhav Nair Yadukrishnan.PS	An AI Based Swarm Wheel for system to detect Cracks in Railway Tracks.	SCMS School of Engineering and Technology, Ernakulam, Karukuttu	8260	36,000	4,000		48,260	CSE
77	Harish T M Assistant Professor		Nandu Krishnan A U Nasrath Navas Sreekanth K.A	Development and fabrication of AI 7075 composite reinforced with industrial waste and clay	Federal Institute of Science and Technology, Ernakulam	10,000	10,000	5000	20,000	45,000	MECH
78	Manu Mohan C M Assistant Professor		Joseph Paul Linto Thomas Rajeev K	Sign language to speech converter using machine design	Federal Institute of Science and Technology, Ernakulam	3500	10,000	500	2500	16,500	ECE
79	Sreevidya P Assistant Professor		Gokul Rejithkumar Godson Thomas	Integrated communication system for deaf and mute	Federal Institute of Science and Technology, Ernakulam	3000	10,000	1000		14,000	ECE
80	S.Sundararajan Professor	Assistant	Bilal Ibrahim P A Rajeeva R Shajan	Fruits adulteration detection system	Federal Institute of Science and Technology, Ernakulam	1500	5000	1000		7500	ECE
81	Panjami K Assistant Professor		Aleena Garvasis Apsara S Baiju Gayathri S Kumar Gokul S	Study on Effectiveness of Mobile sensors in detecting subsurface cavities- A step towards early detection of cavities at Kerala	Federal Institute of Science and Technology, Ernakulam	10,000		35,000	5000	50,000	CIVIL



82	Dr. Trijo Tharayil Professor	Associate	Akhil A R Akhil Kumar K S Akhil Sanikar Aswin Yesodharan	Thermal management of batteries in electric vehicles using pulsating heat pipe	Sree Buddha College of Engineering, Pattoor	10,000	25,000	5000	5000	5000	45,000	MECH
83	SHAMNAMOL G K Professor	Asst. Professor	Ms. Sruthi J Nair Ms. Sredha J Nair	Bio-Synthesize of Zinc oxide Nanoparticles Using Banana Empty Fruit Bunch Extract for Corrosion Mitigation	Sree Buddha College of Engineering, Pattoor,	4630	7,433	5000	3000	5000	20,063	CHEMICAL/BIOTEC H
84	Dr. Shalini A Nair Associate Professor		Adithya.CV	Biosensing of stress Biomarkers	Mohandas College of Engineering and Technology	5000	10,000	3000	1000	3000	19,000	CHEMICAL/BIOTEC H
85	Vipin Vijayan Assistant Professor		GREGORY JAMES ABHINAV SYAM NANDU V NATARAJ PREJITH KUMAR P V	Value addition of banana pseudostem and fish scales in developing novel biocomposite for bone tissue engineered scaffold applications.	Muthoot Institute of Technology and Science, Ernakulam	9,950		4800		5000	19,750	MECH
86	Dr. Shoba Gopalakrishnan Associate Professor		Sreeram M Aleena Sara Varghese Sindhoora Harsha Daniel	Anti-drone Detection System.	Muthoot Institute of Technology & Science, Varikoli P.O., Ernakulam (MUT)	2000	5000	1000			8000	ECE
87	Dr. Chikku Abraham Vice Principal & Professor		Basil Saju Jones Mathew Cleetus Leo Benn Dominic Midhun Raj M	Investigation of a Novel Totem Pole Converter Using WBG Devices for On Board EV Chargers	Muthoot Institute of Technology and Science, Varikoli P.O	10,000	26,000	4000	1000	1000	41,000	EEE
88	VenugopalanKurupath Associate Professor		Fadil Farooq Meenakshi S Riya Vinod Shabana.M.B	Development of Low Cost User Friendly Audiometric System	Muthoot Institute of Technology & Science Kochi-	5000	10,000	3000	1000	3000	19,000	EEE
89	Dr Mary Lissy P N Associate Professor		Adithyan P S, Shefil C, S Afeeqe, Thazneem A Saleem	Residential W energy system	Muthoot Institute of Technology & Science, Varikoli, Puthencruz-682308. College code: MUT	2750	9250	2000	2000	2000	16,000	CIVIL
90	Nesihath MK Professor	Assistant Professor	Mohammed Fayis MV Kiran KM Adeeb Sameer Ahmed Ajsal UP	Smart Micro-grid Energy Management System Considering Vehicle to Grid Technology	MES College of Engineering Malappuram, MES	1000	18,000	1000	1000	1000	21,000	EEE

