

**ANNUAL REPORT  
&  
ANNUAL ACCOUNTS  
2019-2020**



**National Institute of Technology Calicut**  
**Kerala, India**  
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**ANNUAL REPORT**  
**2019-2020**

**AUDIT CERTIFICATE  
AND  
AUDIT REPORT  
2019-2020**

**ANNUAL ACCOUNTS**  
**2019-2020**

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## **1.0 INTRODUCTION**

### **1.1 MISSION STATEMENT**

To develop high quality technical education and personnel with a sound footing on basic engineering principles, technical and managerial skills, innovative research capabilities and exemplary professional conduct to lead and to use technology for the progress of mankind, adapting themselves to changing technological environment with the highest ethical values as the inner strength.

### **1.2 VISION**

International standing of the highest calibre.

### **1.3 EDUCATION SYSTEM**

Institute offers technical education based on a state-of-the-art-curriculum. The syllabi are designed and continuously updated in consultation with the experts and with the approval of the Senate. To meet with national requirement of high quality manpower, Institute is not keeping any fixed number of the Ph.D. scholarships but proactively encourage the enrollment. All undergraduate and postgraduate programmes have been designed in line with the IIT System, giving appropriate weightages for the theory and practice.

### **1.4 NEW INITIATIVES**

From 2002 admissions onwards, the curriculum & syllabi of the various programmes offered in the institute are framed internally and vetted by experts in the relevant area. The institute senate finalizes the curriculum, syllabi, ordinances rules & regulations of various programmes. Major initiatives include the commencement of interdisciplinary and multidisciplinary programmes in cutting edge technology fronts.

## **2.0 AN OVERVIEW**

### **2.1 HISTORICAL BACKGROUND**

The National Institute of Technology Calicut (NITC), originally established in 1961 as a Regional Engineering College and got transformed to NIT on 26<sup>th</sup> June 2002, is one of the 31 similar institutions in the country. It is fully funded by the Government of India. It is an Institute of National Importance under NIT Act 2007. This Institute mentored NIT Sikkim, which is one among the 10 new NITs added in the year 2010.

### **2.2 LOCATION**

The institute is located at Chathamangalam, 22 km east of Calicut city, along the Kunnamangalam-Mukkam road and covers an area of over 120 hectares, at the foot of the Western Ghats. The Calicut Railway Station and Airport are respectively 22 km and 45 km away from the Campus.

### **2.3 CAMPUS**

The institute campus has all the essential amenities required. The library, computer centre and laboratories of the institute are well equipped. There is a campus school managed by a society formed by faculty members, a branch of State Bank of India, a Post Office, a Telephone exchange and canteens functioning within the institute campus. The institute has a Health centre to look after the medical needs of the students, employees and their families. The Institute has adequate facilities for indoor and outdoor games, recreation and co-curricular activities. There are ten hostels and 45 apartments for the boys. One hostel with four blocks with an attached recreational

centre and a mega hostel with 500 rooms are available for girls. One International hostel with twenty semi-furnished rooms is also available. The institute has a good number of staff quarters and a guest house with 20 rooms.

## 2.4 ADMINISTRATION

### 2.4.1 GOVERNANCE

Institute is governed by the NIT Act 2007 and the statutes. Board of Governors and the Senate are the authority of the Institute. Hon'ble President of India is the Visitor of the Institute. Chairperson of the Board of Governors is nominated by the Visitor.

2.4.2 Institute follows multi-tier hierarchical administrative structure, with proper delegation from top to bottom. Director appointed by the Government of India is at the helm of the affairs. Six Deans spearhead the consultative mechanism that assists the Director in administration and management. The academic units of Departments and Schools are headed by faculty and the administrative sections are headed by officers of appropriate rank.

## 2.5 ACADEMIC PROGRAMMES

The Institute imparts technical education at the degree and postgraduate levels viz., (1) Undergraduate (UG) programme of four years duration leading to B.Tech Degree, (2) UG programme of five years duration leading to B.Arch. degree, (3) Postgraduate (PG) programme of two years duration leading to M.Tech degree, (4) PG programme of two years duration leading to M.Sc degree (5) a programme of three years duration leading to the Master of Computer Applications (MCA) degree and (6) a two year MBA programme. All the programmes are offered in credit-semester pattern. In addition, Ph.D programmes in all disciplines are also offered.

### 2.6 Programmes Offered

(a) **Bachelor of Architecture (B. Arch)**

(b) **Bachelor of Technology (B. Tech) in the following disciplines:**

Biotechnology  
 Chemical Engineering  
 Civil Engineering  
 Computer Science and Engineering  
 Electronics and Communication Engineering  
 Electrical and Electronics Engineering  
 Engineering Physics  
 Mechanical Engineering  
 Production Engineering  
 Material Science and Engineering

### (c) Master of Technology (M. Tech) Programmes

<u>Department/School</u>	<u>Department/ School code</u>	<u>M. Tech Programmes</u>	<u>Programme Code</u>
<u>Civil Engineering</u>	<u>CE</u>	<u>Structural Engineering</u>	<u>CE61</u>
		<u>Traffic and Transportation Planning</u>	<u>CE62</u>
		<u>Offshore Structures</u>	<u>CE63</u>
		<u>Environmental Geotechnology</u>	<u>CE64</u>
		<u>Water Resources Engineering</u>	<u>CE65</u>
<u>Computer Science &amp; Engineering</u>	<u>CS</u>	<u>Computer Science and Engineering</u>	<u>CS61</u>
		<u>Computer Science &amp; Engineering (Information Security)</u>	<u>CS62</u>

<u>Electrical Engineering</u>	<u>EE</u>	<u>Instrumentation and Control Systems</u>	<u>EE61</u>
		<u>Power Systems</u>	<u>EE62</u>
		<u>Power Electronics</u>	<u>EE63</u>
		<u>Industrial Power and Automation</u>	<u>EE64</u>
		<u>High Voltage Engineering</u>	<u>EE65</u>
<u>Electronics and Communication Engineering</u>	<u>EC</u>	<u>Electronics Design and Technology</u>	<u>EC61</u>
		<u>Microelectronics and VLSI Design</u>	<u>EC62</u>
		<u>Telecommunication</u>	<u>EC63</u>
		<u>Signal Processing</u>	<u>EC64</u>
<u>Mechanical Engineering</u>	<u>ME</u>	<u>Industrial Engineering and Management</u>	<u>ME61</u>
		<u>Thermal Sciences</u>	<u>ME62</u>
		<u>Manufacturing Technology</u>	<u>ME63</u>
		<u>Energy Engineering and Management</u>	<u>ME64</u>
		<u>Material Science and Technology</u>	<u>ME65</u>
<u>Machine Design</u>	<u>ME66</u>		
<u>Nano Science and Technology</u>	<u>NST</u>	<u>Nanotechnology</u>	<u>NS61</u>
<u>Chemical Engineering</u>	<u>CH</u>	<u>Chemical Engineering</u>	<u>CH61</u>

**(d) Master of Science**

M.Sc. programmes are offered in the following disciplines:

1. Chemistry
2. Mathematics
3. Physics

**(f) Master of Computer Applications (MCA)**

M.C.A. Programme is offered by the Department of Computer Science and Engineering.

**(g) Master of Business Administration (MBA)**

M.B.A. Programme is offered by the School of Management Studies.

**(h) Doctor of Philosophy (Ph. D)**

Ph.D. programmes are offered by all the departments/schools.

**2.7 ADMISSION PROCEDURE**

Admission to B. Tech /B. Arch. programmes offered at NIT Calicut is made under the following categories:

<b>Sl. No.</b>	<b>Category</b>	<b>Basis of Admission</b>	<b>Sanctioned Intake</b>
1	Candidates from Kerala state (Home State Quota) †	*JEE Rank	557
2	Candidates from Other State (Other State Quota) †	*JEE Rank	555
3	Candidates from Lakshadweep & Khandvi (Home State Quota) †	*JEE Rank	33
4	Foreign Nationals \$	Marks in the Qualifying Examination	16
5	MEA Welfare Scheme #	Marks in the Qualifying Examination	06

6	Direct Admission of Students from Abroad (DASA) scheme	SAT II Score	145
		Total	1312

† Reservations as per Rules of Government of India (GoI).

\* Joint Entrance Examination (Main), conducted by the Central Board of Secondary Education (CBSE), New Delhi.

\$ Nominated by the Ministry of External Affairs (Students Cell), GoI, through Indian Council for Cultural Relations (ICCR).

# Nominated by the Ministry of External Affairs, GoI

## 2.8 STUDENTS

The Students' Affairs Council (SAC) 2019-20 was elected and constituted with 64 branch councilors and 12 executive council members. The annual techno-management festival Tathva '18 was successfully conducted in October 2019. The event witnessed an all-time high registration count of 2000 external participation. "Avishkaar" was conducted as a social initiative of Tathva '18. The annual cultural festival RAGAM 2019 was organized in January 2019. Sneharagam was organized this year also as a Pre-Ragam event, exclusively for physically challenged students of different schools of northern Kerala which witnessed excellent participation. The event marked an all-time record in terms of registration with above 2000 external participation.

### **Tathva 2019**

Tathva'19 the techfest of NITC was planned and executed solely by the students of NIT-C, attracting a footfall of 45,000 comprised mostly of students. Students from over 100 colleges from in and around Kerala graced NITC with their presence. Living up to the highest standards of technical excellence in tandem with a holistic ecological approach, the tech fest was completely paperless and hassle-free, letting participants register online and avoid pesky queues. Registrations for events workshops and lectures reached 8,000 students.

The latest iteration of Tathva, the largest tech-fest in South India, '**Tathva '19: Industry 4.0**' was a resounding success and played host to some of the most cutting-edge innovations from the world of technology.

The fest also had a remarkable line-up of guest lectures by distinguished personalities. Padma Bhushan Dr Bikas Sinha, Dr Ajoy Ghatke, Australian Astrophysicist Prof. Charles H Lineweaver, Padma Shri Dr Sankar K Pal and Canadian physicist and cosmologist, Lawrence Krauss were among the many speakers for the lecture series which covered various topics ranging from 'Machine Intelligence', 'Black holes and Cosmos' to 'Micro-cosmology.'

The workshops on 'Internet of Things', 'Humanoid Robotics', 'Ethical hacking' and 'Image processing' captured the imagination of the packed auditoriums.

Another major highlight of Tathva was RoboWars, an event that involved 1v1 combat between robots a first of its kind event, designed to test the technical nous of the participants to the limit. On a lighter note, the dancing robots that were on display during the event were a great hit among the visitors.

### **Ragam' 20 (10<sup>th</sup> to 12<sup>th</sup> of January 2020)**

The latest version of Ragam, one of the largest cultural fest of India fagged off on January 10 2020. **Ragam'20: The untold story** became a great success in all means. NIT Calicut witnessed a footfall of more than 65,000 viewers for the fest, which was filed with more

than 65 engaging events, breathtaking pro-shows, pre ragam events and fun filled stand-up comedies. A large variety of workshops were also conducted this year which attracted a huge crowd.

Every year a huge number of students from all over the nation come to NIT Calicut to have a glimpse of the much hyped and glamorous pro-shows. This year the pro-shows lived above its expectations, leaving every person in the OAT on their toes. The proshows by Ritviz, Sanam, Shalmali and Jetfire took the event to the next level. A huge participation from other IITs and NITs raised the standards. Students from over 100 colleges from all over the nation graced the event with their presence. One of the major attraction of Ragam 20 is the huge prize money that was given to the winners of the events. A total amount of more than 10 lakhs is given to the winners.

### **Annual Sports Meet (29<sup>th</sup> January 2020)**

Department of Mechanical Engineering won the overall Trophy. There were inter department sports competitions.

## **2.9 EXAMINATION & EVALUATION**

All academic programmes of the Institute follow the credit-semester system. Minimum credits to be earned for the award of various degrees are specified in the respective curricula. The modalities for continuous evaluation of various courses being offered by the departments/schools are decided by the Institute Senate from time to time and are followed scrupulously. Slow learners are given adequate chances to pursue the studies.

## **2.10 PLACEMENT**

During the session 2019-20, 133 companies visited the campus for recruitment. Together they made a total of 647 offers. The details are shown in Annexure.

B. Tech Programme: 459 out of 579 eligible B. Tech students (79.27%) got placed.

M.Tech Programme: 186 out of 298 eligible M. Tech students (62.42%) got placed.

The highest salary (CTC) offered for B Tech is 50 lakhs.

The highest salary (CTC) offered for M Tech is 34 lakhs. The institute average salary is 11.58L.

For the 2021 UG and PG graduands, 151 offers were also received.

### **DETAILS OF PLACEMENT 2019-20**

<b>Programme</b>	<b>Total Placed*</b>	<b>Total Registered* *</b>	<b>Percentage</b>	<b>Min Salary [in lakhs INR]</b>	<b>Max Salary [in lakhs INR]</b>	<b>Avg. Salary [in lakhs INR]</b>	<b>Median Salary [in lakhs INR]</b>
UG [B.Tech+B.Arch]	459	579	79.27	4.20	49.75	11.59	8.91
PG [M.Tech+MCA+M BA+M.Sc.]	186	298	62.42	3.60	34.26	11.53	8.75
<b>TOTAL [UG+PG]</b>	<b>645</b>	<b>877</b>	<b>73.55</b>	<b>3.60</b>	<b>49.75</b>	<b>11.58</b>	<b>8.91</b>

\* Indicates total number of students placed [double offers not counted; deferred/withdrawn offers not deducted] \*\* Includes students with CGPA >= 6.5 and who participated in all T&P

registrations. If a company has offered a job to a student having CGPA < 6.5, it is included in both placed as well registered count

## 2.11 GAMES AND SPORTS

### PHYSICAL EDUCATION OBJECTIVES

To achieve our objective of “FITNESS FOR ALL”, Physical Education is a compulsory entity in the NITC Curriculum and target the fresher’s so that he/she inculcates awareness of the need to be physically fit on the campus and off it.

As has been the practice, Programs for 2019-20 were planned and executed giving due importance to the new comers to the Institute. More than 100 days during July to November 2019 were spent on fresher orientation program in order to acclimatize them to the NITC environment and to inculcate awareness on the need to pursue activities to keep themselves fit and healthy with in campus and to follow-up in the post-campus life.

The senior-graduate and the post graduate students on their part have thronged the Physical Education activity centers in big numbers on a voluntary basis. The shortage of Playfields continued to haunt and every attempt was made to provide them to meet the student demand. One systematic and successful method adopted was to provide floodlights on small area games like Tennis, Basketball and Volley ball. However, the existing infrastructure has been utilized to the full and equipment purchased has been exhausted due to the overwhelming use.

## 2.12 STAFF POSITION

### Teaching staff

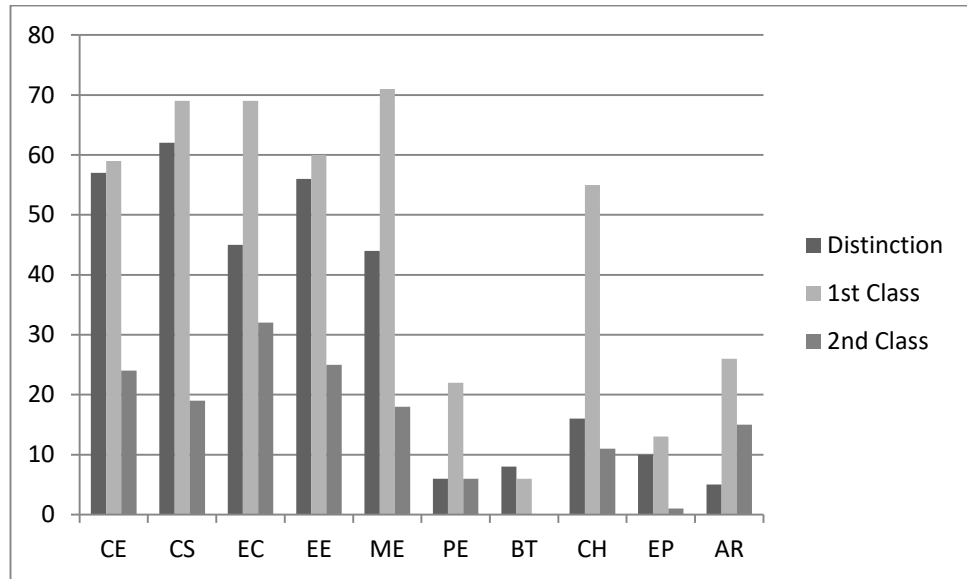
The sanctioned strength of teaching staff is 483. The department wise break-up of the sanctioned and in position strength of faculty is given below.

Department/School	Sanctioned	In position as on 31.03.2020
Architecture	23	11
Chemical Engineering	27	18
Civil Engineering	64	36
Computer Science & Engineering	58	29
Electrical Engineering	62	32
Electronics & Communication Engineering	60	31
Mechanical Engineering	81	38
Mathematics	25	15
Physics, Chemistry and Humanities	42	28
Physical Education	3	1
Biotechnology	16	8

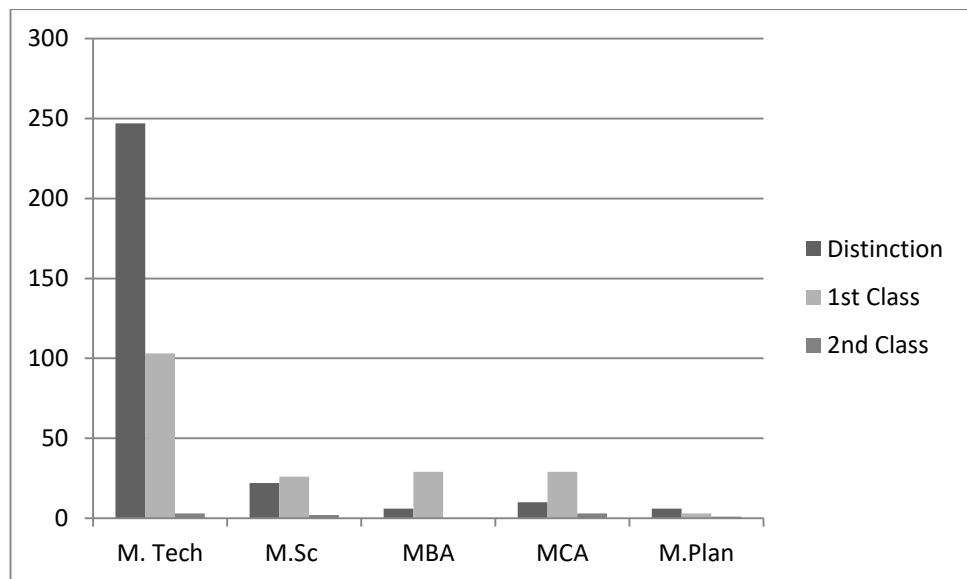
School of Management Studies	16	9
School of Materials Science and Engineering	6	6
Total	483	262

### 2.13 NOTABLE ACHIEVEMENTS IN FIGURES

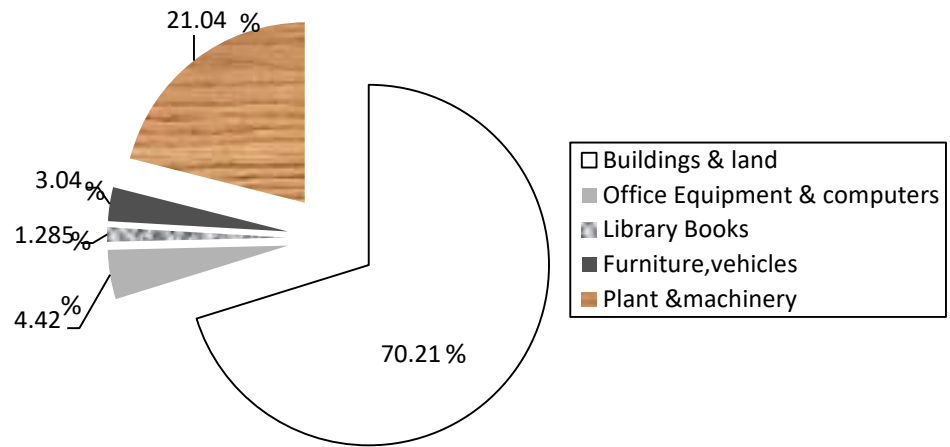
#### (i) Details of B. Tech & B. Arch students passed out in 2019-2020



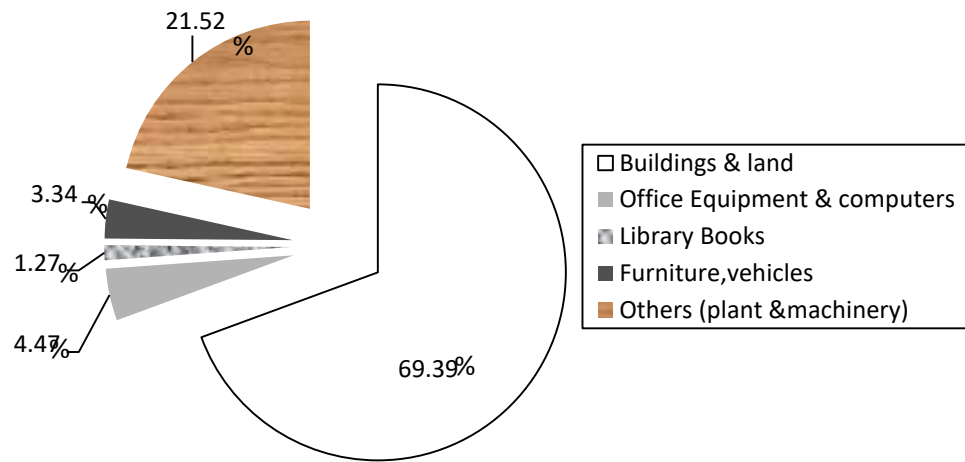
#### (ii) Details of M. Tech, MCA, MBA & Ph. D Students passed out in 2019-2020



(iii) **Details of Assets as on 31.03.2017**

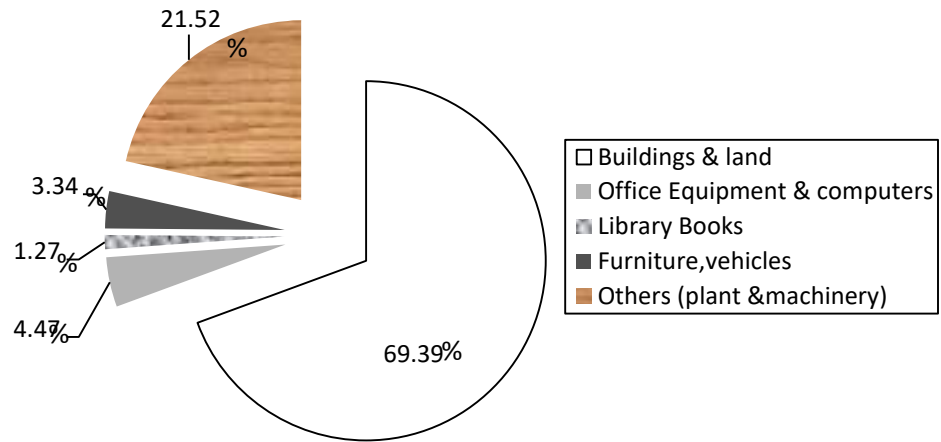


(iv) **Details of Assets as on 31.03.2018**

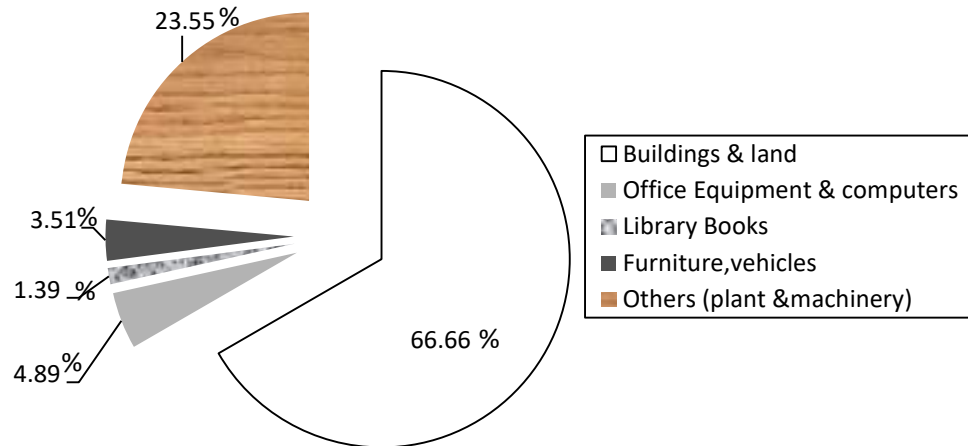




**(V) Details of Assets as on 31.03.2019**



**(v) Details of Assets as on 31.03.2020**



2.14 Visuals of Major Student Activities

(i) Technical Festival – Tathva 2019





(ii) Annual Sports Day 2019





### 3.0 THE STAFF

**DIRECTOR:Dr. Sivaji Chakravorti**

**REGISTRAR: Lt. Col. Pankajakshan K (Retd)**

#### DEANS

Dr. Saly George : Academic  
Dr. M.V.L.R. Anjaneyulu : Planning & Development  
Dr. Ashok S : Research & Consultancy  
Dr. Chandrasekharan K : Faculty Welfare  
Dr. S D Madhu Kumar : Students Welfare  
Dr. Jeevamma Jacob : Alumni Affairs & International Relations

#### ASSOCIATE DEANS

Dr. Raghu C V : Academic  
Dr. Sindhu T K : Academic  
Dr. K Krishnamurthy : Planning & Development  
Dr. G Gopakumar : Planning & Development  
Dr. Arun P : Research & Consultancy  
Dr. P K Madhavan Unni : Faculty Welfare  
Dr. C Mohammed Firoz : Students Welfare  
Dr. Shijo Thomas : Alumni Affairs & International Relations

### 3.1 ACADEMIC STAFF (Teaching)

#### DEPARTMENT OF ARCHITECTURE & PLANNING

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. P.P AnilKumar.	Professor & Head	B. Tech, MCP, Ph.D.	Architectural Engg., City Planning
2	Dr. Kasthurba A. K	Professor	B. Arch, M. Tech, Ph. D	Sustainable Building Technology and Architectural Conservation
3	Dr. Naseer M.A	Professor	B. Tech, MCP, Ph. D	Architectural Engg., City Planning
4	Dr. Mohammed Firoz C.	Assistant Professor, Gr-I	B. Arch, M Plan, Ph. D	Architecture, Urban and Regional Planning
5	Dr. Chithra K.	Assistant Professor, Gr-I	B. Arch, M Plan, Ph.D.	Architecture, Urban Planning
6	Dr. Shyni Anilkumar	Assistant Professor, Gr-I	B. Tech, M Plan, Ph.D.	Architectural Engg., Disaster Management
7	Dr. Bimal P	Assistant Professor, Gr-I	B. Arch, MCP, Ph.D.	Architecture, City Planning
8	Dr. Deepthi Bendi	Assistant Professor, Gr-II	B.Arch, M.Sc, Ph.D.	Architecture, Construction Management

9	Dr. Anjana Bhagyanathan	Assistant Professor, Gr-II	B.Arch, M.Arch., Ph.D.	Landscape Architecture
10	Dr. Amritha P.K.	Assistant Professor, Gr-II	B. Arch, M.Arch, Ph.D.	Landscape Architecture
11	Ar. Ritesh Ranjan	Assistant Professor, Gr-II	B.Arch, M Urban Planning	Architecture, Urban Planning
12	Er. Abhijith R	Ad-hoc Faculty	M. Tech.	Marine Structures
13	Ar. Bella Ullas	Ad-hoc Faculty	B. Arch, M.Arch	Urban Design
14	Ar. Haneen Pallathodi	Ad-hoc Faculty	B. Arch, M.Arch	Sustainable Architecture
15	Ar. Nahlah Basheer	Ad-hoc Faculty	M.Plan	Urban Planning
16	Ar. Nishan Nazer K K	Ad-hoc Faculty	B.Arch, M.Plan.	Housing
17	Ar. Niyatha Balan	Ad-hoc Faculty	B. Arch, M.C.P.	City Planning
18	Ar. Liz MARIYA Jacob	Ad-hoc Faculty	B.Arch., M.C.P.	City Planning
19	Er. Riya Robi	Ad-hoc Faculty	B.Tech., M.Plan.	Urban Planning
20	Ar. Shalu M.K.	Ad-hoc Faculty	B. Arch., M. Arch.	Architectural Design
21	Ar. Sowmia Philip	Ad-Hoc Faculty	B.Arch., M. Plan.	Environmental Planning
22	Ar. Sruthi Ramesh	Ad-hoc Faculty	M. Plan	Urban Planning
23	Ar. Suchitra	Ad-hoc Faculty	B. Arch., M.Plan.	Architecture, Urban & Regional Planning
24	Er. Swathy Lakshmi P R	Ad-hoc Faculty	M. Tech.	Offshore Structures
25	Ar. Thejus Augustine	Ad-hoc Faculty	B.Arch., M. Arch.	Urban Design
26	Ar. Zinia Kar	Ad-hoc Faculty	M. Arch.	Sustainable Architecture

#### DEPARTMENT OF CHEMICAL ENGINEERING

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Lity Alen Varghese	Professor & HoD	Ph.D	Polymer Technology, Adhesives and surface coatings, Nanocomposites
2	Dr. Shiny Joseph	Professor	Ph.D	Membrane applications, fuel cells
3	Dr. V Sivasubramanian	Professor	Ph.D	Fluidization Engineering, Hydrodynamics, Mass Transfer
4	Dr. Aparna K	Associate Professor	Ph.D	Process simulation and control, Biofuels
5	Dr. M V Pavan Kumar	Assistant Professor Grade I	Ph.D	Effluent Treatment in Inverse Fluidised Bed reactor, Microbial Fuel Cell
6	Dr. S Bhuvaneshwari	Assistant Professor Grade I	Ph.D	Design, Modeling, Simulation and Control, Control of Reactive Distillation Systems

7	Dr. Haribabu K	Assistant Professor Grade I	Ph.D	Wastewater treatment, Separation science and technology, Electrochemical sensors
8	Dr. Vineesh Ravi	Assistant Professor Grade I	Ph.D	Fuel cells, control of reactive distillation columns
9	Dr. Panneerselvam R	Assistant Professor Grade I	Ph.D	Control Systems, Multivariable Controller Design, PID Controller Tuning
10	Dr. Chandrasekhar Bestha	Assistant Professor Grade II	Ph.D	CFD, Mineral Processing, Multiphase Flow Modelling
11	Dr. Noel Jacob K	Assistant Professor Grade II	Ph.D	Process Control and Dynamics, Process Identification, Modelling and Simulation
12	Dr. Sudev Das	Assistant Professor Grade II	Ph.D	Micro/Nanoscale phase change heat transfer, Boiling and Condensation
13	Dr. Teja Reddy Vakamalla	Assistant Professor Grade II	Ph.D	Membrane based Technologies, Water treatment, fuel cells
14	Dr. Susmita Das	Assistant Professor Grade II	Ph.D	Chemical reactor modelling, Computational flow modelling,
15	Dr. Prasanna Kumar Mural	Assistant Professor Grade II	Ph.D	Piezoelectric materials, Polymer nanocomposites
16	Dr. Dhanya Ram V	Assistant Professor Grade II	Ph.D	Soft matter, Fracture, Polymers
17	Dr. Fathima Fasmin	Assistant Professor Grade II	Ph.D	Fuel cells, Batteries, Corrosion, Modelling and simulation
18	Dr. Swapna Reddy	Assistant Professor Grade II	Ph.D	Process modelling and simulation, Dynamic control, State estimation

#### DEPARTMENT OF CIVIL ENGINEERING

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. P.V. Indira	Professor (HAG) and Head	M.Tech, Ph. D	Structural Engg.
2	Dr. S. Chandrakaran	Professor (HAG)	M.E., Ph.D	Geotechnical Engg
3	Dr. M.V.L.R. Anjaneyulu	Professor (HAG)	M.Tech, Ph.D	Transportation Engg.
4	Dr. Santosh.G. Thampi	Professor (HAG)	M.Tech., Ph.D	Environmental Hydrology
5	Dr. N. Sankar	Professor	M.Tech. Ph.D	Geotechnical Engg
6	Dr. A. P. Shashikala	Professor	M.Sc (Engg), Ph.D	Structural/ Ocean Engg.



7	Dr. J. Sudhakumar	Professor	M.Tech., Ph.D	Building Technology
8	Dr. T. M. Madhavan Pillai	Professor	M.Tech., Ph.D	Structural Engg.
9	Dr. Mohammed Ameen	Professor	M.E., Ph.D	Structural Engg.
10	Dr. Praveen Nagarajan	Professor	M.Tech., Ph.D	Structural Engg.
11	Dr. K. Krishna Murthy	Professor	M.E., Ph.D	Transportation Engg.
12	Dr. Sajith A S	Associate Professor	M.E., Ph.D	Structural Engg.
13	Mr. K. Saseendran	Associate Professor	B.Sc., M.Tech.	Geology
14	Dr. K. Sasikumar	Associate Professor	M.Tech., Ph.D	Water Resources Engg.
15	Dr. Kodi Ranga Swamy	Associate Professor	M.Tech., Ph.D	Geotechnical Engg.
16	Dr. Chitra N R	Asst. Professor	M.Tech., Ph.D	Hydraulics & Water Resources Engg
17	Dr. George K Varghese	Asst. Professor	M.Tech., Ph.D	Environmental Engg.
18	Dr. Harikrishna M	Asst. Professor	M.Tech., Ph.D	Transportation Engg.
19	Dr. M. Sivakumar	Asst. Professor	M.E., Ph. D	Transportation Engg.
20	Dr. Mini Remanan	Asst. Professor	M.Tech., Ph.D	Structural Engg.
21	Dr. Pramada S K	Asst. Professor	M.Tech., Ph.D	Water Resources Engg
22	Ms. Reesha Bharath K	Asst. Professor	M.Tech.	Construction Technology
23	Dr. Sathish Kumar D	Asst. Professor	M.Tech., Ph.D	Remote Sensing & GIS, Hydrology
24	Dr. Robin Davis	Asst. Professor	M.E., Ph.D	Structural Engg.
25	Dr. Anjana Bhasi	Asst. Professor	M.S., Ph.D	Geotechnical Engg
26	Dr. Arun Kumar	Asst. Professor	M.Tech., Ph.D	Water Resources Engg
27	Dr. Renjitha Mary Varghese	Asst. Professor	M.Tech., Ph.D	Geotechnical Engg
28	Dr. K.V. Anand	Asst. Professor	M.S., Ph.D	Ocean Engineering
29	Dr. Agilan V	Asst. Professor	M.Tech., Ph.D	Remote Sensing & GIS, Hydrology
30	Dr. Aswathy E.V.	Asst. Professor	M.Tech., Ph.D	Environmental Engg.
31	Dr. Yogeshwar V Navandar	Asst. Professor	M.Tech., Ph.D	Transportation Engg.
32	Dr. Jayachandran K	Asst. Professor	M.Tech., Ph.D.	Construction Engg & Management
33	Dr. Seethalakshmi P	Asst. Professor	M.Tech., Ph.D.	Geotechnical Engg
34	Dr. Anantha Singh T. S.	Asst. Professor	M.Tech., Ph.D	Environmental Engg
35	Dr. Muhamed Safeer Pandikkadavath	Asst. Professor	M.Tech., Ph.D.	Structural Engg.
36	Anil Kumar Dash	Asst. Professor	M.Tech., Ph.D.	Offshore Structures

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

Sl.No.	Name	Designation	Qualification	Specialization
1	Dr. Vineeth Kumar Paleri	Professor	Ph. D.	Programming Languages & Compilers.
2	Dr. Priya Chandran	Professor	Ph. D	Computer Architecture, Algorithms
3	Dr. S.D Madhu Kumar	Professor	Ph. D	Cloud Computing, Big Data Analytics, DBMS, Software Engineering
4	Dr. Abdul Nazeer K A	Professor	Ph. D	Database Systems, Bioinformatics
5	Dr. Murali Krishnan K	Associate Professor	Ph. D	Algorithms and Complexity, Coding Theory
6	Dr. Vinod P	Associate Professor	Ph. D	Information Security Management
7	Dr. Saidalavi Kalady	Associate Professor	Ph.D	Computational Intelligence, Data Mining, Operating Systems
8	Dr. Saleena N	Associate Professor and Head	Ph. D	Program Analysis, Compilers
9	Dr. Subhasree M	Associate Professor	Ph. D	Computational Geometry
10	Dr. Subashini R	Associate Professor	Ph. D	Design and analysis of Algorithms
11	Mr. Sumesh T A	Assistant Professor	M. Tech.	Computer Networks, Computer Vision
12	Mr. Sreenivasa T M	Assistant Professor	M. Tech.	DNA Computing
13	Mr. Sreenu Naik Bhukya	Assistant Professor	M. Tech	Computer Networks, WSNS
14	Dr. Lijiya A	Assistant Professor	Ph. D	Image Processing, Pattern Recognition
15	Dr. Jimmy Jose	Associate Professor	Ph. D	Cryptography and Security
16	Dr. Anu Mary Chacko	Assistant Professor	Ph. D	Computer Security
17	Dr. Pournami P.N.	Assistant Professor	Ph. D	Computer vision, Machine Learning
18	Dr. Jayaraj P B	Assistant Professor	Ph. D	High Performance Computing, Parallel computing, Machine Learning
19	Dr. Sudeep K.S	Assistant Professor	Ph. D	Algorithms, Graph Theory
20	Dr. Gopakumar G	Assistant Professor	Ph. D	Bioinformatics, data Mining
21	Dr. Arun Raj Kumar P	Assistant Professor	Ph. D	Computer Networks and Security, Vehicular Adhoc Networks

				(VANET),Internet of Things (IoTs),Machine Learning
22	Dr. Hiran V Nath	Assistant Professor	Ph. D	Cyber Security and Digital Forensics
23	Dr. Jay Prakash	Assistant Professor	Ph. D	Machine Learning, Data Mining, Soft Computing
24	Dr. M. Prabu	Assistant Professor	Ph.D	Image Processing, Acoustic Classification, IoT, Machine Learning
25	Dr. T. Veni	Assistant Professor	Ph. D	Operating systems, Cloud computing, Fog Computing and Internet of Things (IoTs).
26	Dr. Vasudevan A R	Assistant Professor	Ph. D	Computer Networks, Network Security and Internet of Things (IoTs).
27	Dr. Anil Pinapati	Assistant Professor	Ph. D	Cryptography and Information Security
28	Dr. Pranesh Das	Assistant Professor	Ph. D	Data Mining, Optimization, Machine Learning
29	Dr. Raju Hazari	Assistant Professor	Ph. D	Theoretical Computer Science, Cellular Automata

#### DEPARTMENT OF ELECTRICAL ENGINEERING

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Rijil Ramchand	Professor & Head	Ph. D. (IISc, Bangalore)	Power Electronics
2	Dr. Ashok S	Professor (HAG) & Dean (R & C)	Ph. D. (IIT Bombay)	Power & Energy Systems
3	Dr. Paul Joseph K.	Professor (HAG)	Ph. D. (IIT Madras)	Biomedical Instrumentation
4	Dr. Abraham T Mathew	Professor	Ph. D. (IIT Delhi)	Instrumentation & Control
5	Dr. Elizabeth P. Cheriyan	Professor	Ph. D. (IIT Bombay)	Power Systems
6	Dr. Jeevamma Jacob	Professor & Dean (AA & IR)	Ph. D. (IIT Bombay)	Control Systems

7	Dr. Saly George	Professor & Dean (Academic)	Ph. D. (REC Calicut)	Power Electronics
8	Dr. Susy Thomas	Professor	Ph. D. (IIT Bombay)	Control Systems
9	Mr. P. Ananthkrishnan	Associate Professor	M. Tech. (IIT Madras)	Power Electronics & Drives
10	Dr. Jagadanand G	Associate Professor	Ph. D. (NIT Calicut)	Signal Processing
11	Dr. Mukti Barai	Associate Professor	Ph. D. (IIT Kharagpur)	Power Electronics
12	Dr. Preetha. P.	Associate Professor	Ph. D. (IISc Bangalore)	High Voltage Engg.
13	Dr. Sindhu T K	Associate Professor	Ph. D. (IIT Chennai)	Power Systems & High Voltage Engg.
14	Dr. Subha. D.P	Associate Professor	Ph. D (NIT Calicut)	Biomedical Engineering
15	Dr. Sunitha K	Associate Professor	Ph. D. (IISc Bangalore)	High Voltage Engg.
16	Dr. Sunitha R	Associate Professor	Ph. D (NIT Calicut)	Power Systems
17	Mr. K. S. Suresh Kumar	Associate Professor	M. Tech. (IIT Madras)	Power Electronics
18	Dr. K M Arun Neelimegham	Assistant Professor	Ph. D. (IIT Kharagpur)	Control Systems
19	Dr. Deepak M	Assistant Professor	Ph. D. (IIST, Thiruvananthapuram)	Power Systems Operation and Control
20	Dr. Gopakumar P	Assistant Professor	Ph. D (NIT Trichy)	Power System: Transmission line Protection
21	Ms. Hema Rani.P	Assistant Professor	M. Tech (IIT Kanpur)	Power Electronics
22	Dr. Kanagalakshmi S	Assistant Professor	Ph. D (Anna University)	Process Control
23	Dr. Karthikeyan V	Assistant Professor	Ph. D	Power Electronics

			(NIT Allahabad)	
24	Dr. Kumaravel S	Assistant Professor	Ph. D. (NIT Calicut)	Power Systems
25	Dr. Mija S J	Assistant Professor	Ph. D (NIT Calicut)	Control Systems
26	Dr. Nasirul Haque	Assistant Professor	Ph. D. (Jadavpur University)	High Voltage Engg.
27	Dr. Nikhil Sasidharan	Assistant Professor	Ph. D (AIT, Bangkok, Thailand)	Energy
28.	Dr. Sanjay M	Assistant Professor	Ph. D (Christian Medical College, Vellore)	Bioengineering.
29.	Dr. Shihabudheen K V	Assistant Professor	Ph. D. (IIT Roorkee)	Machine Learning & Control
30.	Dr. Shreelakshmi M P	Assistant Professor	Ph. D. (IIT Bombay)	Power Electronics & Drive
31.	Mr. Subhash K.M.	Assistant Professor	M. Tech (NIT Calicut)	Instrumentation & Control
32.	Dr. T K Sunil Kumar	Assistant Professor	Ph. D. (IIT Kharagpur)	Power Systems

#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. Lillykutty Jacob	Professor (HAG)	PhD	Communication Networks
2	Dr. P. S. Sathidevi	Professor (HAG)	PhD	Speech and Audio Processing
3	Dr. C. K. Ali	Professor	PhD	Communication Engg.
4	Dr. Sameer S. M.	Professor	PhD	Wireless Communication
5	Dr. A. V. Babu	Professor	PhD	Wireless communications & Networking
6	Dr. Deepthi P. P.	Professor	PhD	Secure Communication & Signal Processing
7	Dr. Sreelekha G.	Professor	PhD	Image and Video Processing

8	Dr. P. C. Subramaniam	Professor	PhD	Optical Communications
9	Dr. G. Abhilash	Associate Professor	PhD	Signal Theory / Processing
10	Ms. Lyla B. Das	Associate Professor	M. Tech	Embedded Systems
11	Mr. Suresh Rangan	Associate Professor	M. Tech.	Electronics Engineering
12	Mr. Jaikumar M. G.	Associate Professor	M. Tech	Microelectronics and VLSI design
13	Dr. Praveen Sankaran	Assistant Professor, Grade I	PhD	Signal Processing
14	Dr. Dhanaraj K. J.	Assistant Professor Grade I	PhD	Analog IC Design, , VLSI DSP Systems
15	Dr. Sudhish N. George	Assistant Professor Grade I	PhD	Signal Processing
16	Dr. V. Sakthivel	Assistant Professor Grade I	PhD	Multirate Signal Processing
17	Dr. Suja K. J.	Assistant Professor Grade I	PhD	VLSI
18	Dr. Bindiya T. S.	Assistant Professor Grade I	PhD	VLSI and Signal Processing
19	Dr. Ameer P. M.	Assistant Professor Grade I	PhD	Signal Processing, Wireless Networking
20	Dr. Jayakumar E.P.	Assistant Professor Grade I	PhD	VLSI and Digital Signal Processing
21	Dr. Lintu Rajan	Assistant Professor Grade II	PhD	VLSI Design
22	Dr. Venu Anand	Assistant Professor Grade II	PhD	Microelectronics
23	Dr. Sudeep P. V.	Assistant Professor Grade II	PhD	Medical Image Analysis, Machine Learning, Deep Learning
24	Dr. Gopi Krishna Saramakala	Assistant Professor Grade II	PhD	Semiconductor Devices
25	Dr. Waquar Ahmad	Assistant Professor Grade II	PhD	Speech Signal Processing
26	Dr. M. Surya Prakash	Assistant Professor Grade II	PhD	VLSI Signal Processing
27	Dr. B. Bhuvan	Assistant Professor Grade II	M. Tech	Electronic Design and Technology
28	Dr. Raghu C. V.	Assistant Professor Grade II	PhD	Electronic System Design
29	Dr. Aswathi R. Nair	Assistant Professor Grade II	PhD	Microelectronics
30	Dr. Lalit Kumar	Assistant Professor Grade II	PhD	RF / Microwave Filters and Antenna
31	Dr. Chandan Yadav	Assistant Professor Grade II	PhD	Microelectronics and VLSI Design
32	Dr. Akhil P. T.	Assistant Professor Grade II	PhD	Communication Networks

#### **DEPARTMENT OF MECHANICAL ENGINEERING**

<b>Sl. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Qualification</b>	<b>Specialization</b>
<b>1</b>	Dr. Jose Mathew	Professor (HAG) and Head	Ph.D.	Manufacturing Science
<b>2</b>	Dr. Jayaraj S	Professor (HAG)	Ph.D.	Thermal Sciences, Energy Engineering & CFD
<b>3</b>	Dr. Sridharan R	Professor (HAG)	Ph.D.	Industrial Engineering
<b>4</b>	Dr. C Muraleedharan	Professor (HAG)	Ph.D.	Refrigeration & Air Conditioning

5	Dr. Ghulam Jilani	Professor (Retired after superannuation on 28 <sup>th</sup> February 2020)	Ph.D.	Computational Fluid Dynamics & Heat Transfer
6	Dr. Rajendra Kumar P K	Professor	Ph.D.	Machine Design & Tribology
7	Dr. Joseph M A	Professor	Ph.D.	Production Engineering
8	Dr. Joy M L	Professor	Ph.D.	Machine Design & Tribology
9	Dr. Madhusudanan Pillai V	Professor	Ph.D.	Industrial Engineering
10	Dr. Shaija A	Professor	Ph.D.	Computational Fluid Dynamics & Heat Transfer
11	Dr. Biju T. Kuzhiveli	Professor	Ph.D.	Cryogenics
12	Dr. Narayanan M D	Associate Professor	Ph.D.	Nonlinear Dynamics
13	Dr. Manu R	Associate Professor (Joined as Professor on 03 <sup>rd</sup> February 2020)	Ph.D.	Manufacturing Engineering
14	Dr. Dhanish P B	Associate Professor	Ph.D.	Production Engineering
15	Dr. Arun P	Associate Professor	Ph.D.	Energy Management
16	Dr. Sekar K	Assistant Professor Gr I	Ph.D.	Manufacturing Engineering
17	Dr. Sudheer A P	Assistant Professor Gr I	Ph.D.	Manufacturing Engineering / Robotics
18	Dr. Rohini Kumar B	Assistant Professor Gr I	Ph.D.	Thermal Engineering/ Thermodynamic Modelling
19	Dr. Jayadeep U B	Assistant Professor Gr I	Ph.D.	Machine Design/ Solid Mechanics
20	Dr. Varaprasad G	Assistant Professor Gr I	Ph.D.	Industrial Engineering & Management/ Marketing Management & Consumer Behaviour
21	Dr. Srinivas M	Assistant Professor Gr I	Ph.D.	Thermal Engineering/ Non-conventional Energy Systems
22	Dr. Jagadeesha T	Assistant Professor Gr I	Ph.D.	Manufacturing Engineering
23	Dr. Sarvoththama Jothi T J	Assistant Professor Gr I	Ph.D.	Energy Engineering/ Fluids and Thermal Sciences
24	Dr. Vinay V. Panicker	Assistant Professor Gr I	Ph.D.	Industrial Engineering
25	Dr. K.P. Murali	Assistant Professor Gr I	Ph.D.	Metallurgical Engineering & Materials Science/ Electronic Materials
26	Dr. Saleel Ismail	Assistant Professor Gr I	Ph.D.	Thermal Engineering
27	Dr. Ratnakumar K	Assistant Professor Gr II	Ph.D.	Industrial Engineering and Management
28	Dr. Gangadhara Kiran Kumar L	Assistant Professor Gr II	Ph.D.	Fluids and Thermal Sciences