Dean Research



Annexure II

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Terms & Conditions for Financial Assistance to Student Projects

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

Title of Project

Signature of Principal Investigator:

Name:

Office address:



Microsoft AI for Earth Grant Decision ID:00138000733

AI for Earth Grant Support <ai4ehelp@microsoft.com>
To: Sabarinath G <sabaripillai@gmail.com>

13 October 2021 at 07:03



Dear Sabarinath G,

Congratulations, and welcome to the AI for Earth community! We are excited to share that your application for the project titled "Identification and classification of disease/pest infestations/Nutrient deficiency in the South Indian Agricultural belt Using Artificial Intelligence" has been selected for an AI for Earth Microsoft Azure Compute Grant. Through this award, you will receive a sponsored Microsoft Azure account. We are granting you credits for Azure consumption up to \$15000 USD, to be utilized within one year.

By accepting this award, you agree to the following terms:

- You will use Microsoft Azure credits awarded through this program only towards the project described in the application form.
- Microsoft will add you and your team members to resources including the AI for Earth grantee community website, AI for Earth grantee Microsoft Teams group, and digital events.
- You will submit a mid-term report and a final report according to AI for Earth guidelines.
- Microsoft may contact you and use materials that you submit for public communications.

Please accept this grant within one week of receiving this email by clicking "Accept Your Grant" on your [grant portal](#) home page. We will respond when you accept with next steps to access the onboarding webinar, sponsored Azure credits, and education resources.

Warmly,

[Bonnie Lei](#)
AI for Earth Grants Manager

Microsoft respects your privacy. Review our online [Privacy Statement](#)
Microsoft Corporation
One Microsoft Way

&nbsp;

Redmond, WA, USA 98052



UTILIZATION CERTIFICATE

Certified that out of USD 15000/- worth of Microsoft Azure usage sanctioned by Microsoft AI for Earth Azure Compute Grant towards financial assistance/funding for the project titled “Identification and classification of disease/pest infestations/Nutrient deficiency in the South Indian Agricultural belt Using Artificial Intelligence” (Letter No.: Microsoft AI for Earth Grant Decision ID:00138000733) the usage time was utilized for the purpose for which it was sanctioned, leaving a nil balance at end of 30th November 2022 for utilization in future.

SABARINATH G.
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



ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

Nelson Mandela Marg, Vasant Kunj,
New Delhi-110070

RPS - Sanction Letter

File No. 8-169/FDC/RPS(Rural)/POLICY-1/2021-22

Date: _____

27 JAN 2022

The Drawing and Disbursing Officer

All India Council for Technical Education
Nelson Mandela Marg,
Vasant Kunj, New Delhi-110070,

Sub: Release of a sum of Rs. 1225000/- being the 1st installment of the total grant of Rs. 1400000/- for conduct of Project under Research Promotion Scheme (RPS) during the financial year 2021-22.

Sir,

With reference to the proposal submitted by the institute, this is to convey the sanction of the Council for payment of **Rs. 1225000/- (Rupees Twelve Lakh TwentyFive Thousand Only)** as 1st installment out of a total approved grant-in-aid of **Rs. 1400000/-** for conduct of a Project under the Research Promotion Scheme (RPS), as per details given below:-