29	Dr. Sujith Kumar C S	Assistant Professor Gr II	Ph.D.	Nanotechnology/ Thermal Engineering
30	Dr. Gangolu Srinu	Assistant Professor Gr II	Ph.D.	Material Science
31	Dr. Ashesh Saha	Assistant Professor Gr II	Ph.D.	Machine Design
32	Dr. Simon Peter	Assistant Professor Gr II	Ph.D.	Computational Fluid Dynamics
33	Dr. Deepak Lawrence K	Assistant Professor Gr II	Ph.D.	Manufacturing Engineering/ Metrology
34	Dr. Vineesh K P	Assistant Professor Gr II	Ph.D.	Mechanical Systems Design/ Finite element modeling
35	Dr. Sumer B Dirbude	Assistant Professor Gr II (Joined on 03 <sup>rd</sup> February 2020)	Ph.D.	Mechanical-Heat Power/ Computational Fluid Dynamics, Combustion and associated areas of thermo- fluid sciences
36	Dr.Sandip Rudha Budhe	Assistant Professor Gr II (Joined on 11 <sup>th</sup> March 2020)	Ph.D.	Machine Design/ Composite Materials
37	Dr.Devendra K Yadav	Assistant Professor Gr II (Joined on 13 <sup>th</sup> March 2020)	Ph.D.	Industrial Engineering/ Humanitarian Supply Chain
38	Sri. Manu P V	Assistant Professor	M. Tech.	Propulsion Engineering/ IC Engines and Combustion/ Alternative fuels
39	Sri. Sreenath A M	Assistant Professor	M. Tech. (On deputation under QIP at IITM)	Machine Design

#### DEPARTMENT OF MATHAMATICS

Sl. No.	Name	Designation	Qualificatio n	Specialization
1	Dr. Jessy John C	Professor	M.Sc (Ph.D)	Time Series Modelling and Applied Statistics



2	Dr. M J Jacob	Professor	Ph.D.	Applied Probability
3	Dr. Sunitha M S	Professor	M.Sc ,M.Phil, Ph.D	Fuzzy Graph Theory
4	Dr. Sunil Jacob John	Professor	PhD	Topology, Set Generalization
5	Dr. Satyananda Panda	Professor	Ph.D	Mathematical Modeling and Scientific Computing
6	Dr. Chithra A V	Associate Professor	Ph.D	Operator Theory
7	Dr. Sushama C M	Associate Professor	Ph.D	Optimization, Data Envelopment Analysis.
8	Dr. Lineesh M C	Assistant Professor	Ph. D	Time Series Modelling using Wavelets Theory
9	Dr. Sanjay P K	Assistant Professor	M.Sc , Ph.D	Harmonic Analysis
10	Dr. Sunil Mathew	Assistant Professor	Ph. D	Fractal Geometry Fuzzy Graph Theory
11	Dr. Krishanan Paramsivam	Assistant Professor	Ph.D.	Graph Theory and Commutative Algebra

12	Dr. Mahesh Kumar	Assistant Professor	Ph.D.	Applied Probability, Reliability Estimation and Test Plans.
13	Dr. Suresh Kumar Nadupuri	Assistant Professor	M.Sc , M.Tech ,Ph.D	Numerical Methods and Scientific Computing
14	Dr. Ashish Awasthi	Assistant Professor	Ph.D.	Numerical Analysis, Numerical Methods for Singularly Perturbed Differential Equations, Scientific Computing
15	Dr. Tamal Pramanick	Assistant Professor	Ph.D., Post-Doc.	Numerical Analysis, Scientific Computing, Finite Element Method, Composite Finite Element Method.

#### DEPARTMENT OF CHEMISTRY

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. G. Unnikrishnan	Professor	M. Sc., Ph.D.	Polymer Science & Technology
2	Dr. Lisa Sreejith	Professor	M. Sc., M Phil, Ph.D.	Surface Chemistry
3	Dr. Lakshmi C.	Professor	M. Sc., Ph.D.	Bio-organic & Physical Organic Chemistry
4	Dr. Parameswaran Pattiyil	Associate Professor & Head	M. Sc., Ph.D.	Theoretical & Computational Chemistry
5	Dr. Sujith A.	Associate Professor	M. Sc., Ph.D.	Polymer Technology
6	Dr. Suni Vasudevan	Assistant Professor	M. Sc., Ph.D.	Inorganic Chemistry
7	Dr. Mini Mol M.	Assistant Professor	M. Sc., Ph.D.	Material Science
8	Dr. Janardhan Banothu	Assistant Professor	M. Sc., Ph.D.	Heterocyclic Chemistry
9	Dr. Muniyandi Sankaralingam	Assistant Professor	M. Sc., Ph.D.	Bio-inorganic & Biomimetic Chemistry
10	Dr. Raju Dey	Assistant Professor	M. Sc., Ph.D.	Organic & Organometallic Chemistry
11	Dr. Anuj A. Vargeese	Assistant Professor	M. Sc., Ph.D.	Energetic Materials and Energy Materials

12	Dr. Chinna Ayya Swamy P.	Assistant Professor	M. Sc., Ph.D.	Organometallics and Supramolecular Chemistry
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### DEPARTMENT OF PHYSICS

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. P. Predeep	Professor	Ph.D.	Organic and Molecular Electronics and Photonics (Organic, Solar Cells, OLED, OFETs, Organic Semiconductors.),
2	Dr. Chandrasekharan. K	Professor	Ph.D.	Condensed Matter Physics, Non-linear Optical Materials for Photonics
3	Dr. M. K. Ravi Varma	Professor	Ph.D.	Spectroscopy, Applied Optics, Atmospheric Sciences
4	Dr. Raghu Chathanathodi	Professor	Ph.D.	Computational-Condensed Matter Physics, Density Functional Theory
5	Dr. Aji A. Anappara	Associate Professor	Ph.D.	Light Matter interaction, Nano science, Energy Harvesting, Semiconductor Photonics
6	Dr. P.K. Madhavan Unni	Assistant Professor	Ph.D.	<b>Critical Point Phenomenon</b>
7	Dr. Vari Sivaji Reddy	Assistant Professor	Ph.D.	Organic Electronics & Photovoltaics
8	Dr. Suchand Sangeeth	Assistant Professor	Ph.D.	<i>Charge Transport, Molecular Electronics, Organic Semiconductors, Molecular Self-assembly and Meta-materials</i>
9	Dr. Ram Ajor Maurya	Assistant Professor	Ph.D.	Solar Astrophysics: Helioseismology, MHD Waves in Solar Atmosphere, Solar Eruptions and Associated Phenomenon
10	Dr. Aswathi G	Assistant Professor	Ph.D.	Material Science and Nanotechnology
11	Dr. Subramanyan Namboodiri Varanakkottu	Assistant Professor	Ph.D.	Optofluidics, Interface Physics
12	Dr. Maneesh Chandran	Assistant Professor	Ph.D.	Surface Science, Materials Science; Nanotechnology
13	Dr. Goutam Kumar Chandra	Assistant Professor	Ph. D.	Raman Spectroscopy and Its Various Applications in the Field of Biological Science, Material Science, Sensor & Detection, etc.
14	Dr. Saurabh Gupta	Assistant Professor	Ph.D.	Theoretical High Energy and Particle Physics, Quantum Field Theory

15	Dr. Sreeraj T. P	Assistant Professor	Ph.D.	Lattice Gauge Theory, Quark Confinement, Low Energy Aspects of QCD, Duality in Gauge Theories and Spin Systems
16	Dr. P. N Bala Subramanian	Assistant Professor	Ph.D.	Holography, Black Holes

#### DEPARTMENT OF TRAINING & PLACEMENT

Sl. No.	Name	Designation	Qualification	Specialization
1.	Dr.S.M Sameer	Professor	Ph.D	Wireless Communication

#### DEPARTMENT OF PHYSICAL EDUCATION

Sl. No.	Name	Designation	Qualification	Specialization
1	Mr. Sunil M. S	Assistant Professor	M.P.Ed.,M.Phil. ( Ph.D)	Sports Physiology, Fitness & Yoga Football

#### SCHOOL OF MATERIALS SCIENCE & ENGINEERING

Sl. No.	Name	Designation	Qualification	Specialization
1	C.B. Sobhan	Professor (HAG)	Ph.D.	Micro and Nanoscale heat transfer
2	N. Sandhyarani	Professor	Ph.D.	Nanoscience/Spectroscopy
3	Sajith V.	Assoc. Professor & Head	Ph.D.	Optical Measurements, Nanofluids, Automobile Engineering
4	Soney Varghese	Assoc. Professor	Ph.D.	Nano Materials and Devices
5	Shijo Thomas	Asst. Professor	Ph.D.	Nanofluids, Heat Transfer, IC Engines
6	Hanas T.	Asst. Professor	Ph.D	Materials Science, Medical materials
7	Lakshmi V Nair	Inspire Faculty	Ph.D.	Nanomaterials and Nano bio interface

#### SCHOOL OF MANAGEMENT STUDIES

Sl. No.	Name	Designation	Qualification	Specialization
1	Dr. T K Suresh Babu	Professor	PhD	Finance Management

2	Dr. T Radha Ramanan	Associate Professor and Head	PhD	Operations Management
3	Dr. K Muhammad Shafi	Associate Professor	Ph.D.	Finance & General Management
4	Dr. S Sunitha	Assistant Professor	Ph.D.	Economics
5	Dr. Preeti Navaneeth	Assistant Professor	Ph.D.	English Studies and Communication
6	Dr. Nithya M	Assistant Professor	PhD	Marketing Management
7	Dr. Sreejith S S	Assistant Professor	PhD	Human Resource Management
8	Dr. Althaf S	Assistant Professor	PhD	Economics and Public Policy
9	Dr. Reju George Mathew	Assistant Professor	PhD	English Studies and Communication

### SCHOOL OF BIOTECHNOLOGY

Sl. No.	Name	Designation	Qualification	Area of Specialization
1	Dr. Suchithra T V	Assoc. Professor & Head of Dept.	Ph.D	Microbiology and Bioprospecting
2	Dr. Md Anaul Kabir	Professor	Ph.D	Molecular Genetics, Genetic Engineering
3	Dr. Santhiagu .A	Professor	Ph.D	Bioprocess Technology, Recombinant Technology, Enzymology
4	Dr. Rajanikant G.K	Professor	Ph.D	Radiation biology Neuroscience
5	Dr. Rathinasamy .K	Assoc. Professor	Ph.D	Cell biology, Cancer research, Apoptosis
6	Dr. Prem Raj. P	Asst. Professor	Ph.D	Pathogenesis of Airborne Microbes
7	Dr. Baiju G Nair	Asst. Professor	Ph.D	Bio-nanotechnology, Tissue engineering, Biomaterials, Supramolecular chemistry
8	Dr. Suresh P S	Asst. Professor	Ph. D	Endocrine cancers and signal transduction

### CENTRE FOR BIOMECHANICS

#### FACULTY

Dr. Mohammed Ameen, Professor of Civil Engineering  
 Dr. T. M. Madhavan Pillai (Head), Professor of Civil Engineering  
 Dr. P.K. Rajendrakumar, Professor of Mechanical Engineering

Dr. G. Abhilash, Associate Professor of Electronics Engineering

### ADJUNCT FACULTY

Dr T.S. Gopakumar, Professor & Head, Department of Orthopaedics, Medical College, Trivandrum.

Dr George Joseph, (Retd.) Professor & Head, Department of Physical Medicine & Rehabilitation, Medical College, Calicut.

Sri. M. Sreekumar, (Retd.) Prosthetic & Orthotic Engineer, Department of Physical Medicine & Rehabilitation, Medical College, Calicut.

### 3.2 NON-ACADEMIC STAFF (Non-Teaching)

SL No.	NAME	DESIGNATION	DEPARTMENT
1	Pradeep Kumar K K	Instructor	MED
2	Shibu K	Instructor	CED
3	Rajendran M K	Instructor	MED
4	Mohan Kumar A K	Asst. Engineer	ENGG. UNIT
5	Thomas T E	Asst. Engineer	ENGG. UNIT
6	Venugopalan K P	Instructor Asst. Engineer (Electrical i/c)	MAINTENANCE. UNIT
7	Ajayachandran V R	Computer Operator	CSED
8	Sasidharan Pillai G	Computer Technician	CSED
9	Chandramohan M K	Graphic Artist (Hr.Gr.)	LIBRARY
10	Prakash Peter	Lab Assistant	PHYSICS
11	Anwar Sadath C	LD Steward	HOSTEL OFFICE
12	Latha C	Libraian Gr.IV Hr.Gr.	LIBRARY
13	Sobhana J	Libraian Gr.IV.Hr.Gr	LIBRARY
14	Jayarajan T	Librarian Gr. IV(Hr.Gr.)	LIBRARY
15	Sweety Mathew	Librarian Gr.III (Hr.Gr.)	LIBRARY
16	Shaju K P	Librarian Gr.IV	LIBRARY
17	Jayaraman K	Offset Mechnine Operator (Hr.Gr)	LIBRARY
18	Abraham P	Pharmacist	HEALTH CENTER
19	Hariharan C P	Programmer	MED
20	Venugopal.B	Sr.Mechanic (Sl.Gr.)	MAINTENANCE UNIT

21	Biju Francis	Sr. Mechanic	CSED
22	Sreeja. V	Sr. Mechanic	CSED
23	Praveen H Babu	Sr. Mechanic	ECED
24	Climson C R	Sr. Mechanic	MAINTENANCE UNIT
25	Mahesan K A	Sr. Mechanic	MAINTENANCE UNIT
26	Radhakrishan M K	Sr. Mechanic	MAINTENANCE UNIT
27	Raju K P	Sr. Mechanic	MAINTENANCE UNIT
28	Santhosh Kumar M V	Sr. Mechanic	MAINTENANCE UNIT
29	Jayesh Kumar P	Sr. Mechanic	ENGG. UNIT
30	Eldho. P. Varghese	Sr. Mechanic	MED
31	Manoj. K. G	Sr. Mechanic	MED
32	Divakaran P	Sr.Mechanic (Sl.Gr.)	ENGG. UNIT
33	Sasi K K	Sr.Mechanic (Sl.Gr.)	MED
34	Anandan K R	Sr.Mechanic (Sl.Gr.)	ECED
35	Sasesh A R	Sr.Mechanic (Sl.Gr.)	EED
36	Alavikutty K	Sr.Mechanic (Sl.Gr.)	ENGG. UNIT
37	Ajayakumar. R	Sr.Mechanic	CED
38	Noushad. K.K	Sr.Mechanic	CED
39	Abdulsathar V M	Sr.Mechanic	CSED
40	Beljith. P	Sr.Mechanic	CSED
41	Jayan V S	Sr.Mechanic	EED
42	Nandakumar K	Sr.Mechanic	EED
43	Prajith. P	Sr.Mechanic	ENGG. UNIT
44	Abdulsidheek P K	Sr.Mechanic	ENGG. UNIT
45	Mathew Varghese	Sr.Mechanic	ENGG. UNIT
46	Narayanlal M	Sr.Mechanic	MED
47	Prasad Moochikkal Variath	Sr.Mechanic	MED

48	Shaly Joseph. K	Sr.Mechanic	MED
49	Unnikrishnan R	Sr.Mechanic	MED
50	Sudheer.P.R	Sr.Mechanic	MED
51	Sreenivasan P	Sr.Mechanic (Sl.Gr.)	CED
52	Suresh Kumar G	Sr.Mechanic (Sl.Gr.)	ECED
53	AsokaKumar. P. T	Sr.Mechanic (Sl.Gr.)	EED
54	Anandan P	Sr.Mechanic (Sl.Gr.)	MED
55	Velayudhan Kutty N P	Sr.Mechanic (Sl.Gr.)	MED
56	Mohanlal D	Sr.Mechanic (Sl.Gr.)	CED
57	Sathiyam P K	Sr.Mechanic (Sl.Gr.)	CED
58	Krishnan kutty V	Sr.Mechanic (Sl.Gr.)	ECED
59	Mohammed Sali N K	Sr.Mechanic (Sl.Gr.)	EED
60	Somanath K A	Sr.Mechanic (Sl.Gr.)	EED
61	Abhilash. A	Sr.Mechanic (Sl.Gr.)	MED
62	Ajayan A	Sr.Mechanic (Sl.Gr.)	MED
63	George T M	Sr.Mechanic (Sl.Gr.)	MED
64	Raghu P V	Sr.Mechanic (Sl.Gr.)	MED
65	Sanal P R	Sr.Mechanic (Sl.Gr.)	MED
66	Surendran P K	Sr.Mechanic (Sl.Gr.)	MED
67	Suresh.K.C.	Sr.Mechanic (Sl.Gr.)	MED
68	Vasu.T.C.	Sr.Mechanic (Sl.Gr.)	MED
69	AnilKumar P	Supervisor	MED
70	Pradeep Kumar E	Supervisor	MED
71	Rajagopalan A	System Analyst	CSED



72	Santhosh Kumar S	System Programmer	CSED
73	Narayanan Kutty P	UD Steward	HOSTEL OFFICE

### **MINISTERIAL STAFFS**

<b>SL.N O.</b>	<b>NAME</b>	<b>DESIGNATION</b>	<b>DEPARTMENT</b>
1.	Gejo C V	Deputy Registrar	Finance
2.	Dr. Raghunadhan T	Deputy Registrar	Academic
3.	Praveen Kumar.P	UD Clerk	Engg. Unit
4.	Sethumadhavan Mechery	UD Clerk	Accounts
5.	S.M.Shafi	UD Clerk	Accounts
6.	Purushothaman Pillai K N	UD Clerk	Purchase
7.	K.T. Sasikumar	UD Clerk	Dean R & C
8.	P. Muraleedharan	JS	Establishment
9.	K. Unnikrishnan	UD Clerk	Academic
10.	M.Reejish Kumar	JS	Hostel Office
11.	Petson Andrew	UD Clerk	Admission
12.	M.V. Prasad	DA	Engg. Unit
13.	Ashok Kumar Dev	AR (Finance)	Accounts
14.	S.Saravanan	AR (Admn.)	Administration
15.	Dr.A.A.Celine	RMO	Health Center
16.	C Veluthaki	CA Gr.II (Hr.Gr.)	ECED
17.	Stella.V.C	Fair Copy Superintendent	CED
18.	Sindu .P	UD Clerk	Academic
19.	Sobhana.T	UD Clerk	Academic
20.	G. Chandrika	UD Clerk	Academic
21.	J.L. Soosykutty	UD Clerk	Establishment
22.	Smera K.S	UD Clerk	Establishment
23.	P.D.Juliet Das	UD Clerk	Establishment
24.	Mereena John	U D Clerk	Accounts
25.	K. Mini	JS	Accounts
26.	P. Prama	UD Clerk	Accounts
27.	C.P. Rugmini	SS	Accounts
28.	S.Sreedha	AR Estt.)	Establishment
29.	Asha Gopalan	AR (S&P)	Stores & Purchase

**SUPPORTING STAFF**

<b>SL.NO.</b>	<b>NAME</b>	<b>DESIGNATION</b>	<b>DEPARTMENT</b>
1	A.Sumathi	Peon Hr. Gr.	ECED
2	Abdurahiman P	Bearer cum Room boy	Guest House
3	C Preman	Watchman cum Gardner	Director Office
4	C.Geetha	Sweeper Cum Sanitation	First Year Cordinator Office
5	C.Unnikrishnan	Vehicle Cleaner	MED/CED
6	Devi Poolakkal	Sanitation Worker	Accounts
7	E.Vishalakshi	Sanitation Worker	Architecture
8	Jameela. A.K	Sweeper Cum Sanitation	Dean R&C, FW
9	K Bhaskaran	Watchman cum Gardner	Physics
10	K P Devi	Sanitation Worker	Dean Academic/ Dean P&D
11	K Thankamani	Sanitation Worker	Engineering Unit
12	K V Chandu	Peon	Hostel Office
13	L. Sasikala	Sweeper Cum Sanitation	Health Center
14	M.K.Rajan	Watchman cum Gardner	EED
15	M.M.Sadanandan	Watchman cum Gardner	Guest House
16	M.Mamukoya	Watchman cum Gardner	Guest House
17	M.Rajan	Watchman	T&P
18	N.K.Ummerkutty	Watchman	Purchase
19	Narayanan .T	Watchman cum Gardner	Registrar Office
20	P.Abdul Razack	Watchman cum Gardner	Sergeant Office
21	P.K.Sangeeta	Peon	Establishment

22	P.V.Bhagianathan	Watchman cum Gardner	Sergeant Office
23	Saroja. T M	Sanitation Worker	Chemistry
24	T.Janardhanan	Watchman cum Gardner	Accounts
25	T.P.Ravia	Peon	Maths
26	Thanka.C	Sweeper Cum Sanitation	CSED
27	V.Pushpavalli	Sanitation Worker	Academic, Admission office
28	Vinod. K.P	Watchman cum Gardner	Library

### 3.3 TRAINING STATUS

#### DEPARTMENT OF ARCHITECTURE

Department	Members of the Faculty
Architecture and Planning	Dr. Naseer M.A., GIAN Course on Smart Urban Multimodal Transport Planning, Operations and Management – 8 <sup>th</sup> -12 <sup>th</sup> July 2019 at IIT Kharagpur.
Architecture and Planning	Dr. Bimal P. TEQIP III FDP on Machine Learning for Engineering Applications at IIT Delhi 2019
Architecture and Planning	Dr. Bimal P. Training on Multivariate Data Analysis at IIM Kozhikode 2019
Architecture and Planning	Dr. Bimal P. CEP course on introduction to machine Learning and deep learning with Applications to engineering systems. IIT Bombay 2019.
Architecture and Planning	Dr. Shyni Anilkumar, Summer School on Geospatial Technologies organized by Department of Science and Technology, Govt. of India and NIT Calicut during 10th and 30th June 2019
Architecture and Planning	Dr. Shyni Anil Kumar: Faculty Development Program on Fundamentals of Data Analysis and Report Writing organised by IIM Kozhikode during 22nd and 27th July 2019.
Architecture and Planning	Dr. Deepthi Bendi Course on Digital Transformation in Teaching Learning Process, IIT Bombay April 2020.
Architecture and Planning	Dr. Mohammed Firoz C., Training on Multivariate Data Analysis at IIM Kozhikode 2019

Architecture and Planning	Dr. A.K. Kasthurba, Attended International Conference Conservation of Architectural Heritage (CAH 2020) at Aswan-Luxor, Egypt, 31 Jan to 2 Feb 2020. (PDA funding)
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### DEPARTMENT OF CIVIL ENGINEERING

Department	Members of the Faculty
Civil Engineering	<b>Dr George K Varghese:</b> Attended International Conference on “Society for Risk Analysis - Fifth World Congress on Risk -Society of Environmental Toxicology and Chemistry (SETAC)” - Ninth Biennial Meeting of SETAC Africa, 6-8 May 2019 at Cape Town, South Africa.
	<b>Dr. Harikrishna M.:</b> Attended and presented a paper in the 15 <sup>th</sup> World Conference on Transport Research, 26-31 May 2019 at Mumbai.
	<b>Dr. Mini Remanan and Dr. Anjana Bhasi:</b> CEP on Recent Advances in pile foundation design, construction and testing at IIT Bombay, June 2019.
	<b>Dr. Santosh G Thampi:</b> Attended and presented a paper at the 6 <sup>th</sup> India Water Week during 24-28 September 2019 at Vigyan Bhavan, New Delhi
	<b>Dr. Robin Davis P and Dr. Sajith A.S:</b> International seminar on Performance-based design of buildings & bridges for enhanced seismic resilience at Indian Association of Structural Engineers New Delhi during 08-09 Nov 2019.
	<b>Dr. Santosh G Thampi and Dr. Sathish Kumar D:</b> Workshop on Introduction to Numerical Weather Prediction from 18-22 November 2019, at IIRS, Dehradun.
	<b>Dr. Santosh G Thampi:</b> Attended, presented two papers and chaired a technical session at HYDRO2019 during 18-20 December 2019 at Hyderabad
	<b>Dr. Santosh G Thampi:</b> Moderator of the session on Disaster Preparedness: Standards and Actions at the National Conference on Policies and Strategies for Flood Management: Kerala Scenario organized by the Department of Water Resources, Govt. of Kerala, during 23-24 January 2020
	<b>K. Rangaswamy:</b> One-week International conference on Landslide Risk Assessment and Mitigation (LARAM) India course 2020, 17th to 22nd February 2020.
	<b>Dr. Santosh G Thampi:</b> Attended and presented a paper at HYDRO2020 during 26-28 February 2020 at IIT Roorkee
	<b>Dr. Harikrishna M.:</b> Attended and presented two papers in ‘Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)’, organized by ASCE India Section, 02-04 March 2020.
<b>Dr. Santosh G Thampi:</b> Attended and delivered a talk at the two day workshop on “Advances in Flood Modelling – Coastal and Inland Cities” organised by DHI (India) Water and Environment (P) Ltd., during 3-4 March 2020 at NIOT, Chennai.	

### DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Faculty	Details
Dr.Pournami P N	<ol style="list-style-type: none"> <li>8th International conference on Pattern Recognition and Machine Intelligence (PREMI) December 17-20, 2019</li> <li>TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON), 17-20 Oct. 2019</li> </ol>

	<p>3. TEQIP III – Faculty &amp; Staff Development Pedagogy Training, IIT Madras, 21st to 23rd March 2019</p> <p>4. Summer school on Deep Learning, NIT Surathkal, May 17 - 21, 2019</p> <p>5. Summer school on Computer Vision, IIIT Hyderabad, July 01 - 06, 2019</p> <p>6. Summer school on Machine Learning, IIIT Hyderabad, July 08 - 13, 2019</p>
Dr. Jimmy Jose	ICISA2019 - International Conference on Information Science and Applications 2019 held on <b>December 16th -18th 2019</b> in <b>Seoul, Korea</b>
Dr Lijiya A	Sruthi C J, Lijiya A Signet: A deep learning based sign language recognition system 2019 International Conference on Communication and Signal Processing (ICCS) April,2019, pp-0596-0600,
Dr.S.D Madhu Kumar	Participated in ACM SAC 2019 during April 2019 at Cyprus.
Dr Jay Prakash	TEQIP Sponsored National Workshop On Technical Writing With Advanced Computer Tools: Hands-On Training, Workshop 14 th -18 th , May 2019 NIT Jaipur TEQIP Productivity Enhancement Training, Training, 16 th to 20 th July 2019, NIT Calicut
Dr. Priya Chandran	Participated in ACM SAC 2019 during April 2019 at Cyprus.
Dr. Hiran V Nath	TEQIP Training of Future Skills Technologies: Cyber Security, 24/02/2020 to 06/03/2020 at IIT Roorkee.

#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Sl. No	Members of the Faculty	Training
1.	Dr. Sathidevi P. S.	IEEE TENCON 2019 Conference
2.	Dr. Sreelekha G.	IEEE TENCON 2019 Conference
3.	Ms. Lyla B. Das	TEQIP III FDP Short Term Course on A Case-Based Short Term Course on Advanced Data Analytics With Python Programming 20/5/2019 – 24/5/2019
		International Workshop on Applied Deep Learning 1/7/2019 – 5/7/2019
4.	Dr. Dhanaraj K. J.	Introduction to Machine Learning & Deep Learning –with Application to Engineering Systems” during May 13-17, 2019 at IITB, Mumbai
5.	Dr. Sudhish N George	TEQIP III Advanced Data Analytics, May 2019, IIT Roorkee
		Workshop on Applied Deep Learning, July 2019, IIT Mandi
6.	Dr. Bindiya T. S.	TEQIP III FDP Short Term Course on A Case-Based Short Term Course on Advanced Data Analytics With Python Programming
		International Workshop on Applied Deep Learning
7.	Dr. Ameer P M	TENCON 2019 Conference, Kochi, Kerala
8.	Dr. Jayakumar E.P	TEQIP III FDP Short Term Course on A Case-Based Short Term Course on Advanced Data Analytics With Python Programming
		International Workshop on Applied Deep Learning
9.	Dr.Lintu Rajan	IEEE Sensors 2019, Montreal Canada
10.	Dr. GopiKrishna Saramekala	Two week TEQIP online certification course on Digital Transformation in Teaching Learning Process

11.	Dr. Waquar Ahmad	Two week TEQIP online certification course on Digital Transformation in Teaching Learning Process
12.	Dr. M. Surya Prakash	Two week TEQIP online certification course on Digital Transformation in Teaching Learning Process
13.	Dr Sudeep P V	AICTE/MHRD's Innovation ambassador-training program AT ACS COLLEGE OF ENGINEERING BANGALORE DURING 26 FEBRUARY TO 27 FEBRUARY 2020
		Summer School on Deep Learning at NITK SURATHKAL 18th - 21th May, 2019
		CEP- Introduction to Machine Learning and Deep Learning at IIT Bombay 13th - 17th May, 2019.
		NVIDIA Deep Learning Institute Course on Fundamentals of Deep Learning for Computer Vision at NIT Calicut, 14 <sup>th</sup> June 2019
		Two week TEQIP online certification course on Digital Transformation in Teaching Learning Process

#### DEPARTMENT OF ELECTRICAL ENGINEERING

Sl.No.	Name of Faculty Member/s	Details of Training Programme
1.	Dr. Jagadanand G. Dr. Jeevamma Jacob Dr. Saly George Dr. Kanagalakshmi S. Dr. Karthikeyan V. Dr. Kumaravel S. Dr. Gopakumar P. Dr. Subha. D.P.	1. CEP course on Introduction to machine learning and deep learning organized by IIT Bombay from 13th may 2019 to 17th May 2019
2.	Mr. Subhash K.M.	1. "Summer School on Deep Learning" 17 <sup>th</sup> -21 <sup>st</sup> May 2019 at National Institute of Technology Karnataka, Surathkal. Sponsored by TEQIP-III. 2. Short-Term Course on "Machine Learning for Engineering Applications" at Indian Institute of Technology Delhi. 9th – 13th December 2019 Sponsored by TEQIP-III.
3.	Dr. Jagadanand G.	1. Workshop on "Applied deep leaning" organized by MANS LAB, school of computing and electrical engineering, IIT Mandi held from 1st July 2019 to 5th July 2019
4.	Dr. Jeevamma Jacob	1. Two-day seminar on the topic "Internationalisation: Strategies, Implementation and Structures. Chances and Challenges for Indian Universities", held from 10 – 11 October, 2019 at the Indian Institute of Technology Madras, Chennai.
5.	Dr. Susy Thomas	1. Short Term Course under technical Education Quality Improvement Program-III on 'Mind,

		Meditation and Human values- A Scientific Perspective at IITD. 21-25 October 2019
6.	Dr. Abraham T. Mathew	1. 'The Workshop on Exploring New Frontiers of Digital Transformations', MHRD,NPIU 7-9 November 2019
7.	Dr Ashok S	1. TEQIP III sponsored FDP on Process Control, Instrumentation and Automation PCIA- 2019 from 2-Dec-19 to 7-Dec-19
8.	Dr Subha D P	1. Faculty development programme on electric vehicles and renewable powered charging stations.

### DEPARTMENT OF PHYSICS

Department	Members of the Faculty
Physics	Dr. Ram Ajour Maurya
Physics	Dr. Saurabh Gupta
Physics	Dr. Goutam Kumar Chandra

- (1) Workshop on “**Science of the star in our backyard: introduction and data analysis**”, during 26-29th Dec 2019 in St. Mary’s college, Sulthan Bathery, Wayanad (an invited talk)- Dr. Ram Ajour Maurya
- (2) *IRIS-10* workshop, during 4-8 November 2019 at Christ University, Bangalore (one oral and one poster papers presented)- Dr. Ram Ajour Maurya
- (1) Participated in the “**Productivity Enhancement Program (PEP)**” held under TEQIP-III at NIT Calicut conducted by Vykati Vikas Kendra, India, July 16 - 20, 2019- Dr. Goutam Kumar Chandra
- (2) Participated in the TEQIP-III sponsored One Day Workshop on Basic Life Support - **First Responder Training**, organized by Aster MIMS and NIT Calicut Health Centre, August 15, 2019- Dr. Goutam Kumar Chandra

### DEPARTMENT OF CHEMICAL ENGINEERING

Sl.No.	Name	Details of Training programme
1	Dr.V.Sivasubramanian	Steady State Simulation of Fast Pyrolysis of Wood Biomass using Unisim Design, October 3-5, 2019, 2nd World Summit on Advances in Science, Engineering and Technology, Indiana Summit-2019, IUPUI, Indianapolis, USA

2	Dr Dhanya Ram V	'Introduction to Machine Learning and Deep Learning – with Applications to Engineering Systems', CEP, IIT Bombay, 13/05/2019 - 17/05/2019
3	Dr. Panneerselvm Ranganathan	1 <sup>st</sup> International Symposium on Analytical and Applied Pyrolysis in Asian Region (PYROASIA 2019), IIT Madras, 2019.
4	Dr Sudev Das	MDP - Timeless Leadership: Invincible Wisdom in the Age of Artificial Intelligence, during January 10 – 12, 2020
		25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019) 2019, 28-31 December , IIT Roorkee
		46th National Conference on Fluid Mechanics and Fluid Power. PSG College of Technology. Coimbatore, India, December 9-11, 2019
5	Dr Prasanna Kumar S Mural	35th Europe-Africa Regional Conference of the International Polymer Processing Society (PPS2019), Pretoria, South Africa, held on November 18 – 21, 2019
6	Dr. Noel Jacob Kaleekkal	Oral Presentation 'Thin-Film Membranes for Water Recovery and Reuse' at the International Conference on Advancements in Membrane Technologies held 14-15th February 2020 conducted by the Indian Membrane Society, Membrane Society of Australasia and Water Today.

#### DEPARTMENT OF MECHANICAL ENGINEERING

Department	Members of the Faculty
Mechanical Engineering Department	<p>Dr. V. Madhusudanan Pillai and Dr. Vinay V. Panicker participated in an International conference on Digital Pedagogies: Changing Mindsets for Sustainable Learning organized by JIS Group, Kolkata, MHRD, Govt. of India, World Bank Group, Microsoft, UNESCO MGIEP, NPIU, AICTE, MAKAUT, Conducted at AICTE, New Delhi during April 1-3, 2019.</p> <p>Dr. Ratnakumar K. attended a Short Term Course on Introduction to human factors engineering at IIT BOMBAY during May 06-07, 2019.</p> <p>Dr. Ratnakumar K. attended a Short Term Course on introduction to advanced cognitive systems design at IIT BOMBAY during May 08-10, 2019.</p> <p>Dr. Deepak Lawrence L attended a CEP on Introduction to Machine Learning and Deep Learning with Applications to Engineering Systems organized by IIT Bombay during May 13-17, 2019.</p>



	<p>Dr. Ratnakumar K. attended an FDP on Introduction to Machine and deep learning at IIT BOMBAY during May 13-17, 2019.</p> <p>Dr. Vinay V. Panicker attended the 15th World Conference on Transportation Research WCTR 2019 organised by Indian Institute of Technology Bombay during May 26-31, 2019.</p> <p>Dr. Ratnakumar K. participated in an International conference on production and industrial Engineering (CPIE 2019) organized by NIT Jalandhar during June 08 -10, 2019.</p> <p>Dr. Ratnakumar K. attended a Short Term Course on Engineering optimization at IISc, Bengaluru between June 15 and 19, 2019.</p> <p>Dr. A. P Sudheer participated the Fourth International conference on Advances in Robotics (AIR 2019) IIT Madras, organized by The Robotics Society-India during July 2-6, 2019.</p> <p>Dr. U B Jayadeep attended INCAM 2019 at IISc Bangalore during July 3-5, 2019.</p> <p>Dr. T. J. Jothi attended an International Conference on Sound and Vibration-2019, Montreal, Canada, July 7-11, 2019.</p> <p>Dr. Ratnakumar K. attended an FDP on Work Place Ergonomics – Perspectives, principles and practices organised by R V College of Engineering, Bengaluru during July 01-13, 2019.</p> <p>Dr. K P Murali, Dr. Sujith Kumar C S., Dr. Ashesh Saha, Dr. Srinu Gangolu, and Dr. Vineesh K P attended National Workshop on Precision Measurements and Nanomechanical Testing at National Institute of Technology Calicut during July 15-20, 2019.</p> <p>Dr. Gangadhara Kiran Kumar L attended a Course on Entrepreneurship, Innovation and Incubation, KITE, IIT Bombay, July 08-12, 2019.</p> <p>Dr. Vinay V. Panicker attended the International Conference on Manufacturing Modelling, Management and Control 9th MIM 2019, Berlin, Germany organised by International Federation of Automatic Control during August 28-30, 2019.</p> <p>Dr. V. Madhusudanan Pillai participated in an International Conference on “Emerging Trends in Mechanical &amp; Industrial Engineering” (ICETMIE-2019) at The NorthCap University, HUDA Sector 23-A Gurugram during October 10-11, 2019.</p> <p>Dr. Sujith Kumar C S attended an International Mechanical Congress – 2019, NIT Triuchirappalli, 29 November 2019 - 01 December 2020.</p> <p>Dr P. K. Rajendrakumar participated in the 10th International Conference on Industrial Tribology (IndiaTrib – 2019) organized by Indian Institute of Science (IISc), Bangalore during December 1- 4, 2019.</p>
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	<p>Dr. Jose Mathew participate an International Conference on Precision, Meso, Micro &amp; Nano Engineering (COPEN 11), organized at IIT Indore during December 12-14, 2019.</p> <p>Dr. Jose Mathew attended an Indo-US Workshop on Metal Additive Manufacturing at PSG, Coimbatore from December 16 to 18, 2019.</p> <p>Dr. Vineesh K P participated in 4th railway brake and friction conference at SRM Institute of Science and Technology, Chengalpttu during December 10-11, 2019.</p> <p>Dr. Vineesh K P attended a short term course on recent trends in friction stir processing technique at IIT Patna during December 18-20, 2019.</p> <p>Dr. Jose Mathew was selected for “Leadership for Academicians Programme (LEAP)” organized by Tata Institute of Social Sciences (TISS) Mumbai and Penn GSE, Philadelphia, USA during January and March 2020.</p> <p>Dr. A. Shaija attended a Workshop on ‘Timeless Leadership’, IIM Kozhikode, January 10-12, 2020.</p> <p>Dr. Gangadhara Kiran Kumar L attended a Training on future skills technologies: Robotics &amp; Automation, IIT Roorkee, March 01-13, 2020.</p> <p>Dr. S. Jayaraj: ASME 2019 Gas Turbine India Conf., Dec. 5-6, 2019, IIT Madras; FDP on “Emerging Trends in I Engine Combustion &amp; Emissions”, June 24, 2019, Marian College of Engg., Trivandrum (Chief Guest); FDP on “Sustainable Energy Processes”, January, 17, 2020, M. Dasan Institute of Technology, Ulliery, Kozhikode (Keynote Lecture on “Fuel Cells”).</p> <p>Dr. R. Sridharan participated in an International Conference on Advances in Material Science and Mechanical Engineering (ICAMSME 2020) organized by N.B.K.R. Institute of Science &amp; Technology, Nellore, Andhra Pradesh during February 7-9, 2020.</p> <p>Dr. Vineesh K P participated in the Conference on high temperature structural materials 2020 at IISc Bangalore during February 3-5, 2020.</p> <p>Dr. Ratnakumar K. attended an FDP on Re-Energizing the Classroom through the use of gamification and experiential activities in management education at IIT Madras during March 02-17, 2020.</p>
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## SCHOOL OF METATERIALS SCIENCE & ENGINEERING

Department	Members of the Faculty	Details
School of Materials Science and Engineering	Dr.Sajith V	16 <sup>th</sup> UK Heat Transfer Conference (UKHTC 2019) 8 <sup>th</sup> -10 <sup>th</sup> Sept. 2019

## SCHOOL OF MANAGEMENT STUDIES

Department	Members of the Faculty
SOMS	T Radha Ramanan
SOMS	Dr. K Muhammad Shafi
SOMS	Dr. Reju George Mathew
SOMS	Dr. Sreejith S S

### 3.4 PLACEMENT OF STAFF FOR ACADEMIC EXCELLENCE

#### DEPARTMENT OF CIVIL ENGINEERING

Sl. No.	Name	Academic Excellence
1	Dr. M Sivakumar	Awarded Ph.D from NIT Calicut

#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Sl. No	Name	Academic Excellence
1	Raghu C V	Obtained Ph.D Degree from IISc, Bangalore

#### DEPARTMENT OF ELECTRICAL ENGINEERING

Sl. No.	Name	Academic Excellence
1	Mr. Subhash K M	Undergoing Ph.D in Biosignal Processing at NIT Calicut
2	Ms. Hemarani P	Undergoing Ph.D in Industrial Converters at NIT Calicut

### 4.0 TEACHING PROGRAMMES

#### 4.1 COURSES OFFERED

##### DEPARTMENT OF ARCHITECTURE

1. B. Arch
2. M. Plan
3. Ph. D

### DEPARTMENT OF CIVIL ENGINEERING

Sl. No.	Course	Year of starting
1	B.Tech. (Civil Engineering)	1961
2	M.Tech (Structural Engineering)	1971
3	M.Tech (Traffic and Transportation Planning)	1985
4	M.Tech (Offshore Structures)	1987
5	M.Tech (Environmental Geotechnology)	2006
6	M.Tech (Water Resources Engineering)	2014
7	Ph.D	1985

### DEPARTMENT OF CHEMICAL ENGINEERING

- i) B.Tech (Chemical Engineering)
- ii) M.Tech (Chemical Engineering)
- iii) PhD (Chemical Engineering)

### DEPARTMENT OF CHEMISTRY

1	M.Sc.	Chemistry
2	Ph.D.	Organic, Inorganic, Physical, Polymer, Theoretical, Bio-Organic and Bio-inorganic Chemistry

### DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

- i) B.Tech. (Computer Science & Engineering)
- ii) MCA
- iii) M.Tech. (Computer Science & Engineering)
- iv) M.Tech. Computer Science & Engineering (Information Security)
- v) Ph. D

### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

- (1) B. Tech.(Electronics and Communication Engineering)
- (2) M.Tech. (Electronics Design and Technology)
- (3) M.Tech. (Microelectronics and VLSI Design)
- (4) M.Tech.(Telecommunication)
- (5) M.Tech.(Signal Processing)
- (6) Ph.D (Full-time, Part-time, QIP and Visweswarayya scheme)

## DEPARTMENT OF ELECTRICAL ENGINEERING

Sl. No.	Courses	Branch/Discipline
1	B.Tech.	Electrical and Electronics Engineering
2	M. Tech.	Instrumentation and Control Systems
3		Power Systems
4		Power Electronics
5		Industrial Power and Automation
6		High Voltage Engineering
7		Ph. D.
	Electrical Machines & Power Electronics	
	Control and Signal Processing	
	Industrial Power & Automation	
	High Voltage Engineering	
	Biomedical & Signal Processing	

## DEPARTMENT OF MECHANICAL ENGINEERING

- **Under Graduate Programmes**
  - ❖ B.Tech. - Mechanical Engineering
  - ❖ B.Tech. - Production Engineering
- **Post Graduate Programmes**
  - ❖ M.Tech. - Industrial Engineering and Management
  - ❖ M.Tech. - Thermal Sciences
  - ❖ M.Tech. - Manufacturing Technology
  - ❖ M.Tech. - Energy Engineering and Management
  - ❖ M.Tech. - Materials Science and Technology
  - ❖ M.Tech. - Machine Design
- **Doctoral Programme - Ph. D.**

## DEPARTMENT OF PHYSICS

- i) B.Tech (Engineering Physics)
- ii) M.Sc. (Physics)
- iii) PhD

## SCHOOL OF BIOTECHNOLOGY

- ❖ B.Tech Biotechnology
- ❖ Ph.D Biotechnology

**SCHOOL OF METIERIAL SCIENCE AND ENGINEERING**

- ❖ M. Tech
- ❖ Ph. D

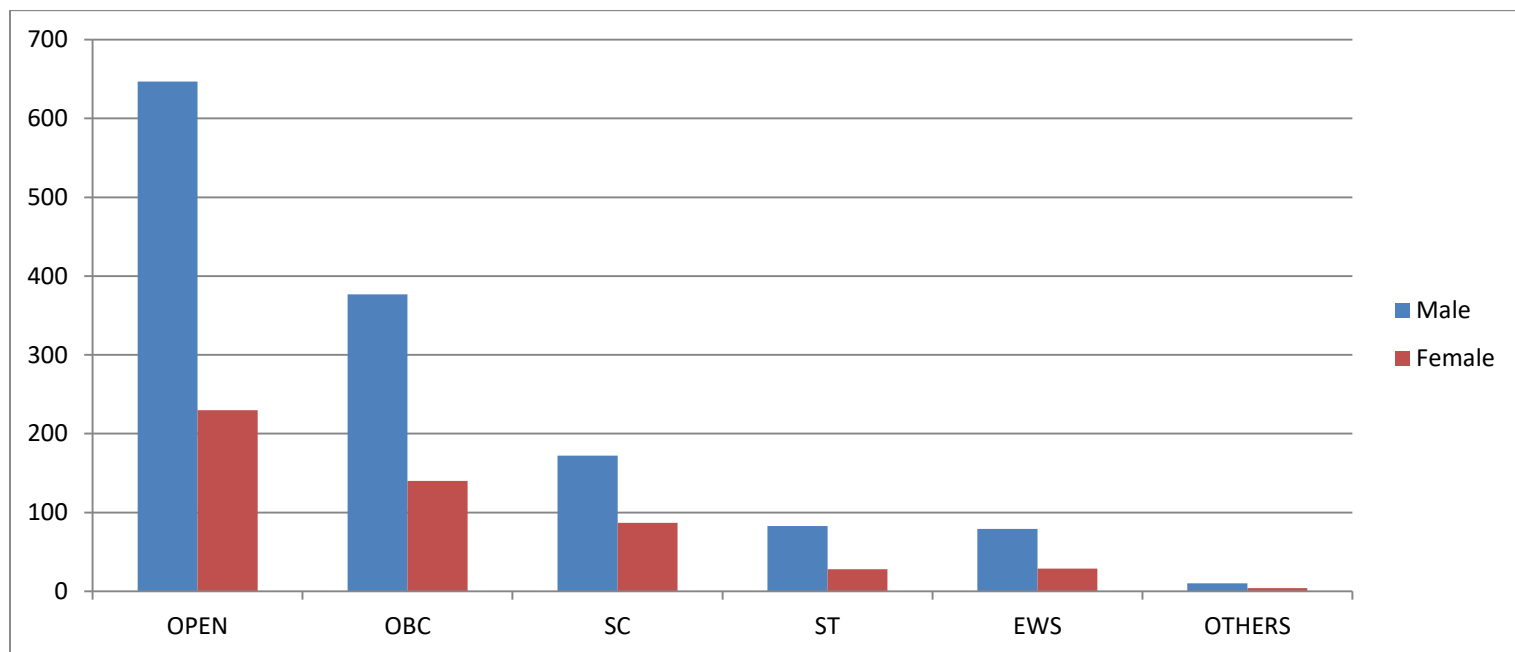
**SCHOOL OF MANAGEMENT STUDIES**

- ❖ MBA
- ❖ Ph. D.

#### 4.2 COURSE WISE ENROLMENT WITH SEX, CASTE, BREAK UP 2019-2020

Level	Open		OBC		SC		ST		EWS		Others*		TOTAL
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
<b>B. Tech/B. Arch</b>	<b>399</b>	<b>92</b>	<b>243</b>	<b>55</b>	<b>113</b>	<b>53</b>	<b>63</b>	<b>21</b>	<b>49</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>1102</b>
<b>M. Tech./M.Plan.</b>	<b>165</b>	<b>57</b>	<b>87</b>	<b>35</b>	<b>44</b>	<b>21</b>	<b>17</b>	<b>5</b>	<b>25</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>472</b>
<b>MCA</b>	<b>18</b>	<b>4</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>49</b>
<b>MBA</b>	<b>9</b>	<b>18</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>45</b>
<b>M. Sc</b>	<b>16</b>	<b>12</b>	<b>5</b>	<b>12</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>61</b>
<b>Ph. D</b>	<b>40</b>	<b>47</b>	<b>26</b>	<b>30</b>	<b>3</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>157</b>
<b>Total</b>	<b>647</b>	<b>230</b>	<b>377</b>	<b>140</b>	<b>172</b>	<b>87</b>	<b>83</b>	<b>28</b>	<b>79</b>	<b>29</b>	<b>10</b>	<b>4</b>	<b>1886</b>

\*Others: M.Tech.(ICCR-4,SP-3,DASA-1) , MBA (SP-1) , PhD(QIP-5)



4.3 Admission Statistics – UG/PG Programmes, course – wise

4.3.1. 1<sup>st</sup> Semester B.Tech./B.Arch –2019-2020

SPECIALISATION	OP	OP(PH)	OP(EWS)	OP(EWS)PH	OP(OB)	OP(OB)PH	EWS	EWS(PH)	OB	OB(PH)	SC	SC(PH)	ST	ST(PH)	DASA	FOREIGN	MEA(WELFARE)	SUPERNUMERARY	TOTAL	MALE	FEMALE	TOTAL
Architecture	13	1	2		5	1	3		14		9		6		7			1	62	36	26	62
Bio Technology	7		4		4		2		6	2	6		2		2				35	24	11	35
Civil	41	3	10		15		8		42		23		10	1	7				160	121	39	160
Chemical	41		1		1	1	6		25	2	16		8		5		1		107	83	24	107
Computer	52	1	7		9	2	9		42	1	22	1	10	1	21			1	179	147	32	179
Electrical	54	1	7		7	1	9		40	3	22		11		12	1			168	129	39	168
Electronics & Communication	44	1	11		14		8		41	1	23		12		20	1			176	137	39	176
Engineering Physics	13	1			1		1		8	1	6		2		3				36	25	11	36
Materials Science & Engineering	7		1		3		3		8		4		2						28	22	6	28
Mechanical	63	1	8		9	1	11		47	1	26	1	13		20				201	169	32	201
Production	16		1		4	1	3		14		8		5		2				54	42	12	54
<b>Total</b>	<b>351</b>	<b>9</b>	<b>52</b>		<b>72</b>	<b>7</b>	<b>63</b>		<b>287</b>	<b>11</b>	<b>165</b>	<b>2</b>	<b>81</b>	<b>2</b>	<b>99</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1206</b>	<b>935</b>	<b>271</b>	<b>1206</b>



4.3.2 1<sup>st</sup> Semester M. Tech/M.Plan 2019-2020

Department	GATE QUALIFIED											SP	QP	QP (POLY)	DASA	ICCR	Total		Total
	Code	OP	OP-PD	OBC	OBC-	SC	SC-PD	ST	ST-PD	EWS	EWS-						Male	Female	
ARCHITECTURE	AR61	8	0	3	0	2	0	1	0	0	0	3	-	-	-	2	10	9	19
		OP		OBC		SC		ST		EWS									
CIVIL ENGG.	CE61	10	0	6	0	3	0	2	0	2	0	-	-	-	-	-	15	8	23
	CE62	10	0	5	1	3	0	1	0	2	0	-	-	-	-	-	14	8	22
	CE63	12	0	6	0	2	0	1	0	0	0	-	-	-	-	-	9	12	21
	CE64	10	0	5	0	4	0	1	0	2	0	-	-	-	-	-	6	16	22
	CE65	6	0	3	0	2	0	1	0	2	0	-	-	-	-	-	8	6	14
		OP		OBC		SC		ST		EWS									
CHEMICAL ENGG.	CH61	3	0	2	0	2	0	0	0	0	0	-	-	-	-	-	4	3	7
		OP		OBC		SC		ST		EWS									
COMPUTER SCIENCE AND ENGG.	CS61	10	0	6	0	3	0	2	0	2	0	-	-	-	-	-	20	3	23
	CS62	10	0	6	0	2	0	1	0	1	0	-	-	-	-	-	17	3	20
		OP		OBC		SC		ST		EWS									
ELECTRONICS AND COMMUNICATION ENGG.	EC61	10	0	6	0	4	0	1	0	2	0	-	-	-	-	-	20	3	23
	EC62	10	0	6	0	3	0	2	0	1	0	-	-	-	-	-	18	4	22
	EC63	6	1	3	0	2	0	0	0	1	0	-	-	-	-	-	7	6	13
	EC64	6	0	4	0	2	0	1	0	1	0	-	-	-	-	-	9	5	14
		OP		OBC		SC		ST		EWS									
ELECTRICAL ENGG.	EE61	10	0	6	0	3	0	1	0	2	0	-	-	-	-	-	10	12	22
	EE62	9	1	6	0	3	0	2	0	1	0	-	-	-	-	-	15	7	22
	EE63	10	0	7	0	3	0	1	0	2	0	-	-	-	-	-	19	4	23
	EE64	10	0	5	0	3	0	1	0	2	0	-	-	-	1	-	14	8	22
	EE65	7	0	3	0	2	0	0	0	1	0	-	-	-	-	-	10	3	13
		OP		OBC		SC		ST		EWS									
MECHANICAL ENGG.	ME61	10	0	6	0	3	0	0	0	2	0	-	-	-	-	2	23	0	23
	ME62	10	0	6	0	3	0	2	0	2	0	-	-	-	-	-	22	1	23
	ME63	10	0	6	0	3	0	1	0	2	0	-	-	-	-	-	21	1	22
	ME64	10	0	6	0	3	0	0	0	2	0	-	-	-	-	-	19	2	21
	ME65	10	0	6	0	2	0	0	0	0	0	-	-	-	-	-	18	0	18
	ME66	7	0	3	0	2	0	0	0	1	0	-	-	-	-	-	12	1	13
		OP		OBC		SC		ST		EWS									
SMSE	MT61	6	0	0	0	1	0	0	0	0	0	-	-	-	-	-	6	1	7
		220	2	121	1	65	0	22	0	33	0	3	0	0	1	4			472

4.3.3 M.Sc, MCA, MBA &Ph.D. 2019-2020

Department	COURSE	OP	OBC	SC	ST	EWS	Total	SP	QIP	QIP (POLY)	Full time	PART TIME	INTERNAL	EXTERNAL	Total		Total
															male	female	
Mathematics(MMA)	MA62	10	5	3	1	2	21	0	0	0	21	0	0	0	12	9	21
Physics(PHA)	PH62	10	5	4	0	2	21	0	0	0	21	0	0	0	10	11	21
Chemistry(CYA)	CY62	9	6	2	1	1	19	0	0	0	19	0	0	0	7	12	19

Computer	MCA	22	14	6	3	4	49	0	0	0	49	0	0	0	36	13	49
SOMS	MBA	27	10	4	0	3	44	1	0	0	45	0	0	0	20	25	45

Architecture	PhD	3	5	2	0	0	10	0	0	0	5	5	0	0	3	7	10
Biotechnology		4	0	0	0	0	4	0	0	0	3	1	0	0	3	1	4
Chemical Engineering		6	3	1	0	0	10	0	0	0	10	0	0	0	3	7	10
Civil Engineering		10	5	1	0	0	16	0	2	0	13	1	0	0	7	9	16
Computer Science and Engineering		10	6	2	0	0	18	0	0	0	15	3	0	0	3	15	18
Electrical Engineering		6	7	1	0	0	14	0	2	0	12	0	0	0	10	4	14
Electronics & Communication Engineering		9	5	1	0	0	15	0	0	0	14	1	0	0	7	8	15
Mathematics		8	4	1	0	0	13	0	0	0	13	0	0	0	1	12	13
Mechanical Engineering		14	7	0	0	0	21	0	1	0	18	2	0	0	21	0	21
School of Materials Science and Engineering		4	2	0	0	0	6	0	0	0	5	1	0	0	3	3	6
Chemistry		7	2	0	0	0	9	0	0	0	8	1	0	0	1	8	9
Physics		2	7	0	0	0	9	0	0	0	9	0	0	0	5	4	9
Management Studies		8	3	1	0	0	12	0	0	0	10	2	0	0	3	9	12
<b>Total</b>			<b>91</b>	<b>56</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>157</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>135</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>70</b>	<b>87</b>

#### 4.4 Student Intake

##### 4.4.1 B.Tech/B.Arch

Branch	OP			OP(PH)			OP(EWS)			OP(EWS)PH			OP(OB)			OP(OB)PH			EWS			EWS (PH)			OB			OB (PH)				
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
AR	4	9	13	1		1	2		2				4	1	5	1		1	1	2	3				10	4	14					
BT	6	1	7				4		4				2	2	4				2		2				4	2	6	2		2		
CE	35	6	41	1	2	3	7	3	10				13	2	15				6	2	8				35	7	42					
CH	32	9	41				1		1				1		1	1		1	5	1	6				21	4	25	2		2		
CS	43	9	52	1		1	7		7				8	1	9	1	1	2	7	2	9				36	6	42	1		1		
EE	44	10	54	1		1	6	1	7				6	1	7		1	1	7	2	9				33	7	40	2	1	3		
EC	36	8	44	1		1	7	4	11				13	1	14				6	2	8				34	7	41		1	1		
EP	10	3	13	1		1							1		1				1		1				5	3	8	1		1		
MT	5	2	7				1		1				3		3				3		3				6	2	8					
ME	52	11	63	1		1	8		8				8	1	9	1		1	9	2	11				38	9	47	1		1		
PE	15	1	16				1		1				2	2	4	1		1	2	1	3				12	2	14					
Total	282	69	351	7	2	9	44	8	52				61	11	72	5	2	7	49	14	63				234	53	287	9	2	11		

Branch	SC			SC(PH)			ST			ST (PH)			DASA			FOREIGN			MEA (WELFARE)			SUPERNUM-ERARY			TOTAL				
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
AR	7	2	9				4	2	6				1	6	7							1		1	36	26	62		
BT	2	4	6				2		2					2	2										24	11	35		
CE	14	9	23				6	4	10	1		1	3	4	7									121	39	160			
CH	12	4	16				6	2	8				2	3	5					1	1			83	24	107			
CS	16	6	22	1		1	6	4	10	1		1	18	3	21							1		1	147	32	179		
EE	14	8	22				8	3	11				7	5	12	1		1						129	39	168			
EC	17	6	23				10	2	12				12	8	20	1		1						137	39	176			
EP	2	4	6				2		2				2	1	3									25	11	36			
MT	2	2	4				2		2															22	6	28			
ME	21	5	26				11	2	13	1		1	18	2	20									169	32	201			
PE	5	3	8				3	2	5				1	1	2									42	12	54			
Total	112	53	165	1		1	60	21	81	3			64	35	99	2		2		1	1	2		2	935	271	1206		

4.4.2 1<sup>st</sup> Semester M. Tech / M.Plan.

Sl. No	Code	OP		OP-PD		OBC		OBC-PD		SC		SC-PD		ST		ST-PD		EWS		EWS-PD		SP		QIP		DASA		ICCR		Total (M)		Total (F)	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
1	AR61	4	4	0	0	0	3	0	0	1	1	0	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	10	9	
1	CE61	6	4	0	0	3	3	0	0	2	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	15	8	
2	CE62	6	4	0	0	4	1	1	0	2	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	14	8		
3	CE63	4	8	0	0	3	3	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	12		
4	CE64	2	8	0	0	0	5	0	0	2	2	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	6	16		
5	CE65	3	3	0	0	0	3	0	0	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8	6		
1	CH61	2	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3		
1	CS61	10	0	0	0	5	1	0	0	1	2	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20	3		
2	CS62	10	0	0	0	4	2	0	0	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	17	3		
1	EC61	10	0	0	0	3	3	0	0	4	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20	3		
2	EC62	8	2	0	0	4	2	0	0	3	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	18	4		
3	EC63	3	3	0	1	2	1	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7	6		
4	EC64	4	2	0	0	3	1	0	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	9	5		
1	EE61	5	5	0	0	4	2	0	0	1	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	10	12		
2	EE62	6	3	0	1	5	1	0	0	2	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15	7		
3	EE63	7	3	0	0	7	0	0	0	2	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	19	4		
4	EE64	8	2	0	0	4	1	0	0	0	3	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	0	14	8		
5	EE65	5	2	0	0	2	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	10	3		

1	ME6 1	10	0	0	0	6	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	23	0
2	ME6 2	10	0	0	0	5	1	0	0	3	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	22	1
3	ME6 3	9	1	0	0	6	0	0	0	3	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	21	1	
4	ME6 4	10	0	0	0	6	0	0	0	2	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	19	2	
5	ME6 5	10	0	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	
6	ME6 6	7	0	0	0	3	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	12	1	
1	MT6 1	6	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	

#### 4.4.3 M. Tech,M.Plan. ,MCA ,MBA , M. Sc & Ph.D.

BRANCH	SC			ST			OPEN			OPEN-PC			OBC			OBC-PC			EWS			TOTAL		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
AR	1	1	2	0	1	1	9	4	13	0	0	0	0	3	3	0	0	0	0	0	0	10	9	19
CED	9	5	14	6	0	6	21	27	48	0	0	0	10	15	25	1	0	1	5	3	8	52	50	102
CHE	1	1	2	0	0	0	2	1	3	0	0	0	1	1	2	0	0	0	0	0	0	4	3	7
CSD	3	2	5	2	1	3	20	0	20	0	0	0	9	3	12	0	0	0	3	0	3	37	6	43
ECD	9	2	11	3	1	4	25	7	32	0	1	1	12	7	19	0	0	0	5	0	5	54	18	72
EED	7	7	14	3	2	5	32	15	47	0	1	1	22	5	27	0	0	0	4	4	8	68	34	102
MED	14	2	16	3	0	3	58	1	59	0	0	0	32	1	33	0	0	0	8	1	9	115	5	120
SMSE	0	1	1	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6	1	7
<b>Total</b>	<b>44</b>	<b>21</b>	<b>65</b>	<b>17</b>	<b>5</b>	<b>22</b>	<b>173</b>	<b>55</b>	<b>225</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>86</b>	<b>35</b>	<b>121</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>8</b>	<b>33</b>	<b>346</b>	<b>126</b>	<b>472</b>
MCA	4	2	6	2	1	3	18	4	22	0	0	0	10	4	14	0	0	0	2	2	4	36	13	49
MBA	3	1	4	0	0	0	10	18	28	0	0	0	6	4	10	0	0	0	1	2	3	20	25	45
M. Sc	5	4	9	1	1	2	16	12	28	0	0	0	5	12	17	0	0	0	2	3	5	29	32	61
Ph.D	3	7	10	0	0	0	41	50	91	0	0	0	26	30	56	0	0	0	0	0	0	70	87	157

## 4.5 The Hostels

### Accommodation

There are eleven hostels for the men and two hostels for the ladies. The total capacity of all hostels currently available is 5050. Present strength in the hostels is 5032, out of this 3707 are men (as on 31.03.2020). All the hostels have Common room and Recreational Centre where newspapers, magazines, TV's and indoor sports/games facilities are available. Free twenty four hour internet and computational facilities are available in almost all hostels; it is getting extended to other hostels too. Twenty four hour water and electricity (with DG power back up) is part of all the hostels. Mini canteen, Milma, Amul kiosks, DTP Centre, co-operative stores, Stitching Centre, Ctext book shop etc. are functioning in Students Amenity Centre. Two power laundry stations are functioning with collection centers at different hostels. The ladies hostel has ladies gym, stitching and tailoring centre, hostel library, fitness parlour, indoor sports centre, DTP centre and extension of co-operative stores. Guest room facilities are available in the hostels for the relatives/guests of hostel inmates on chargeable basis.

Day to day administration and management of the hostels is vested with the Council of Wardens headed by the Chief Warden appointed by the Director. Wardens' council is supported by Stewards/Caretakers/hostel staffs.

**Chief Warden: Dr. A. Santhiagu**

**Wardens** (as on 31.03.2020)

1	Dr. Lineesh M C , Office Warden	MATHS
2	Dr. K. Sekar	MED
3	Mr. K. Ratnakumar	MED
4	Dr. Malladi .V. Pavan Kumar	CHED
5	Dr. Ashish Awasthi	MATHS
6	Dr. Aji A. Anappara	PHYSICS
7	Dr. Jayaraj P. B	CSED
8	Dr. Baiju G Nair	SBT
9	Dr. Suresh Kumar N	MATHS
10	Dr. M.K. Ravi Varma	PHYSICS
11	Dr. K Krishnamurthy	CED
12	Dr. Jagadeesha T.	MED
13	Dr. Gangadhara Kiran Kumar L	MED
14	Mr. M. Sivakumar	CED
15	Dr. M Srinivas	MED
16	Mr. B. Rohinikumar	MED
17	Dr. Vineesh Ravi	CHED
18	Dr. R. Arun Kumar	CED
19	Dr. Haribabu	CHED
20	Dr. Vari Sivaji Reddy	PHY
21	Dr. Sathish Kumar D	CED
22	Dr. S. Bhuvaneshwari	CHED
23	Dr. P. Preetha	EEED
24	Dr. Susmitha Das	CHED
25	Dr. S. Kanagalakshmi	EED

**Hostel Manager (Officiating):** Sri. Reejish Kumar M

**Stewards:**

1. Sri. Narayanankutty .P

2. Sri. Anwar Sadath

**Peon:** Sri.Chandu. K V

#### 4.6 SCHOLARSHIPS/ ASSISTANCE-SHIP

##### **Financial Assistance to M.Tech Students:**

Teaching Assistantship /Research Assistantship/Scholarships are awarded to eligible M.Tech students as per rules formulated by the Govt. of India and the Institute for such awards from time to time, subject to availability of funds. Currently an amount of Rs.12,400/- per month for 22 months will be given to candidates admitted through GATE score. This facility will not be available to sponsored candidates, foreign nationals and dependants of NRIs

##### **Financial Assistance to Research Scholars:**

Teaching Assistantship /Research Assistantship/Scholarships are awarded to eligible full time research scholars as per the rules formulated by the Institute for such awards from time to time. Currently the scholarships are at the rate of Rs.31,000/- per month for the first two years and Rs.35,000/-per month for another three years. This facility will not be available to UGC/CSIR Fellowship/National Doctoral Fellowship Holders, sponsored candidates, foreign nationals and dependants of NRIs

#### 4.7 GAMES AND SPORTS

As has been the practice, Programs for 2019-20 were planned and executed giving due importance to the new comers to the Institute. More than 100 days during July to November 2019 were spent on fresher orientation program in order to acclimatize them to the NITC environment and to inculcate awareness on the need to pursue activities to keep themselves fit and healthy with in campus and to follow-up in the post-campus life.

The senior-graduate and the post graduate students on their part have thronged the Physical Education activity centers in big numbers on a voluntary basis. The shortage of Playfields continued to haunt and every attempt was made to provide them to meet the student demand. One systematic and successful method adopted was to provide floodlights on small area games like Tennis, Basketball and Volley ball. However, the existing infrastructure has been utilized to the full and equipment purchased has been exhausted due to the overwhelming use.

#### 4.8 AWARDS

##### DEPARTMENT OF ARCHITECTURE

Sl. No.	Name	Award
1	Dr. Bimal P., Riya Sethia,	Best Poster Award, "Planning for resolving conflicts between Coastal Tourism Growth v/s Coastal Sustainability", International Conference ICUSE 20, IIT Bombay, 2020

2	Dr.Mohammed Firoz.C, Dr.Anjana Bhagyanathan and Mrs Sonu Sukumaran	Sonu Sukumaran “ Best Master of Planning thesis in Kerala-titled “The Impact of Upstream Land Use Land Cover Change on Downstream Flooding” – A case of Meenachal River basin, Kerala, India.  Gold medal by ITPI Kerala chapter
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**DEPARTMENT OF CIVIL ENGINEERING**

Sl. No.	Name	Award
1	Dr. S. Chandrakaran	Prof K M Bahauddin Award for the Distinguished Engineering Teacher in Kerala
2	Dr. George K. Varghese	DUO-India Fellowship

**DEPARTMENT OF PHYSICAL EDUCATON**

No.	Discipline	Training Camps	Tournaments participated	Achievements	Remarks
1	Basketball	1 Camp	All Kerala Inter Engineering Basketball (Women) Tournaments 2019-20, held at NIT Calicut on 10- 12 <sup>th</sup> January 2020 in connection with “Ragam”2020.	Champions	Creditable performances as we were exhibit against good Engineering College sides form Kerala



2	Basketball	1 Camp	All Kerala Inter Engineering Basketball (Men) Tournament 2019-20, held at NIT Calicut on 10 - 12 <sup>th</sup> January 2020	4 <sup>th</sup> Position	Achieved against Professional sides
3	Basketball	1 Camp	All India Inter NIT Games 2019-20, Basketball (Women) held at NIT Surathkal on 17-19 <sup>th</sup> January 2020	Runner-Up	Creditable performances as we were exhibit against good NIT sides. We got consecutively Two times All India Basketball (Women) Champions from 2017-18, NIT Warangal, 2018-19, at NIT Trichy,
4	Basketball	1 Camp	All India Inter NIT Games 2019-20, Basketball (Men) held at NIT Surathkal on 17 - 19 <sup>th</sup> January 2020	Quarter Finalist	Achieved against Professional sides
5	Basketball	1 Camp	Kozhikode District League 2019-20, Basketball (Men) Tournament held at	5 <sup>th</sup> Position	Achieved against Professional sides

			27 <sup>th</sup> October 2020		
6	Volleyball	1 Camp	All India Inter NIT Games 2019-20, Volleyball (Men) held at NIT Rourkela on 24-26th January 2020	Runner-up	Achieved against Professional sides.
7	Volleyball	1 Camp	All Kerala Inter Engineering Volleyball (Men) Tournament 2019-20, held at NIT Calicut 10-12 <sup>th</sup> January 2020	Champion	Achieved against Professional sides
8	Badminton	1 camp	All India Inter NIT Games 2019-20 Badminton (Men) Team Championship held at SVNIT Surat on 20 - 23 <sup>rd</sup> February 2020	Runner-up	Achieved against Professional sides.
9	Kabaddi	1 Camp	All India Inter NIT Games 2019-20 Kabaddi (Men) held at NITK Surathkal on 17 -19 <sup>th</sup> January 2020	5 <sup>th</sup> Position	Achieved against Professional sides
10	Football	1 Camp	All Kerala Inter Engineering Football	Bronze	Achieved against Professional sides.

			(M) Tournament 2019-'20 held at NIT Calicut on 10-12 <sup>th</sup> January 2020		
11	Badminton	1 Camp	All India Inter NIT Badminton (Men) Team Championship 2019-'20 held at SVNIT Surat 20 - 23 <sup>rd</sup> February 2020	Runner-up	Achieved against Professional sides.
12	Kabaddi	1 Camp	All India Inter NIT Kabaddi (Men) Tournament 2019-'20 held at NITK Surathkal on 17 -19 <sup>th</sup> January 2020	5 <sup>th</sup> Position	Achieved against Professional sides
13	Football	1 Camp	All Kerala Inter Engineering Football (Men) Tournament 2019 -'20 held at NIT Calicut on 10-12 <sup>th</sup> January 2020	Bronze	Achieved against Professional sides.
14	Football	1 Camp	All Kerala Inter Engineering Football (Men) Tournament 2019 -'20 held at Amritha Vishwa Vidyapeetham, Vallikavu Amrithapuri, Kollam	Participated	Played against Professional sides

15	Badminton	1Camp	NIT Calicut Team participated in the South Zone Inter University Badminton (M ) Tournament 2019-20 held at SRM Institute of Science and Technology Tamil Nadu on 16-20 <sup>th</sup> December 2019.	Participated	Played against Professional sides
8	Cricket	1 camp	All India Inter NIT Games 2019-20 Cricket (Men) Team Championship held at SVNIT Surat on 20 - 23 <sup>rd</sup> February 2020	Participated	Played against Professional sides.