I.	Name and address of the Beneficiary Institution (University / College / Institution)	: Registrar / Director / Principal, ST. JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY, PALAI, CHOONDACHERRY P.O., PLASSANAL VIA, KOTTAYAM DIST.-686579, KERALA
II.	Principal Investigator's Name & Dept./Course	: Dr. LIJO PAUL (MECHANICAL ENGINEERING)
III.	Co-Principal Investigator's Name & Dept.	: JILSE SEBASTIAN (MECHANICAL ENGINEERING)
IV.	Grant-in-aid Sanctioned	: Rs. 1400000/- (Rs.1050000/- for non-recurring and Rs.350000/- for recurring expenditure)
V.	Amount to be Released during the year 2021-22 (as 1 st installment)	: Rs. 1225000/- (Rs. 1050000/- Full amount of non-recurring & Rs.175000/- recurring i.e. 50 % of total sanctioned recurring grant)
VI.	Project Duration	: 3 Years
VII.	Title of the Project	: Design and Development of patient specific Biomedical devices using SLA Additive manufacturing with Bio plastics.

I. Release of funds:

- The amount of the grant shall be drawn by the Drawing and Disbursing Officer (DDO), All India Council for Technical Education, New Delhi on the Grants-in-aid bill and shall be disbursed to and credited to the account of **ST. JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY, PALAI, CHOONDACHERRY P.O., PLASSANAL VIA, KOTTAYAM DIST.-686579, KERALA** through PFMS.
- The sanctioned grant-in-aid is debit to the **Major Head "601.12.a (RPS Plan)" Gen.** and is valid for payment during the financial year 2021-22.
- The sanction issues in exercise of the powers delegated to the Council. It is also certified that grant-in-aid is being released in conformity with the rules and principles of the Scheme.
- The grant-in-aid is being released in conformity with the Terms & Conditions as well as norms of the scheme as already communicated and also being communicated in this letter.

II. Maintenance of account by the Institute/PI:

- Funds covered by this grant shall be kept separately and would not be mixed up with other funds so as to know the amount of interest accrued on the grant.
- The grant is intended to cover items of expenditure/equipment approved by AICTE.
- Acknowledgement of receipt of grant and letter of acceptance of terms and conditions is to be submitted to AICTE **within 15 days** from the receipt of the grant to the following address:

Director (Faculty Development Cell), AICTE, Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

4. The accounts of the grantee will be opened for test check by the Council or Comptroller & Auditor General of India or by any officer designated by them.
5. The Principal and PI of the institute are requested to verify the correctness of the undermentioned bank account/RTGS/PFMS details submitted by them alongwith the Proposal, in which the grant is being released. In case of any omission, the same should be reported to AICTE immediately along with refund of entire grant: -

Institute Pan No.	Bank Name	Bank Branch	Bank Add.	Branch	Account Holder Name	Account Type	Account Number	IFSC Code
AAATD3 774G	THE SOUTH INDIAN BANK LTD.	CHOOND ACHERRY	Choondacherry P.O., Kottayam, Kerala-686579		ST. JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY, PALAI	Saving Account	0708053000000013	SIBL0000708

6. The grantee institution shall observe all financial norms and guidelines as prescribed by the AICTE/Government of India from time to time. Grantee institution must follow GFR guidelines in procuring the sanctioned items and maintain an audited record of assets acquired wholly or substantially out of the grant-in-aid and a register for assets shall be maintained by the Institute in the prescribed form i.e. GFR-19.
7. **Interest accrued on the sanctioned grant-in-aid will be reported and refunded to AICTE and not adjusted against the subsequent installment.**

III. General Instructions:

1. It should be ensured that no RPS project in favour of the same P.I. has been sanctioned during the last 03 years before utilizing this amount and the matter be brought to the notice of this Council immediately in case a faculty is sanctioned multiple RPS Projects.
2. The duration of Project is 03 years and the **date of release of the grant by AICTE shall be taken as the date of commencement of the project.** The Registrar/Director/Principal shall intimate about the receipt of the grant to AICTE. Any Expenditure, incurred prior to issuance of this Sanction Order, would not allowed to be adjusted in the grant and if the University/Institution do not take-up the project work **within 6 months** of the receipt of the grant, approval shall *ipso facto* lapse **and the Institute has to necessarily refund the entire grant to AICTE along with interest within a month. In case the grant is not refunded within said duration 18% interest will be levied on it.** The grant has to be refunded to AICTE, through RTGS as per details given below:

Account Number	55113199952
Name of the Account Holder	Member Secretary, AICTE, New Delhi
Bank Name	State Bank of India
Branch Name	Shashtri Bhawan, New Delhi
IFSC Code	SBIN0050203

3. The Institute may constitute a Project Monitoring Committee (PMC). The composition of the PMC shall be as under:
- Principal/Director of the institution (Chairperson)
 - Two HODs from institute (Members)
 - In case of private institute one subject expert from government institute, not below the rank of Associate Professor (Member)
 - Coordinator of the project (Member Secretary)
4. The grant shall be utilized strictly for the purpose as specified in the sanction letter. Re-appropriation of funds from one Head to another is strictly not permitted viz. Recurring and non-recurring Heads. Further, the equipment(s)/item(s) purchased should be as per the specifications and individual item-wise costs sanctioned by AICTE, and not taking the total grant sanctioned as one entity. Item-wise purchase cost shall be matched with the sanctioned cost, and the cost of item purchased below the sanction cost shall be restricted as actual cost. If the item purchase cost is higher than its sanctioned cost, the cost shall be restricted to the sanctioned cost and the additional amount shall be met by the Institute from its own resources.
5. Similarly, the recurring grant can be used for the items (non-recurring) sanctioned by the AICTE. No money be used for going abroad to attend Conference / seminars. However, for presenting a Paper in a Seminar / Conference **within the country**, the travel expenses may be met from the recurring grant.

:: 3 ::

6. No request for additional grant over and above the sanctioned grant shall be considered by the AICTE. The additional amount, if any, expended beyond the sanctioned grant shall be met by the Institute from its own resources.
7. The institute/University shall not charge any overheads on this Project and will provide all the administrative support **and timely release of grant to PI** for completion of the Project.
8. The grantee shall utilize grants only on approved items as per list of equipment attached. However, if the grantee wishes to recast the Project, approval of Council must be obtained for the revised item of expenditure and they will maintain proper accounts of the expenditure as per the norms/procedures of AICTE/Government of India. **The revised proposal should be within the total grant sanctioned and duly supported with reasons and recommendations of the Project Monitoring Committee (PMC).**
9. The assets acquired wholly or substantially out of All India Council for Technical Education's grant shall not be disposed or encumbered or utilized for the purpose other than those for which the Grant was given without proper sanction of the All India Council for Technical Education.
10. Each project sanctioned by AICTE is assigned a specific Reference Number, which is given on pre-page. All correspondence address to AICTE regarding the project must quote this number alongwith year of sanction of the project, otherwise correspondence may not be entertained.
11. The grantee shall follow the terms and conditions of Research Promotion Scheme (RPS) as laid down by the Council from time to time.

IV. Submission of documents by the institute/PI to AICTE:

A. Documents to be submitted within one month of completion of each financial year:

- i. Annual Progress Report, indicating therein the number of patents, publications or any other achievement.
- ii. Utilization Certificate, Audited Utilization Certificate, Receipt & Payments, Statement of Expenditure.
- iii. Audited record of assets acquired wholly or substantially out of the grant-in-aid and a register for assets in the prescribed form i.e. GFR-19.
- iv. Separate Bills/vouchers related to Non-recurring and recurring expenditures duly signed & stamped by the PI & Head of the institution.
- v. Stock entry register duly verified by the Store-in-charge and PI & counter signed by Head of institution.

B. Documents to be submitted within two month of completion of the Project:

- i. The consolidated Utilization Certificate (UC) and Receipt & Payment Account for the Project duration, duly audited.
- ii. Consolidated audited statement of expenditure, to the effect that the grant has been utilized for the purpose for which it has been sanctioned. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council.
- iii. Project Completion Report duly signed & stamped by the PI & Head of the institution and Project Evaluation Committee (PEC) Members.
- iv. Principal Investigator/institute to submit the Feed Back Form in AICTE format.
- v. The prescribed formats for submission of necessary mandatory documents and Terms & Conditions may please be downloaded from www.aicte-india.org/schemes/research-innovations-development-schemes.