Individual Glories brought by NIT Calicut Students during 2019-2020

No	Discipline	Tournaments participated	Achievements	Names of Sports stars
1	Body building (65-70Kg) Wt. Class	All India Inter NIT Body building (M) Championship 2019-'20 held at MNIT Jaipur on 17-19 <sup>th</sup> October 2019	Runner-up	Ajai Babu T. S. M180023MS
2	Mr. NIT (All India Title)	All India Inter NIT Body building (M) Championship 2019-'20 held at MNIT Jaipur on 17-19 <sup>th</sup> October 2019	3 <sup>rd</sup> Position	Ajai Babu T. S. M180023MS

3	Basketball	All Kerala Inter Engineering Basketball (W) Tournament 2019-'20, held at NIT Calicut on 10 - 12 <sup>th</sup> January 2020	Best Player	Amalu Pradeep B160087CS
4	Basketball	All Kerala Inter Engineering Basketball (W) Tournament 2019 - '20, held at NIT Calicut on 10 - 12 <sup>th</sup> January 2020	Best Promising Player	P.Nishitha B180018AR
5	Basketball	All Kerala Inter Engineering Basketball (Men) Tournament 2019-20, held at NIT Calicut on 10 - 12 <sup>th</sup> January 2020	Best Promising Player	Mehul Golania B170976EC
6	Basketball	All India Inter NIT Basketball (Men) 2019-'20 held at NIT Surathkal on 17 - 19 <sup>th</sup> January 2020	Man of the Match	Mehul Golania B170976 EC
7	Cricket	Kerala College Premier League KCPL-T20 Cricket Championship 2019-'20 Organized by Sports-Exotica in association with Kerala Cricket Association (KCA) and Asianet News, the No.1 News brand in KeralaThe invitational Championship held at KCA Cricket Stadium at Wayanad on 6th January 2019.	Man of the Match	Rahul Raghavan M180029 ME

8	Cricket	Kerala College Premier League KCPL-T20 Cricket Championship 2019-'20 Organized by Sports-Exotica in association with Kerala Cricket Association (KCA) and Asianet News, the No.1 News brand in KeralaThe invitational Championship held at KCA Cricket Stadium at Wayanad on 9th January 2019.	Man of the Match	Akshay K. M180462 ME
9	Volleyball	All Kerala Inter Engineering Volleyball (Men) Tournament 2019-'20, held at NIT Calicut 10-12 <sup>th</sup> January 2020	Best Offender	Muhammad.O M190573CE
10	Badminton	All India Inter NIT Badminton (Men) 2019-'20 held at SVNIT Surat on 20 - 23 <sup>rd</sup> February 2020	Best Player	Emmanuel Martin B170908CH
11	Swimming 100M Back Stroke	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Silver	Mohammed Midulaj B160516CE
12	Swimming 50M Back Stroke	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Silver	Mohammed Midulaj B160516CE

13	Swimming 50M Free Style	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Bronze	Mohammed Midulaj B160516CE
14	Swimming 4x50M Relay Free Style	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Bronze	Mohammed Midulaj B160516CE
15	Swimming 4x 50M Relay Free Style	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Bronze	Shijon Joy B160600EC
16	Swimming 4x 50M Relay Free Style	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Bronze	Deepilli Sujay B190472PE
17	Swimming 4x 50M Relay Free Style	All India Inter NIT Aquatics (Men) 2019-'20 held at NITK Surathkal on 17 - 19 <sup>th</sup> January 2020	Bronze	S.Kapilashan B160026EE
18	Chess	All India Inter NIT Games 2019-20 Chess (M) held at MNIT Jaipur on 17-19 <sup>th</sup> October 2019.	Bronze (on Board 3 <sup>rd</sup> )	Sanath Santhosh B190686EE Commendable achievement.

19	Badminton	All India Inter NIT Staff Badminton (M) Doubles Championship 2019-'20 (Age Below 50 Years) held at MNIT Jaipur on 18-20 <sup>th</sup> December 2019.	Gold	Dr. Vineesh Ravi Asst. Professor (CH)  Sri. Abhilash Senior Mechanic
20	Badminton	All India Inter NIT Staff Badminton (M) Doubles Championship 2019-'20 (Age Above 50 Years) held at MNIT Jaipur on 17-19 <sup>th</sup> October 2019.	Silver	Sri. Climson C.R. Senior Mechanic  Sri. Somanath K.A. Senior Mechanic
21	Badminton	All India Inter NIT Staff Badminton (M) Singles Championship 2019-'20 (Age Below 50 Years) held at MNIT Jaipur on 18-20 <sup>th</sup> December 2019	Bronze	Dr. Vineesh Ravi Asst. Professor (CH)
22	Badminton	All India Inter NIT Staff Badminton (M) Singles Championship 2019-'20 (Age Above 50 Years) held at MNIT Jaipur on 18-20 <sup>th</sup> December 2019	Bronze	Sri. Climson C.R. Senior Mechanic

**DEPARTMENT OF CHEMICAL ENGINEERING**



Sl. No.	Name	Award
1	Noel Jacob Kaleekkal	Hiyoshi Young Leaf Award

#### DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Prof. P.M. Jussay Gold Medal for the Best Outgoing Student of NIT Calicut – 2020 - Mr Bharat Bhushan Reddy (Roll No. B160198CS- B.Tech CSE student).

#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Sl. No.	Name	Award
1	Dr. Lillykutty Jacob	Special volunteer award from IEEE Kerala Section

#### DEPARTMENT OF MECHANICAL ENGINEERING

Sl. No.	Name	Award
1.	Dr. Jose Mathew	Best Paper award at the 7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018), December 13–15, 2018, Chennai, India was bagged by Rahul Y., Vipindas K., Kattari Muni Sekhar, Jose Mathew, communication received during <b>April 2019</b>
2.	Dr. Jose Mathew	The Society of Aerospace Manufacturing Engineers (SAME) national Best Project Award - 2018 was bagged by Ms. Rhinithaa, Mr. P. Selvakumar, Mr. Nikhil Sudhakaran and Mr. Vysyaraju Anirudh (2017 B.Tech.). The award was presented by Dr. S. Somanath, VSSC Director on <b>26-04-2019</b> . The award carries a citation and cash prize of Rs 10,000/-. The project title is “Investigation into Improving Efficacy of Evaluation of Roundness: Approach Based on Computational Algorithm”. Based on the above work they have published a paper in the international journal of Precision Engineering.

#### DEPARTMENT OF PHYSICS

Sl. No	Name	Award
1.	Subramanyan Namboodiri Varanakkottu	Kerala State Young Scientist Award by Kerala Government

#### 4.9 EXAMINATION DETAILS

A total of 1491 candidates successfully completed their programmes of study. This includes: 89 Ph. D, 353 M.Tech, 10 M. Plan, 50 M. Sc, 42 MCA, 35 MBA, 46 B. Arch. and 866 B.Tech students.

##### a. Result of B. Tech/B. Arch Students

<b>Pgm. Code</b>	<b>Total Registered</b>	<b>1st class with Distinction</b>	<b>1st Class</b>	<b>2nd Class</b>	<b>Total Pass</b>	<b>Percentage</b>
CE	142	57	59	24	141	99.30
CS	156	62	69	19	151	96.79
EC	148	45	69	32	146	98.65
EE	142	56	60	25	141	99.30
ME	140	44	71	18	133	95.00
PE	35	6	22	6	34	97.14
BT	15	8	6	0	14	93.33
CH	86	16	55	11	82	95.35
EP	25	10	13	1	24	96.00
AR	55	5	26	15	46	83.64
<b>TOTAL</b>	944	309	450	151	912	96.61

**b. Result of M.Tech, MCA, MBA & Ph.D Students**

<b>Pgm. Code</b>	<b>Total Registered</b>	<b>1st class with Distinction</b>	<b>1st Class</b>	<b>2nd Class</b>	<b>Total Pass</b>	<b>Percentage</b>
CE61	20	13	5	0	18	90.00
CE62	22	16	6	0	22	100.00
15	15	6	5	1	12	80.00
CE64	18	16	2	0	18	100.00
CE65	11	3	5	1	9	81.82
CS61	19	11	8	0	19	100.00
CS62	16	11	5	0	16	100.00
EE61	15	10	5	0	15	100.00
EE62	18	11	5	0	16	88.89
EE63	16	12	4	0	16	100.00
EE64	21	17	4	0	21	100.00
EE65	8	5	3	0	8	100.00
EC61	16	10	6	0	16	100.00
EC62	16	11	5	0	16	100.00
EC63	9	5	3	1	9	100.00
EC64	10	8	2	0	10	100.00
ME61	15	9	6	0	15	100.00
ME62	17	11	6	0	17	100.00
ME63	17	12	5	0	17	100.00
ME64	16	12	4	0	16	100.00
ME65	17	15	2	0	17	100.00
ME66	11	6	5	0	11	100.00
NS61	10	10	0	0	10	100.00

Chemical Engg	9	7	2	0	9	100.00
TOTAL M.Tech	362	247	103	3	353	97.5
MA62	15	6	9	0	15	100.00
CY62	17	7	8	2	17	100.00
PH62	18	9	9	0	18	100.00
Total M.Sc	50	22	26	2	50	100.00
MBA	35	6	29	0	35	100.00
MCA	42	10	29	3	42	100.00
M.Plan	11	6	3	1	10	100.00
Ph.D					89	
<b>TOTAL</b>	500	291	190	9	579	

#### 4.10 TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

##### Technical Education Quality Improvement Programme Phase III

Technical Education Quality Improvement Programme (TEQIP) is a centrally sponsored scheme of the Government of India to build a strong higher technical education system for the country. The programme was being implemented in multiple phases and cycles. Institute has completed the Phase I in 2007-2008 and the Phase II in 2016-'17. The TEQIP Phase III was started in 2017-2018 and the Institute got selected under the Sub Component 1.3 for which the twinning with an institution selected under the Sub Component 1.1 was mandatory. Institute has made the twinning arrangements with the Govt. Engineering College Bharatpur, Rajasthan. This College was selected by MHRD under Sub Component 1.1 of TEQIP-III. Phase III was officially started on 1st April 2017 and would be concluded by 30<sup>th</sup> September 2020. Institute has very effectively utilized the grant in aid, to its full extent, for strengthening the research, training of the faculty and staff, promotion of innovations among students, improvement of graduate employability, and also for creating awareness about entrepreneurship and the need for protection of the intellectual properties. A brief *report* of the activities conducted during the year 2019-20 under this scheme as follows:

There are two major heads of expenditure, namely *procurement* and *academic* activities for which the grant will be released on a quarterly basis subject to the acceptance of the action plan submitted the project institutions; the third component is the *incremental operating cost* for the Institute. Under the head of *procurement*, Institute has added the high-end equipment, namely X-Ray Diffractometer for **Rs. 1,15,06,244/- (Rupees One Crore Fifteen Lakh Six Thousand Two Hundred and Forty Four only)** through the mode of international bidding, as per the respective Government guidelines. This equipment will enable advanced research in materials science and engineering. The procurement of another high end equipment, namely Confocal Raman Spectrometer, has been initiated.

During the year under report, Institute has effectively utilized the grant under the *Academic* component. 103 members of the faculty and 6 members of the staff were sent for attending training in various Institutions, 4 staff members were sent to Official language workshop. 3 members from the faculty were sent for attending Professional Development training. In order to facilitate the knowledge dissemination and networking, 10 Faculty Development Programmes were conducted at the Institute under twinning with the mentee Institute. One International FDP on robotics was also given partial support. These FDPs were successfully coordinated by the faculty of the respective departments. Three Workshop/Seminars,

one International Conference and one National Conference were conducted with major funding from TEQIP III during this year. Three International Conferences were postponed due to Covid 19 pandemic. Three day in house Staff development programme on “Good Governance” was conducted for staff in which the topics covered were government rules, procedures and the methods for improving efficiency. A separate Productivity Enhancement and Self Control training Programme has conducted for employees of Institute. Program comprises of modules on effective handling of stress, improving efficiency & productivity through sustained high energy levels. Application for fresh accreditation was submitted for 3 UG and 7 PG programmes, for which the Fee was paid from TEQIP III.

With a view to promote student innovations, financial support for 11 UG and 6 PG innovation projects was given through a competitive selection process. Financial Support for students to attend conference within India for presenting paper were given. Details: UG 8, PG: 37, PhD: 36(100% support only if the Conference is Scopus indexed). Support was given to 2 students for participating in National level Boot Camp. Two Months Internship Programme for 22 students of various streams from GEC Bharatpur was successfully completed at NITC during 1<sup>st</sup> May – 30<sup>th</sup> June 2019. 2 UG Students have completed their MITACS internship programme in Canada, with the support of TEQIP III. GATE Coaching classes were conducted for around 200 final year B.Tech students by utilizing the services of the agencies shortlisted by NPIU. GATE 2020 registration fee of **Rs. 4,52,250/- (Rupees Four Lakh Fifty Two Thousand Two Hundred and Fifty only)** was reimbursed to 386 final year UG students who would graduate in August 2020. 28 PG students had attended enhanced employability training programme in Renewable Energy during 9<sup>th</sup> -13<sup>th</sup> December 2019 at NIELIT with TEQIP support. Financial assistance was given for representing institute in DISHA II - Higher Education Summit 2019 of the Government of Kerala State. 11 Students have participated in Smart India Hackathon 2019 with TEQIP Support. Support were given to 17 UG,5 PG and 19 PhD students from TEQIP III for the certification fee of SWAYAM/NPTEL online courses in order to promoting digital learning/MOOCs as desired by the Government.

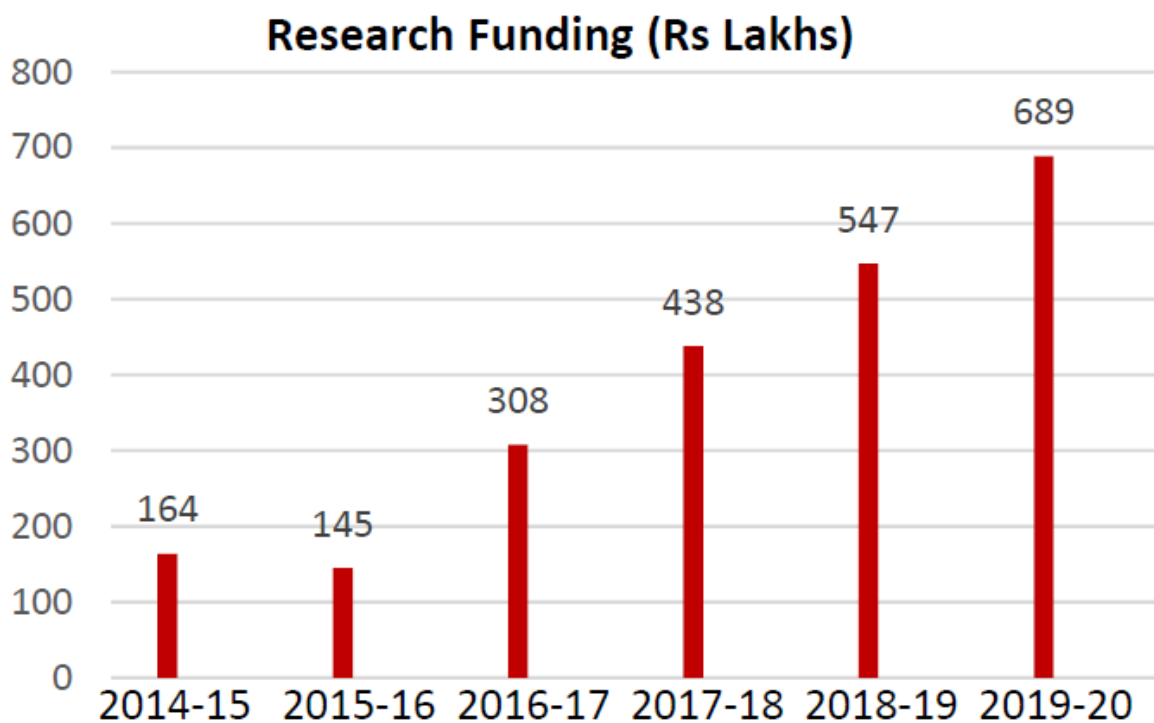
## **5.0 Research, Consultancy, Innovation and Incubation**

Faculty members of NIT Calicut are actively involved in research and consultancy. It can be observed that even very senior faculty members apply for funded research projects and got sanctioned. As far as consultancy increased, though Calicut is not an industrial city, our faculty members are taking projects from industries in the nearby areas.

### **5.1 Research**

#### **5.1.1 Sponsored research**

NIT Calicut has received 30 new research projects sanctioned from various funding agencies during the year 2019-20. The growth of research projects is clear from the figure below:



The details of the externally funded R&D projects for the year 2019-20 are given below.

Sl. No	Project Title	Funding Agency	PI and Department	Project Cost (Rs.)
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1	Microbial recovery of biogenic methane from coal rejects with CO2 sequestration using novel hybrid geo photo-bioreactor and reclamationof the site	DST	Dr. V. Sivasubramanian, Professor, CHED	1763600
2	VLSI Implementation of Low Density Parity Check (LDPC) Encoder/Decoder for on-board/ground satellite applications	ISRO	Dr. Deepthi P.P, Professor, ECED	3012000
3	Design and Development of Solar PV Fed Efficient Universal Converter for V/F Drives in Smart Irrigation System".	CSIR	Dr. S Kumaravel, Asst. Professor, EED	900000
4	Selectively Patterned Porous Evaporative Structure for Enhanced Solar Driven Interfacial Evaporation	Institution of Engineers India	Dr. S. Jayaraj, Professor, MED	100000
5	Development and Characterization of Biodegradable Magnesium Based Alloys for Degradable Metallic Implants	ICMR	Dr. Hanas T, Asst. Professor, SMSE	2284348
6	Assessment of Occupational Hazards for Worker Well-being under Clean India Initiative	ICSSR	Dr. Vinay V. Panicker, Asst. Professor, MED	735000
7	Design and Fabrication Strategies for Organic Hybrid Perovskite Solar Cells	ANERT	Dr. P. Predeep, Professor, Physics	496989

8	Sociotope mapping as a tool for policy framework in an urban cultural landscape	ICSSR	Dr. Bimal Puthuvayi, Asst. Professor, Department of Architecture & Planning	800000
9	Two-Dimensionally Tailored Conductive Polymer Networks for	DST SERB	Dr. Mini Mol Menampambath, Asst. Professor,	3420500

	Multi-Functional Applications		Chemistry	
10	Development of Electrospun Membranes with Graded Hydrophobicity for Membrane Distillation	DST SERB	Dr. Noel Jacob Kaleekkal, Asst. Professor, CHED	2644400
11	Design and Development of a Real-time Optical Sensor for Selected VOCs in air and its application for field Measurements	KSCSTE	Dr. George K. Varghese, Asst. Professor, CED	455000
12	Development of an indigenous tool for the enhancement of medical images using deep neural networks	DST SERB	Dr. Sudeep P.V. Asst. Professor, ECED	2934630
13	Development of Kitchen Layout for Paraplegic Persons	DST SERB	Dr. Ratna Kumar Konda Reddy, Asst. Professor, MED	2675120
14	Control of Instabilities in Jeffcott Rotor	DST SERB	Dr. Ashesh Saha, Asst. Professor MED	2343387
15	Design Modifications of TATA-JK dense medium cyclone for the efficient separation of the middling coal using CFD	TATA Steel	Dr. Teja Reddy Vakamalla, Asst. Professor, CHED	780000
16	Design and Development of an Expert System for Updating Rainfall Intensity-Duration-Frequency Curves under Climate Change and Non-stationarity	DST SERB	Dr. Agilan V, Asst. Professor, CED	1862300



17	Rational Design and Development of Non-Precious Mixed Transition Metal oxides for oxygen reduction reaction	DST SERB	Dr. N. Sandhyarani, Professor, SMSE	4148890
18	Study and Development of Highly Efficient Multichannel Photocatalytic Micro/milli Reactor for Textile Waste Water Treatment	DST SERB	Dr. Susmita Das, Asst. Professor, CHED	2061850

	Exploiting Hollow Spherical Zinc Based Metal Oxide Composite			
19	Financial assistance to the Department of Mathematics, NIT Calicut under FIST Program to Strengthen the Research Facilities in the Department	DST	Department of Mathematics	2900000
20	Integrated hydrodynamic cavitation - membrane distillation technology for enhanced water recovery from Industrial effluent	DST	Dr. Noel Jacob Kaleekkal, Asst. Professor, CHED	2224800
21	Stator Fault Diagnosis through Wavelet Based MCSA of Inverter Fed Induction Motor	KSCSTE	Dr. Jagadanand G, Assoc. Professor EED	670000
22	GaN based High Gain DC/DC Converter fed Multi-level Inverter for UPS Application	Ministry of Electronics & Information Technology (MeitY) -	Dr. Kumaravel S, Asst. Professor, EED	3848000
23	Proactive Monitoring of Online Social Network for Prevention of Crime against Women and Children (PMOPCWC)	Govt. of India, Ministry of Home Affairs (CIS Division), Bureau of Police Research & Development	Dr. S.D. Madhu Kumar, Professor, CSED	5000000
24	To develop a software for linear and nonlinear static analysis of structures using Applied Element Method	ISRO	Dr. Praveen Nagarajan, Professor, CED	1388000

25	Behaviour of Steel Fibre Reinforced Rubberized Concrete deep Beams	KSCSTE	Dr. Praveen Nagarajan, Professor CED	590000
26	Development of desalination system using selectively patterned solar absorber" .	Directorate of Environment and Climate Change, GOK	Dr. Sujith Kumar C.S Assistant Professor MED	1375000
27	Development of an alternative fluid to	KSCSTE	Dr. Preetha P Assoc. Professor	570000

	transformer mineral oil " under ETP		EED	
28	Flood forecasting using hybrid wavelet- ANN and wavelet-SVM models	KSCSTE	Dr. Chithra N R Assist. Professor CED	590000
29	Development of a decision support system for multimodal freight transportation planning with a special application	KSCSTE	Shri. Anoop K P Research Scholar under Dr Vinya V Paniker , AP MED	300000
30	Development of Organic Oil based Magnetorheological (MR) Fluid and Experimenting Surface Tempering Effect on the Magnetorheological Break System	KSCSTE	Shri. Rakesh Erappa Jinaga  Ph.D Research Scholar, under Dr Jagdisha T , AP , MED	400000
31	Risk assessment of nanoparticle accumulation in soils: Effects of engineered metal oxide nanoparticles on soil bacterial communities, soil microbial processes and evaluation of phytotoxicity using genomic.	NASF	Dr. V. Sajith Asso. Professor & Head, SMSE	7421592
32	Investigation of shoreline stability along the Kerala coast using geospatial technologies for sustainable coastal protection measures	Directorate of Environment and Climate Change	Dr.K V Anand Assistant Professor CED	1320000
33	R&D Project with Aryaka Networks India Pvt Limited	Aryaka Networks India Pvt Limited	Dr. S.D. Madhu Kumar, Professor, CSED	826000

34	Framework for flood mapping and to prepare an early warning system in the occurrence of flood for the northern region of Kerala	DST	Dr. Chithra K Asst. Professor DAP	3211358
35	Fabrication and characterization of ZnON based photo sensors	SERB	Dr. Aswathi R Nair Asst. Professor ECED	2857150

A total amount of Rs. 6,89,09,814/- has been received by the Institute as the external funding for the various R & D projects.

### 5.1.2 Faculty Research Grant (FRG 2019)

For the 59 newly joined faculty members of NIT Calicut during the year 2018, a total funding of Rs. 28,414,104/- was sanctioned as seed money for their initial research activities.

### 5.1.3 Thrust Areas of research in the Departments Schools and Centres

#### Architecture and Planning

1. Urban and Regional Planning
2. Architectural Theory
3. Sustainable Building Design
4. Building Technology & Management
2. Strength and Behaviour of Offshore Structures
3. Traffic and Transportation Planning
4. Water Resources Engineering
5. Geotechnical Engineering

#### Chemical Engineering

1. Energy & Environment
2. Materials Science
3. Multiphase Flow Systems
4. Process Dynamics & Control
6. Environmental Engineering
7. Construction Project Management
8. Sustainability and Development of Building Materials

#### Chemistry

1. Polymer Science & Technology
2. Materials Science
3. Bioorganic Chemistry
4. Bioinorganic chemistry
5. Theoretical and computational chemistry

#### Civil Engineering

1. Structural Engineering

#### Computer Science & Engineering

1. Theoretical Computer Science
2. Computational Sciences
3. Data Science and Data Analytics
4. Hardware Design, Verification, and Testing
5. Cyber-Physical Systems

#### Electrical Engineering

1. EV drives & control, Charging systems
2. Control and Instrumentation

3. Power electronics and drives
4. Industrial Power and Automation
5. High voltage engineering
6. Microgrids-Power management, stability & resiliency
7. Biomedical engineering.

### **Electronics & Communication Engineering**

1. Speech/Audio/Image/Video/ Signal Processing
2. Compressed Sensing/Sparse Signal Processing
3. Communications and Networking
4. OFDM/MIMO/ Cryptography /5G Wireless Communications
5. Micro/Nano Electronics/VLSI architectures
6. RF/Microwave Engg

### **Mathematics**

1. Discrete and Fuzzy Mathematics
2. Stochastic Modelling and Applied Statistics
3. Numerical Analysis and Scientific Computing
4. Mathematical Analysis
5. Nonlinear Dynamics
6. Operations Research

### **Mechanical Engineering**

1. Industrial Engineering and Management
2. Machine Design
3. Materials and Manufacturing
4. Thermal and Energy Engineering

### **Physics**

1. Condensed Matter & Soft Matter Physics
2. Optics & Photonics
3. Atmospheric Physics & Astrophysics
4. Surface Science
5. Organic electronics
6. Particle Physics & High Energy Physics

7. Critical Phenomena
8. Nanoscience & Nanotechnology

### **School of Biotechnology**

1. Anticancer drug Research
2. Biological network and big data analysis
3. Bioprocess and Bioprospecting
4. Bio-Nano technology
5. Computational drug design
6. Functional genomics and proteomics
7. Inflammation biology
8. Neuroscience
9. Vaccine engineering

### **School of Materials Science and Engineering**

1. Nano-materials and their applications
2. Nano-fluids
3. Photo Catalysis/Water Splitting
4. Biomaterials
5. Corrosion and Wear Resistant Coating
6. Nano Composites for Energy
7. Nanocomposites and Nano sensors

### **School of Management Studies**

1. Finance, Human resources, Operations, Data Sciences
2. Economics, Econometrics, Health Economics, and Urban Economics
3. English Studies, Cultural Studies, Indian Writing in English and Translations

## 5.2 Consultancy and Testing

Calicut region of Kerala is not having major industries. Therefore, consultancy assignments received are less. Following are the details of the amount received under Consultancy and Testing for the year 2019-20.

Department	No. of Firms	Amount (Rs.)
<b>Consultancy</b>		
CED	35	4961729
EED	5	272299
<b>Testing</b>		
CED	373	5233479
EED	55	818245
MED	85	198046
<b>Total</b>	<b>553</b>	<b>1,14,83,798</b>

The major clients are Indian Railways, NTPC, NHAI, KSEB, PWD etc.

## 5.3 Research collaboration through industry Institute interaction

There is strong interaction between Industries and the Institute. Research collaboration, student training and internship, placement are the major outcome from the Industry-Institute interaction.

Following are the details of the MOU signed by the Institute with industries/organizations during the year 2019-20

Sl. No.	Name of the Organization/Institute	Date of Commencement
1	Southern Railway, Trivandrum	09.06.2019
2	KMCT Dental College, Kozhikode	11.06.2019
3	Hamon Technologies LLP, Kozhikode	27.06.2019
4	Kerala Electrical and Allied Engineering Co. Ltd, Cochin	03.09.2019
5	Tata Steel Limited	24.09.2019
6	Kerala Engineering Research Institute, Peechi, Department of Irrigation, GOK	27.11.2019
7	Koodaranji Grama Panchayat, Kozikode	19.02.2020

## 5.4 Innovation Activities

### 5.4.1 Patents filed and granted during 2019-20.

Ten patent applications were filed as an outcome of the innovative projects and inventions. Three were granted during the year 2019-20 as per the details below:

Sl no.	Name	Date Sanctioned	Title
1.	Dr. Lisa Sreejith, Dept of Chemistry	10.05.2019	A Novel method for the Preparation of Chitin/PVA/PEG Cross linked Hydrogel for Biomedical Application
2.		07.06.2019	An Ecofriendly Method for Total Conversion of Plastic Waste to Power Generation
3	Dr. G. Unnikrishnan, Dept of Chemistry	16.12.2019	Polymer Conjugate and a process for preparing the same

#### **5.4.2 Technology Transfer:**

NIT Calicut transferred the solid-state technology for power transformers developed by the Department of Electrical Engineering to M/s Kerala Allied Electrical and Engineering Co. Ltd following a formal MOU between the Institute and M/s Kerala Allied Electrical and Engineering Co. Ltd on 3/9/2019.

#### **5.4.3 Funding of UG projects under the ‘Innovative Project Scheme’**

An amount of Rs. 27.76 lakhs was sanctioned to 25 UG student groups under the ‘Innovative Project Scheme’

#### **5.4.4 Students Innovation**

With an aim of fostering entrepreneurship initiatives among the students, the Institute has established Institution’s Innovation Cell in association with the Ministry of HRD’s Innovation Cell (MHRD) in the year 2017-18. The role of IIC is to identify and nurture technology based innovative startups. Major focus are:

- To create a vibrant local innovation ecosystem.
- Start-up supporting Mechanism.
- Prepare institute for Atal Ranking of Institutions on Innovation Achievements Framework.
- Establish Function Ecosystem for Scouting Ideas and Pre-incubation of Ideas.
- Develop better Cognitive Ability for Technology Students.

IIC at NIT Calicut is conducting various innovation and entrepreneurship related activities such as periodic workshops, seminars, interactions with entrepreneurs, investors, professionals and create a mentor pool for student innovators. This is expected to bring outcomes such as successful innovative projects carried out by institution’s faculty and students. Hackathons, idea competitions and other mini-challenges are some of the other programmes which can also be organized by IIC. To name a



few are Workshop on Entrepreneurship and Innovation as Career Opportunity, Motivational Speak by Innovator – An Experience Sharing Session, Demo day – exhibition cum demo for POCs & mentorship session for innovators (or) student entrepreneurs, Motivational Speak by Entrepreneur– An Experience Sharing Session, Product Design/ Design Thinking Workshop At Campus, Introducing students to the world of Machine Learning and enable them to apply Machine Learning to solve problems, Problem solving/ Design Thinking/ Ideation Workshop, ISBA BioNEST Conclave, Idea pitching session held for a group of young innovative students from across the state with energy as the theme, Eclipse watch, Talk on Student Entrepreneurship and TBI operations to a group of students who visited the campus, MIC Innovation Contests and Smart India Hackathon.

IIC NIT Calicut received a five-star rating for the performance.

During 2019-20, the activities under student entrepreneurship were coordinated under IEDC (INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT CENTRES) supported by Kerala Startup Mission (KSUM). At National Institute of Technology, Calicut, IEDC serve as a key platform for fostering innovation and entrepreneurship among students. IEDC stands for nurturing the creative and innovative ideas of students and help them transform these ideas into feasible products and services. IEDC acts as the first launch pad for a student’s entrepreneurial journey and provides them with access to cutting-edge technology, world-class infrastructure, high-quality mentorship, early risk capital and global exposure. IEDC also provide opportunities for the student community by organizing various IEDC events in association with KSUM and various other agencies like ICT Academy of Kerala (ICTAK).

Orientation Programme (for the first year students), IEDC Summit Precursor Event, Workshop on National Innovation and Start-up Policy (NISP), Young Innovators Programme – I, Young Innovators Programme – II, Converting Research and Development into Entrepreneurship and Young Innovators Programme – III are some of the programmes conducted under IEDC.

## **5.5 Incubation- Technology Business Incubator (TBI)**

### **5.5.1 Incubation**

The incubation activities at the Institute is coordinated by Technology Business Incubator established at the Institute in the year 2004 with the support of National Science & Technology Entrepreneurship Development Board (NSTEDB) Department of Science and Technology. TBI is registered as a society under the society's registration Act XXI of 1860 on 16 Sep 2009.

TBI NITC incubates innovative startups, conducts mentoring sessions and provide financial assistance to these startups. The following table shows what TBI is so far:

1	Total number of units in Technology Business Incubator	23
2	Number of units joined during 2019– 2020	14
3	Number of units graduated from TBI during 2019 - 2020	1
4	Number of units preparing to graduate	2
5	Total number of units so far assisted by TBI	75
6	Total number of employees in the incubated companies	1050

## **5.5.2 Entrepreneurship Development Activities conducted by TBI**

TBI has conducted six **Entrepreneurship Development Programmes** in different areas along with one exclusive for women. Two Entrepreneurship Awareness Camps were also conducted for students.

One **Faculty Development Programme in Entrepreneurship** was also conducted

## **5.5.3 Consultancy Activities of TBI**

TBI takes up consulting activities for small scale sector. One such activities is SFURTI (Scheme of fund for regeneration of traditional industries).

Technology Business Incubator is the Implementing Agency (IA), for the development of Balussery Coir Cluster, under the SFURTI scheme. Coir Board is the Nodal Agency (NA) and Entrepreneurship Development Institute of India (EDI) is the Technical Agency (TA) for this project. Total project cost is 130 lakhs.

There are two components in the project – Soft intervention and Hard Intervention. Activities listed under soft intervention are over and a facility measuring 3000 square feet with state of the art machinery is constructed. The production work has been started in this facility and is ready for inauguration.

## **5.5.4 NIDHI –PRAYAS scheme**

TBI inducted the first group of innovators under NIDHI PRAYAS (NATIONAL INITIATIVE FOR DEVELOPING AND HARNESSING INNOVATIONS (NIDHI) PROMOTING AND ACCELERATING YOUNG AND ASPIRING) in 2019-20. NIDHI PRAYAS is a scheme for addressing the gap in the very early stage idea/proof of concept funding. The funding is given as grant for the selected ideas. The selected innovators would get access to the infrastructure, prototype grant and mentorship. TBI has got approval for a total project cost of Rs.700 Lakhs from the Project Management Unit of PRAYAS for hosting a PRAYAS Centre at NIT Calicut under the NIDHI PRAYAS Scheme of Department of Science and Technology. Out of Rs.700 lakhs, Rs. 100 Lakhs are for Capital for setting up Fab Lab, Rs.500 Lakhs for providing prototype grant to innovator over 5 years. Rs. 20 Lakhs per year for five years can be spent for annual operations, management of Fab lab.

## **6.0 THE COUNCIL, BOG AND OTHER COMMITTEES**

### **6.1 INSTITUTE'S COUNCIL**

As per Section 14 of the *National Institutes of Technology, Science Education and Research Act; 2007*, the Senate is the institute council to decide upon all academic matters. The Senate of the institute consists of the following members:-

The Director, ex officio, who shall be the Chairman of the Senate;

(b) The Deputy Director, ex officio;

(c) The Professors appointed or recognised as such by the Institute for the purpose of imparting instructions in the Institute;

(d) three persons, one of whom shall be a woman, not being employees of the Institute, to be nominated by the Chairperson in consultation with the Director, from amongst educationists of repute, one each from the field of science, engineering and humanities; and

(e) Such other members of the staff as may be laid down in the Statutes.

## **6.2 BOARD OF GOVERNORS**

As per Section 11 of the *National Institutes of Technology, Science Education and Research Act; 2007*, The Board of every *Institute mentioned* shall consist of the following members, namely:-

- (a) The Chairperson to be nominated by the Visitor;
- (b) The Director, ex officio;
- (c) two persons not below the rank of the Joint Secretary to the Government of India to be nominated by the Central Government from amongst persons dealing with technical education and finance;
- (d) Two persons to be nominated by the Government of the State in which the Institute is situated, from amongst persons, who, in the opinion of that Government, are technologists or industrialists of repute;
- (e) two persons, at least one of whom shall be a woman, having special knowledge or practical experience in respect of education, engineering or science to be nominated by the *Council*;
- (f) One professor and one assistant professor or a lecturer of the Institute to be nominated by the Senate.
- (g) *The Director of the Indian Institute of Technology in whose zone the Institute is located, or his nominee, not below the rank of a Professor.*

## **6.3 FINANCE COMMITTEE**

As per Clause 10 of the First Statutes of the Institute, there shall be a Finance Committee consisting of the following members, namely:-

- (i) the Chairperson of the Board of Governors, ex-officio Chairman;
- (ii) The Director, ex-officio member;
- (iii) Joint Secretary dealing with National Institutes of Technology or his nominee and Financial Advisor (Human Resource Development) or his nominee;
- (iv) Two persons nominated by the Board from amongst its members; and
- (v) The Registrar, ex-officio, Member-Secretary:

## **6.4 BUILDING AND WORKS COMMITTEE**

As per Clause 12 of the First Statutes of the Institute, there shall be a Building and Works Committee, consisting of following members, namely:-

- (i) The Director, ex-officio Chairperson;
- (ii) Director or Deputy Secretary or his nominee dealing with the National Institutes of Technology in the Ministry and Director or Deputy Secretary or his nominee dealing with Finance of National Institutes of Technology in the Ministry as ex-officio members of the Central Government;
- (iii) One member nominated by the Board of Governors;
- (iv) Registrar, ex-officio, Member Secretary;
- (v) Dean, planning and development or similar position - Member; and
- (vi) One expert each from Civil and Electrical Engineering Wing of Central or State Government or any autonomous body of repute - Member.

## **7.0 CONCESSIONS FOR SCs, STs, HANDICAPPED STUDENTS**

### **7.1 Concessions provided for students**

Concessions provided for students: Educational Concession to SC/ST/OEC/SEBC (under KPCR) students: Students from Kerala are eligible for educational concessions from the SC & ST development Departments as per the norms of Government of Kerala. Students from other states can apply for scholarships as per the rules of the respective states. In addition, National scholarships are also offered to persons with disabilities for pursuing technical and professional courses for recognized institutions by the National Handicapped Finance and Development

Corporation (NHFDC) Faridabad on behalf of Ministry of Social justice & Empowerment, Govt.of India subject to fulfill the conditions laid out by them.

A New Central Sector Scholarship Scheme to the first top 12 SC and 5 ST students of Top Class Education given by the Central Government (Ministry of Social Justice and Empowerment & Ministry of Tribal Affairs, respectively) [i.e. Institute Tuition Fee + Boarding charges + Books & Stationery + Cost of a PC- (P-IV Computer, UPS, Printer, Multimedia)] based on their entrance rank. Family income limit is Rs.4.5 lakhs per annum. Merit cum Means Scholarship for eligible Minority Communities in Kerala and other states given by the Ministry of Minority Affairs, Govt. of India. District Merit Scholarships to eligible students in Kerala by the Directorate of Collegiate Education, Thiruvananthapuram. Central Sector Scholarship Scheme for eligible College & University students by the Department of Higher Education, Ministry of Human Resources Development, Govt. of India.

**7.2 Concessions provided for staff :** Faculty members are given concession in fee for PT

## 8.0 FINANCIAL STATUS

### 8.1 ANALYSIS OF PLAN AND NON-PLAN GRANTS

Particulars	Rs. in lakhs			
	2016-2017	2017-2018	2018-2019	2019-2020
Govt. of India –Grant (Non-Plan)	7230	7388	18256	11640.10
State Govt. Grant (Non-Plan)	-	-	-	-
Govt. of India Grant (Plan-General)	4900	5952	376	362.56
Govt. of India (Plan-OSC)	-	-	-	-

### 8.2 EXPENDITURE POSITION

Particulars	Rs. in lakhs		
	2017-2018	2018-2019	2019-2020
Expenditure- (a) Under Plan(General)	3483.81	1266.23	326.50
Expenditure -(b) Under Plan(OSC)	-	-	-
Expenditure-Under Non-Plan	11029.67	13736.20	14490.77

## 9.0 CENTRAL FACILITIES AND SERVICES

### 9.1 COMPUTER AND IT SERVICES

#### 9.1.1 CENTRAL COMPUTER CENTRE

Central Computer Centre (CCC) is the central facility in NIT Calicut which caters for the computing requirements of the whole community of this institution. The Centre has state of the art infrastructure with three fully operational terminals spanning over two floors of the building. Decision Support System (DSS) of the institute also operate from the Computer Centre building. The Centre has nearly 200 client machines & 30 workstations for usage. CCC hosts some of the high end servers and a parallel computing cluster machine. Servers include four DELL PowerEdge T620 which has a dual Hexa-core

processor and HP ProLiant Rack server which has a dual Quad-core processor. A state of the art Super Computing Facility with 25 Tera FLOPS computing power meet the research needs of the institute. This Hybrid cluster contains 1 master node and 13 compute nodes (out of which 6 nodes are GPU enabled) are interconnected through infiniband. Each GPU compute nodes contains 2 Tesla K20 GPU cards. All Compute nodes carry dual E5-2640 Intel chip as processors. The Facility can be accessible by all the departments and schools anywhere in the campus through networking. All Post graduate, Ph. D scholars and UG students (those who have computationally intensive projects) are using this facility for research activities. Some of the computational software's and packages for the other departments run from the servers maintained in the CCC as well. The centre possesses a bundle of software, packages for diversified applications. Centre is fully air-conditioned and has UPS power backup for the whole setup. The Centre works 16 hours a day (7am – 12am) 7 days a week except national holidays unless instructed otherwise.

### **9.1.2 CAMPUS NETWORKING CENTRE**

The Campus Networking Centre (CNC) is the Central Facility providing software, hardware and networking support to the entire student and staff community of NITC Campus spread around 400 acres. CNC manages the Internet connectivity (both wired and wireless), IP Phones and provide hardware, software and all other IT related solutions for the entire Institute. The campus is interconnected with about 30 KMs of fibre optic backbone network with 80 routed internal networks, managed by the Unified Threat Management system. The Centre is equipped with Firewall, Authentication Server, Log Analyser, Routers, Core Distribution switches, Domain Name Server, Web Server, Proxy Servers, Antivirus central server and IP Phone Server etc. Presently the network is served by 1 Gbps of Internet connectivity provided by BSNL under NKN scheme of MHRD and 20 Mbps by RELIANCE. All the hostels are served with Internet Connectivity. Internet facility is provided in administrative, academic and residential areas through wireless mode also. CNC functions on a 24x7 basis 365 days without any holidays. IP Phones are installed in all academic and administrative sections. The IP Phones and IP Phone servers are also implemented, configured and managed by CNC. Hardware maintenance unit of CNC provides quality service support to minimize system downtime in the entire campus. The services include installation, troubleshooting

## **9.2 WORKSHOPS**

### **CENTRAL WORKSHOP - FACILITIES AND WORKS UNDERTAKEN**

The Central Workshop under the Department of Mechanical Engineering forms a central facility and it caters to the requirements of all departments. The facilities in Central Workshop are effectively utilized for the conduct of practical class for the students of all first year undergraduate programmes. The primary motive is to impart them with the basic ideas of manufacturing. For the UG students of Mechanical Engineering and Production Engineering programmes, advanced training in various skills during the higher semesters builds up their confidence in practical fields of design and manufacturing. Workshop facilities are extended for carrying out UG/PG project works, research

works requiring fabrication, assembly & testing, and consultancy related works from various departments. Apart from the regular practical classes, Institute-wide requirements involving fabrication are carried out in central workshop with the help of experienced technical staff of the workshop. This centre has ample facilities to undertake consultancy and fabrication works in all manufacturing fields. The Workshop is divided into seven sections and the equipment, tools and machines available are as follows:

**1. Machine Shop**

CNC Lathe -1  
 CNC Vertical Machine Centre -  
 1  
 Lathes – 36  
 Milling machine – 2  
 Shaping machine – 7  
 Vertical Slotting machine – 1  
 Grinding machine – 3  
 Tool and Cutter grinder - 1  
 Drilling machine -2  
 Band saw cutting machine – 2

**2. Carpentry section**

Universal cutting machine -1  
 Wood turning lathe -3  
 Electric sander -1  
 Jig saw machine -1

**3. Welding section**

MIG welding -1  
 SMAW/TIG - 1  
 Arc welding set – 4  
 Gas welding set -2  
 Grinder -1  
 Portable flame cutter – 1  
 Welding rectifier -1  
 Plasma cutting machine – 1

**4. Fitting section**

Bench grinder -1  
 Surface plate -2  
 Band saw machine -1  
 Heavy duty drill machine -1  
 All-purpose saw -1  
 Multi-purpose mini hand drill  
 grinder – 1

**5. Sheet metal section**

Bending machine -1  
 Power cutting/shear -1  
 Spot welding machine -1  
 Edge folding machine -1  
 Circle cutting machine -1  
 Fly press-1  
 Pipe bending machine -1  
 Portable electric shear -1

Sander -1

Bench grinder – 1

Hand shear - 1

Nibbling machine -1

**6. Black smithy**

Anvil – 14

Forges – 6

Universal cutting machine -1

Power hammer - 1

Blower -2

Pipe bending machine -01

Pneumatic forging power  
 hammer -1

**7. Foundry**

Facility for sand preparation

Diesel fired furnace -1

Hand tools set – 15

Ladles – 2

Crucibles – 2

Aluminum stir casting -1

### 9.3 EDUCATIONAL TECHNOLOGY & LIBRARY

Educational Technology & Library (ETL) presently comprises Central Library and Digital Library. Both the Library & Digital Library are working from 8 am to 11 pm on all days except Sundays and Public Holidays.

#### 9.3.1 CENTRAL LIBRARY

CENTRAL LIBRARY offers its services to more than 8,350 users comprising undergraduate, postgraduate students, research scholars, faculty and employees from various Departments of the Institute/Centres/Sections. The Library uses open source software KOHA for its operations. Collection is fully RFID tagged and offers Web OPAC service throughout the internet.

##### Current Print Holdings:-

###### (a) Print Books

Sl. No.	Category	Books at the end of the year 2018-19	Books added during the year 2019-20	Total books as on 31 <sup>st</sup> March 2020
1.	General books	106870	NIL	106870
2.	Special section books for SC/ST	16050	36	16086
3.	Reference books	8173	NIL	8173
	<b>Total</b>	<b>131093</b>	<b>36</b>	<b>131129</b>

###### (b) Print Journals / Magazines/ Dailies

Sl. No.	Category	Print Journals / Magazines/Dailies during the year 2018-19	Print Journals/ Magazines /Dailies during the year 2019-20	Print Journals/ Magazines/ Dailies as on 31 <sup>st</sup> March 2020
1.	National	24	27	27
2.	International (P+O)	3784	3890	4261
3.	Dailies/ Weekly	18	17	17
	<b>Total</b>	<b>3826</b>	<b>3934</b>	<b>4305</b>

#### 9.3.2. DIGITAL LIBRARY ( [www.library.nitc.ac.in](http://www.library.nitc.ac.in))

The Digital Library - NALANDA- serves members of the campus in meeting their academic & research needs by providing timely and up-to-date information with value added services in all the areas of Science/Engineering/Technology. Apart from the Digital Library Reading Room, members can access Nalanda from the entire campus.

##### Other services:

- Web-OPAC: Allowing access from inside as well as outside the campus

- DSpace: For the project / thesis reports of NITC students an ETD server (electronic theses and dissertations) maintained using Dspace (an open-source institutional repository package) has been initiated. All abstracts are visible for everyone within NITC and privileged access is given to the full contents. International standards (BIS and ASTM) could also be accessed from this server; access being restricted to NITC intranet.
- NPTEL (National Program on Technology Enhanced Learning) : A local copy of all NPTEL course materials (provided by IIT Madras, already available in public domain) which could be accessed from within the Digital Library.
- Turnitin - online plagiarism checker for the use of researchers of the institute.
- Grammarly-Grammarly is an online grammar checking, spell checking, and plagiarism detection platform for the English language developed by Grammarly, Premium Account facility for all students, faculty.
- Eduserver : An educational server on the open source moodle platform is customized for the faculty of all departments to run their courses. This server will be accessible outside NITC too. This will provide a facility for faculty to offer common and additional online topics/subjects as part of the curriculum including on-line tutorials, evaluation and simulation etc.
- VuFind:E-Book Search Facility

□ **EDUSERVER**

This will provide facility for faculty to offer common and additional online topics/subjects as the part of the curriculum including on-line tutorials, evaluation and simulation etc.