Note: Any deviation from the above said time schedule will cause serious action against the institute.

V. Approved List of Items under Non-recurring grant:

S. No.	Approved Items (As per proposal)	No. of Units	Amount recommended (in Rs.)
A.	Non-recurring		
i)	3D CAD	24	Rs.1050000/-
ii)	3D Printer Slicer Software	2	
iii)	3D Printer Slicer Software	3	
iv)	Autoclave	1	
v)	Centrifuge mahine with Centrifuge tubes	1	
vi)	Curing Station	1	
vii)	Laboratory Incubator	1	
viii)	Laminar Air Flow (LAF) work station	1	
ix)	Materialise Mimics	1	
x)	Micro pippet	1	
xi)	Orbital Shaker	1	
xii)	Refrigerator	1	
xiii)	SLA 3D Printer	1	
xiv)	SLA Resin	10	
xv)	Ultrasonic Bath	1	
xvi)	stl smoothing software	36	
B.	Recurring i.e. 50% of total approved recurring grant) for Contingencies & Consumables only		Rs.175000/-
	Grand Total (A) + (B)		Rs.1225000/-

Copy forwarded for information and necessary action to:

1. REGISTRAR / DIRECTOR / PRINCIPAL,

ST. JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY,
PALAI, CHOONDACHERRY P.O., PLASSANAL
VIA, KOTTAYAM DIST.-686579, KERALA

2. NAME OF PRINCIPAL INVESTIGATOR,

Dr. LIJO PAUL, (MECHANICAL ENGINEERING)
ST. JOSEPH'S COLLEGE OF ENGINEERING & TECHNOLOGY, PALAI,
CHOONDACHERRY P.O., PLASSANAL VIA,
KOTTAYAM DIST.-686579, KERALA

3. OFFICE OF DIRECTOR GENERAL OF AUDIT

GENERAL REVENUES, AGCR BUILDING
I.P. ESTATE, NEW DELHI-110002.

4. GUARD FILE

(Col. B. Venkat)
Director (FDC)

UTILIZATION CERTIFICATE
First year (11-02-2022 to 31-03-2023)

Sanction Letter No. File.No.8-169/FDC/RPS(Rural)/POLICY-1/2021-22 Date: 27-01-2022

A. NON-RECURRING

Sl. No.	Name of the Equipment Procured	Amount Sanctioned	Amount Utilized (Item wise)	Unspent Balance
1	Centrifuge machine	10,50,000	37780	
2	SLA Machine (50% of payment)		341900	
				6,70,320.00

B. RECURRING

Sl. No.	Name of the Expenses	Amount Sanctioned	Amount Utilized	Unspent Balance
1	Carbon nano tubes (MWCNT)	350000	3351	
2	Paper news charges for tender notification of SLA Machine		8930	
3	Bank charges		33.04	337685.90

NB: Initial amount of Rs.1,75,000 only is received from AICTE from the sanctioned amount of Rs.3,50,000.00

Certified that the grant has been utilized for the purpose for which it was sanctioned in accordance with the "Terms and Conditions" attached to the grant. If, as a result of check or audit objection some irregularity is noticed at a later stage, action will be taken to refund, adjust or regularize the amount objected to.

[Signature]
Finance Officer
 St. Joseph's College of Engineering
 and Technology, Palai,
 Kottayam, PIN:686 579

Finance Officer
 Seal)

 Registrar /Principal/ Director(Signature &
 (Signature & Seal)

Dated: 27-06-23

DR. V.P. DEVASSIA
 Name and Address of the
 University/Institution
St. Joseph's College of Eng. & Technology
Palai, Kerala - 686 579

Note: The Utilization Certificate (UC) will be signed by the Registrar/ Finance Officer in the case of Universities, Principals in the case of Colleges and Executive Heads of other Institutions. The Provisional UC may be countersigned by the internal auditors wherever the system of the internal audit exists. In case of the Self Financing/ Private Institutions, UC has to be signed by a Chartered Accountant.

* This is to be submitted every financial year.