**List of courses offered by the Eduserver during Academic year 2019-2020**

**Chemical Engineering**

CH4050 Safety in Chemical Industries  
 CH3004D Process Dynamics and Control  
 CH4046 / (CH4034D) Project Engineering  
 CH4003 Chemical Process Optimization  
 CH3092D Process Dynamics and Control Lab  
 CH4027D Process Modelling and Simulation  
 CH6008D Chemical Process Control

**Chemistry**

CY6304 Group Theory and Principles of Quantum Mechanics

**Civil Engineering**

CE 2008D Structural Analysis I  
 CE6311D Modelling and Behaviour of Offshore Structures  
 CE6212D Analytical Transportation Planning

**Computer Science and Engineering**

CS4060D Introduction to Data Science  
 CS4067D Foundations of Programming

**Electrical Engineering**

ME6421 Direct Energy Conversion System  
 EE6401D Energy Auditing & Management  
 Switched Mode and Resonant Converters EE6308D  
 Modern Digital Signal Processors (EE6304D)



EE61404D ADVANCED INSTRUMENTATION  
EE6404D INDUSTRIAL INSTRUMENTATION  
EE 6494 Mini project  
EE6206D Digital Protection of Power Systems

**Electronics & Communication Engineering**

EC2021 Electronics Circuits I  
EC6202D Analog Integrated Circuit Design  
EC3091D Electronic Circuits Lab II  
EC2022D Electromagnetic Field Theory  
EC2021 Electronics Circuits I

**Mathematics**

MA6301 Real Analysis  
MA1001D Mathematics I  
MA7303 Mathematical Statistics  
MA1002D MATHEMATICS-II  
MA3028 Statistical Methods for Management 2019-20

**Mechanical Engineering**

ME2001D FLUID MECHANICS  
ME6127D ERGONOMICS AND HUMAN FACTORS ENGINEERING  
ME6421D Direct Energy Conversion Systems  
ME6228D Multiphase Flow Modeling  
ME6191D Industrial Engineering Laboratory  
ME4101 Operations Research  
ME6311D Modern Machining Processes  
ME2012D Kinematics of Mechanism  
ME2014D Mechanics of Machinery  
ME6192D Modelling and Data Analytics Laboratory  
ME3126D Supply Chain Management  
ME6111D Machine Learning and Artificial Intelligence  
ME6692D CAD Laboratory  
ME6612D Finite Element Method and Applications

**School of Biotechnology**

BTP703 Molecular ImmunoTechnology  
BT3004D Environmental Studies  
BT3022D Food BioTechnology  
BT3031D-BioMechanics

**School of Management Studies**

MS7101D Organizational Structure and Design  
MS7153D Recruitment Selection and Compensation Management  
MS7162D Business Intelligence  
MS7161D Knowledge Management  
MS6104D Management Information Systems  
MS7156D Human Resource Analytics  
MS6103D Organizational Behaviour  
MS9001D RESEARCH METHODOLOGY (PhD)  
MS6102D MARKETING MANAGEMENT: CONCEPTS AND APPLICATIONS  
MS7144D PRODUCT POLICY AND BRAND MANAGEMENT  
MS7102D Macro Economics 3 0 0 3

MS6101D Financial and Management Accounting 3 0 0 3  
 MS1001D Professional Communication  
 MS7122D Operations Strategy  
 MS6107D Business Statistics  
 MS4004 INDUSTRIAL ECONOMICS  
 MS4003 ECONOMICS  
 MS4005-ENGINEERING ECONOMICS (S8 Chemical engineering A&B)  
 MS4004- INDUSTRIAL ECONOMICS (S8 Mechanical Engineering A)  
 MS3001D- ENGINEERING ECONOMICS (S6 Chemical engineering A&B)  
 MS6111D- Operations Management  
 ME6146D- Project Management  
 MS3001D - ENGINEERING ECONOMICS  
 CE4004 - ECONOMICS AND MANAGEMENT.  
 MS6192D Information Technology Laboratory  
 MS7164D Enterprise Resource Planning  
 MS7163D Advanced Tool for Decision Support  
 Industrial Relations and Labour Law MS7151D  
 Legal Aspects of Business MS6114D  
 MS9001D RESEARCH METHODOLOGY (PhD)  
 MS7149D MARKETING ANALYTICS  
 MS6117D BUSINESS RESEARCH METHODS  
 MS3003D Economics and Management  
 MS7174 Econometrics  
 MS7157D Individual and Organizational Transformation  
 MS6113D Human Resources Management

**School of Materials Science and Engineering**

MT6130D Elements of X-ray diffraction

**E-Resources-subscription**

Category	Total as on March 2019	Total as on 31 <sup>st</sup> March 2020
Online e-Journals (through ESS consortia)	4412	2,144
E-books	2432	4,432
E-Journals	3178	2,117
E-Databases	3	7
Standards (ASTM, BIS)	31647	31,647
NITC Resources(Faculty reports,Students' thesis, Course notes)	3368	5,467
<b>Total</b>	<b>45040</b>	<b>45,814</b>
Journal Back Vol.s	14,411	14,411
<b>Grand Total</b>	<b>59451</b>	<b>60,225</b>

**Major Hardware / Facilities of Digital Library**

- 3 Dell Precision T3610 Workstations Dell Poweredge T620 Server

- 3 Dell Poweredge T320 Server
- 36 Dell Optiplex 7010 Client Machines
- 14 HP AIO Client machines
- 3 HP ProOne 400 Client Machines
- 16 IP Camera, Network video recorder, 28 port Dlink switch Brother
- Canon MF 244DW Printer
- Datamax Barcode Printer
- 30 KVA Socomec MASBC UPS
- 5 Cisco SRS 2024 switches

### 9.3.4 Programmes organized by ETL during 2019-20

- Royal society of chemistry publishing workshop 11th April 2019

### 9.3.5. Staff position

Chairperson (ETL) : Dr. Raghu C  
 Vice Chairman (ETL) : Dr. Vinay V Panicker  
 Librarian (Gr.I) : Vacant  
 Librarian (Gr.II) : Vacant  
 Librarian (Gr.III) : Vacant

Sweety Mathew	Librarian Gr.III (Librarian In –charge, Rtd. on 31.05.2020)
J Sobhana	Librarian Gr IV (Librarian in-charge)
T Jayarajan	Librarian Gr IV
C Latha	Librarian Gr IV
K P shaju	Librarian Gr IV
M K Chandramohan	Graphic Artist
K Jayaraman	Offset Machine Operator

### Supporting office staff

Vinod K P	Watchman cum Gardener
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Project Digital Library Technical Assistant : 2  
 Project Digital Library Computer Assistant : 3  
 Adhoc Library Assistant : 12  
 Adhoc Library Helper : 7  
 Adhoc Office Assistant : 2

## 9.4 LABORATORIES

### DEPARTMENT OF ARCHITECTURE & PLANNING

- 1) Interactive Media Design Lab
- 2) Geo-Informatics Lab
- 3) Material Testing Lab
- 4) Building Science Lab
- 5) CAD Lab
- 6) Creative Arts Lab
- 7) Materials Museum

### DEPARTMENT OF CIVIL ENGINEERING

- CAD Lab
- Concrete Lab
- Environmental Engineering Lab
- Geotechnical Engineering Lab.
- Offshore Structures Lab
- Strength of Materials Lab.
- Structural Engineering Lab
- Surveying Lab
- Transportation Engineering Lab
- Water Resources Engineering Lab

### DEPARTMENT OF CHEMICAL ENGINEERING

1. Chemical Analysis Laboratory
2. Fluid Mechanics Laboratory
3. Heat Transfer Laboratory
4. Mechanical Operations Lab
5. Mass Transfer Laboratory
6. Chemical Reaction Engineering Lab
7. Process Dynamics and Control Lab
8. Instrumentation and Research Lab
9. Computer Lab

### DEPARTMENT OF CHEMISTRY

1. B. Tech Laboratory
2. PG Chemistry Laboratory
3. PG Instrumentation Laboratory
4. Sophisticated Instrumentation Laboratory
5. Thermal Analysis Laboratory
6. Computational laboratory
7. Polymer Science & Technology Research Laboratory
8. Soft Materials Research Laboratory
9. Materials Research Laboratory
10. Bio-Organic Research Laboratory
11. Bio-Inorganic Materials Research Laboratory

12. Inorganic and Bioinorganic Research Laboratory
13. Theoretical and Computational Chemistry Research Laboratory
14. Heterocyclic Chemistry Laboratory
15. Organic Synthesis and Catalysis Laboratory
16. Laboratory for Energetic and Energy Materials Research
17. Laboratory for Advanced Materials and Applied Research

## **DEPARTMENT OF COMPUTER & SCIENCE ENGINEERING**

### **SOFTWARE SYSTEMS LABORATORY**

This lab was established in 2006. The objective of this laboratory is to provide the infrastructure for conducting the regular labs (Program Design Lab, Data Structures Lab, DBMS Lab, Network Lab, Compiler Lab, OS Lab and Programming Languages Lab) and project works for the BTech. Program. The lab is equipped with state of the art servers, desktops and software (Linux and compilers for C, C++, Perl, TCL, PHP, Java, Python, etc.)

Location : ITL 302, IT Laboratory Complex

Faculty In charge : Dr. Jimmy Jose, Associate Professor, CSED

Staff In charge : Ajayachandran V R, Computer Operator, CSED

Facilities

#### **I. SERVERS**

##### **1. ATHENA SERVER**

- Model : DELL EMC PowerEdge R740
- Processor : 2x Skylake 16 Cores Intel Xeon Gold 6130 2.1Ghz, 22 MB,125W
- RAM : 64 GB DDR4
- HDD : 6TB

##### **2. ARTEMIS SERVER**

- Model : DELL PowerEdge 2950
- Processor : Intel(R) Xeon(R) CPU E52697 v2 @ 2.70GHz
- RAM : 8 GB DDR4
- HDD :1 TB

##### **3. EDU SERVER(old)**

- Model : FUJITSU PRIMERGY RX300 S8(ABN:K1457V2014730)
- Processor : Intel(R) Xeon(R) CPU E52697 v2 @ 2.70GHz
- RAM : 62 GB DDR4
- HDD : 2.5 TB

##### **4. MINERVA SERVER**

- Model :FUJITSU PRIMERGY RX300 S8 (ABN:K1457V2014730)
- Processor : Intel(R) Xeon(R) CPU E52697 v2 @ 2.70GHz

- RAM : 62 GB DDR4
- HDD : 2.5 TB

#### 5. APOLLO SERVER

- Model : DELL EMC PowerEdge R740
- Processor :2x Skylake 16 Cores Intel Xeon Gold 6130 2.1Ghz, 22 MB,125W
- RAM : 64 GB DDR4
- HDD : 4TB

#### 6. ARES SERVER

- Model : DELL EMC PowerEdge R740
- Processor : 2x Skylake 16 Cores Intel Xeon Gold 6130 2.1Ghz, 22 MB,125W
- RAM : 64 GB DDR4
- HDD : 4TB

#### 7. CSED WEB SERVER

- Model :DELL EMC PowerEdge R740
- Processor :2x Skylake 16 Cores Intel Xeon Gold 6130 2.1Ghz, 22 MB,125W
- RAM :64 GB
- HDD :6TB

#### 8. CSED WEB SERVER (old)

- Model : DELL PowerEdge 2950
- Processor : Intel(R) Xeon(R) CPU E52697 v2 @ 2.70GHz
- RAM : 8 GB DDR4
- HDD : 1 TB

#### 9. SECURE LAB SERVER

- Model :DELL EMC PowerEdge R740
- Processor : 2x Skylake 16 Cores Intel Xeon Gold 6130 2.1Ghz, 22 MB,125W
- RAM : 64 GB DDR4
- HDD : 4TB

## II. WORK STATIONS

#### Work station-1

- Model : Dell Precision T3400 series server
- Processor : Intelcore2.ExtremeCPUX9650@3.00GHzx4
- RAM : 4 GB
- HDD : 500 GB
- Graphics : Quadro NVS 290/pcl/SSE2

#### Work station-2

- Model : Intel xeon(R)
- Processor :E52630v3@2.40GH2\*16
- RAM : 4GB
- HDD : 1TB
- Graphics : Quadro k620/PCIC/SSE2

### **III. SYSTEMS (74 No.s)**

- Model : Dell Optiplex 7010
- Processor : Intel Core i53470CPU@3.20GHZ
- RAM : 4GB
- HDD : 500 GB

### **IV. SYSTEMS FOR OFFICE USE (5 Nos)**

- Model : Dell Optiplex 755(4 Nos)
  - Processor : Intelcore2DouCPUE4500@2.2GHz x2
  - RAM : 2 GB
  - HDD : 250 GB
- 
- Lenovo A10 Thinkcentre M73z(1 No)
  - Processor : Intel Core i3 3 GHz
  - RAM : 4 GB DDR3
  - HDD : 500 GB SATA

### **V. PRINTER**

1. Laserjet M1136 Multifunction Printer
2. Canon LBP 2900B

### **VI. Wi-Fi ROUTERS ( 2 Nos )**

1. NETGEAR N600 Wireless Dual Band Gigabit Router
2. Mi Router 3C

## **NETWORK SYSTEMS LABORATORY**

The lab was established in 2006. The objective of this laboratory is to provide the infrastructure for conducting the regular labs (Program Design Lab, Data Structures Lab, DBMS Lab, Network Lab, Hardware Lab and Programming Languages Lab) and project works for the MCA and B Tech Lab sessions. The lab is equipped with state of the art servers, desktops and software (Linux and compilers for C, C++, Schema, TCL, PHP, Java etc). The lab is equipped with state of the art computing facilities with wired and wireless Internet connectivity.

Location: ITL 304, IT Laboratory Complex

Faculty In charge: Dr. Jayaraj P.B Assistant Professor, CSED

Staff In charge: Biju Francis Senior Mechanic, CSED

Facilities

### **I. SERVERS**

## 1. ANDROMEDA SERVER

- FUJITSU Primergy PY RX300S8 8\*2.5
- CPU : INTEL Xeon E5-2697v2 12c/24T 2.7 GHz 30 MB
- RAM : 8GB 1\*8 DDR3-1600
- HDD : 2.5 TB
- RAID : 5+1

## 2. ANDROMEDA BACKUP SERVER

- Dell PowerEdge 2950 Series Server
- CPU : Intel(R) Xeon CPU E5430@2.66GHz
- RAM : 8GB
- HDD : 292.3 GB (Present)
- RAID : 2+1

## 3. SERVER 3

- Dell PowerEdge 2950 Series server
- CPU : Intel Xeon CPU E5430@2.66GHz
- RAM : 8GB
- HDD : 438.5GB (Present)
- 

## II. WORKSTATIONS

### 1.FUJITSU CELSIUS M740power

- CPU : INTEL C612, board D3348
- RAM : 4GB DDR4
- HDD : 1000 GB
- Graphics card NVIDIA Quadro K620 2 GB
- NIC Card: 1\*1GB
- PCI Slot: 2\*PCIE gen 3 16 PCIE gen 34

### 2. DELL PRECISION T3610 (2 Nos.)

- CPU : Intel(R) Xeon(R) CPU E5-1620 v2 @ 3.70GHz
- RAM : 8GB
- HDD : 1TB
- Graphics Card : NVIDIA QuadroK200 (2GB)

### 3. DELL PRECISION T3400 SERVER

- Processor : Intelcore2.ExtremeCPUX9650@3.00GHzx4
- RAM : 4 GB
- HDD : 500 GB
- Graphics : Quadro NVS 290/pcl/SSE2



### III. SYSTEMS

#### 1. NODE SYSTEMS (75 Nos)

- Dell OptiPlex 7010
- Processor : Intel Core i53470 CPU@3.20GHz
- RAM : 4 GB
- HDD : 500 GB

#### 2. SYSTEMS FOR OFFICE USE(2 Nos)

- i. HP ProDesk G2 600 (Faculty machine)
  - Processor : Intel® Core™ i5-6500 CPU@3.20GHz
  - RAM : 8 GB
- ii. Lenovo A10 ThinkCentre M73z
  - Processor : Intel Core i3 3 GHz
  - RAM : 4 GB DDR3
  - HDD : 500 GB SATA

### IV. PRINTER

1. Brother Mono Laser Multifunction Printer Dcp-7065Dn

### HARDWARE & EMBEDDED SYSTEMS LABORATORY

This lab was established in 2006. The objective of this laboratory is to provide the infrastructure for conducting the regular labs (Hardware Lab) and project works for the B Tech and MCA Programs. The lab is equipped with the desktops, IC Tester, Trainer Kits, ARM processor and power supply. The lab is equipped with state of the art computing facilities with wired and wireless Internet connectivity.

Location: ITL 301, IT Laboratory Complex

Faculty in charge: Dr. Saidalavi Kalady, Associate Professor, CSED

Staff in charge: Sreeja V, Senior Mechanic, CSED

### FACILITIES

#### I. DESKTOP COMPUTER ( 23 Nos )

- i. Dell HW-OptiPlex-7010
  - Memory: 3.8 GiB
  - Processor: Intel® Core™ i5-3470 CPU @ 3.20GHz × 4
  - Disk:480.4 GB
- ii. Dell OptiPlex 7010
  - Processor: Intel® Core TM i5-6500 CPU @ 3.20GHz
  - RAM: 7.7 GiB
  - Disk: 968.6 GB
- iii. Lenovo A10 ThinkCentre M73z
  - Processor: Intel Core i3 3 GHz
  - RAM : 4 GB DDR3

- HDD : 500 GB SATA

## **II. . DIGITAL IC TRAINER ( 45 Nos.)**

- 7 segment LED display (2 nos.)
- Logic input switches (10 nos.)
- Logic status indicators (10 nos.)
- Bounce less Pulsar 1 Hz to 100 KHz TTL clocks.
- Breadboard - 1 Nos.

## **III. ARM CORTEX M4 EMBEDDED DEVELOPMENT KIT ( 5 Nos )**

## **IV. IC TESTER ( 3 Nos )**

- Digital IC Tester
- Linear IC Tester

## **V. REGULATED DC POWER SUPPLY(MODEL LQ6324) ( 10 Nos.)**

## **VI. 3MHZ FUNCTION GENERATOR ( 10 Nos. )**

- 0.003Hz to 3MHz frequency range.
- 2mV to 20V pk-pk from 50 ohm or 600 ohm .
- Auxiliary TTL/CMOS output.

## **VI. LAN-T TRAINER**

## **VII. LASER PRINTER**

1. HP JetPro MFP M521du

## **VIII. OSCILLOSCOPE ( 10 Nos.)**

## **BIG DATA AND BIOCOMPUTING LABORATORY**

This laboratory was established in 2009 with an objective of fostering research in the emerging area of Bioinformatics, Computational Biology and to provide the infrastructure for conducting the regular labs and project works for the M. Tech. Program. The department has a long term objective of developing this into a 'Centre of Excellence in Big Data and Biocomputing' with collaboration from institutes of national and international repute. The lab is equipped with state of the art computing facilities with wired and wireless Internet connectivity.

Location: Second Floor, Central Computer Centre

Faculty in charge: Dr. Madhukumar S D, Dr. K A Abdul Nazeer, Dr. Gopakumar G

Staff in charge: Biju Francis , Senior Mechanic, CSED

## **FACILITIES**

### **I. SERVER**

- HP ProLiant ML150 Gen9 Server
- CPU : Intel(R) Xeon CPU E5-2630 V3@ 2.40GHZ \* 16
- RAM : 62.8 GB
- HDD : 3.4 TB

## **II. SYSTEMS**

### **1. NODE SYSTEMS (70 Nos.)**

- i. HP 406 G1MT - ( 50 Nos.)
  - Processor: Intel Core i5-4590 CPU @3.30GHz \* 4
  - Disk : 500GB
  - RAM : 4GB
  
- ii. HP Prodesk 600 G2 SFF ( 10 Nos.)
  - Processor: Intel Core i5-6500 CPU @3.20GHz \* 4
  - Disk : 1 TB
  - RAM : 8GB
  
- iii. HP Prodesk 600 G1 SFF ( 10 Nos.)
  - Processor: Intel Core i5-4570 CPU @3.20GHz \* 4
  - Disk : 196.7GB
  - RAM : 8GB

### **2. SYSTEMS FOR OFFICE USE ( 4 Nos.)**

- i. HP Prodesk 600 G1 SFF ( 2 Nos.)
  - Processor: Intel Core i5-4570 CPU @3.20GHz \* 4
  - Disk : 196.7GB
  - RAM : 8GB
  
- ii. DELL Optiplex 7010
  - Processor: Intel Core i5-3470 CPU @3.20GHz \* 4
  - Disk : 381.5GB
  - RAM : 4GB
  
- iii. Acer Veriton
  - Processor: Intel Pentium CPU @3.0GHz \* 2
  - Disk : 395.1GB
  - RAM : 4GB

## **III. PRINTER**

1. Laserjet Printer Brother HL-L2321D

## **IV. Wi-Fi ROUTER**

1. NETGEAR ProSAFE Wireless N Access Point
2. Mi Router 3C

## **CLOUD COMPUTING LABORATORY**

Established in 2010 as part of research projects in the field of Cloud Computing. This lab is currently being utilized by the first year M Tech students and PhD students working in the area of Cloud Computing. At present the cloud computing research group is focusing on areas like Resource allocation in clouds, Cloud Security, Big Data Analytics, Software Defined Networks, Cloud Storage and Cloud for Telecom sector.

The laboratory is equipped with 25 desktop systems and with state of the art computing facilities with wired and wireless Internet connectivity.

Location: First Floor, MB 210, Main Building

Faculty in charge: Dr. S D Madhukumar

Staff in charge: Abdul Sathar V M , Senior Mechanic, CSED

## FACILITIES

### I.SERVER

#### i. DELL POWEREDGE T640

- Processor :Two Intel Xeoncallable Processors, GPU4x300W, NVIDIA Tesla P100, P40,K80M,M60,M10,AMDS7150
- RAM : 128 GB
- HDD : 2 TB

#### ii. Dell OptiPlex 3040 (24 Nos)

- Processor: Intel® Core™ i5
- Quard Core CPU@ 3.2 GHz
- RAM : 8 GB
- HDD : 500 GB

#### iii. FUJITSU CELSIUS M740 Power (1No)

- Processor: Intel Xeon E5-2630v3 2.40GHz 20MB Turbo Boost
- RAM: 16GB
- HDD: 2\*1 TB
- HIGH-END PC

#### iv. DELL PRECISION T3610 (1 Nos)

- Processor: Intel Xeon E51620v2 Quard Core HT3.76GHz Turbo
- RAM : 8 GB
- HDD : 1 TB

#### v. DELL OPTIPLEX 7010 (2Nos)

- Processor: Intel Core i73770 Quard Core CPU@3.4GHz
- RAM : 16 GB
- HDD : 1TB

#### vi. DELL OPTIPLEX 755 (1 Nos)

- Processor: Intelcore2DouCPUE4500@2.2GHz x2
- RAM : 2 GB

### MACHINE LEARNING LABORATORY

Established in 2003 as part of a project "Centre for Speech and Natural Language Processing", with a view to promote research activities in areas like Artificial Intelligence, Bioinformatics, Natural Language Processing, Knowledge based Systems and Information Retrieval. This lab is currently being utilized by the M. Tech students of the Department for their project and research activities. The lab is equipped with

state of the art computing facilities with seamless wired and wireless Internet connectivity, and is functioning round-the-clock with students' assistance.

The laboratory is equipped with 3 servers, 35 desktops, a printer and a scanner. The lab is equipped with state of the art computing facilities with wired and wireless Internet connectivity.

Faculty In-charge: Dr. K A Abdul Nazeer, Associate Professor, CSED

Staff In-charge: Abdul Sathar , Senior Mechanic, CSED

Location: MB 202, Main Building

## **I. SERVERS**

### **i. Dell PowerEdge2950Series rack server(2 Nos.)**

- Processor: Intel® Xeon® CPU E5430@ 2.66GHz
- RAM : 8GB
- CPU Cores : 4
- HDD : 292.3GB(Present)

### **ii. Fujitsu Primergy RX 300 S8 1 No**

- Processor: Intel Xeon E5-2697v2 12C/24T 2.7GHz 30MB
- RAM : 64GB DDR3
- HDD : 5\*500GB

## **II. SYSTEMS (35 Nos)**

### **i. DELL OPTIPLEX 7010 Desktop(30 Nos.)**

- Processor: Intel Core i5-3470 CPU@3.20GHz
- RAM : 4 GB
- HDD : 500 GB

### **ii. DELL PRECISION T3610 Workstation (1 No)**

Processor: Intel Xeon E51620Vz Quad core HT 3.7 GHz TURBO  
RAM: 8 GB  
HDD: 1 TB

### **iii. DELL OPTIPLEX 7010 MT Desktop (High End) -2 Nos.**

Processor: Intel Core i7-3770 Quad core CPU@3.4GHz  
RAM: 16 GB  
HDD: 1TB

### **iv. DELL PRECISION T3400 (1 No)**

Processor: Intelcore2.ExtremeCPUX9650@3.00GHzx4  
RAM: 4 GB

Graphics: Quadro NVS 290/pcl/SSE2  
HDD: 500 GB  
OS: Windows XP

## **IMAGE PROCESSING AND MULTIMEDIA LABORATORY**

This lab was established in 2006. This lab is currently being utilized by the first year M Tech students of the Department for their project and course activities. The laboratory is equipped with 1 Cluster, 31 desktop, 2 Workstations, 2 High-End PCs, a Printer and a Scanner. The lab is equipped with state of the art computing facilities with wired and wireless Internet connectivity.

Faculty-In- Charge: Pournami P N , Assistant Professor ,CSED

Staff-In- Charge: Abdul Sathar VM, Senior Mechanic, CSED

Location: Main Building (1 st Floor) Room No :MB 211

## **FACILITIES**

### **1.Cloud Computing Server**

#### **i.Dell PowerEdge T620**

- Processor: Intel Xeon 65 2690v2 @ 3.0GHz
- RAM : 256 GB
- HDD : 6TB

## **I.SYSTEMS - 31 Nos**

#### **i.DELL OPTIPLEX 7010 - 30 Nos.**

- Processor: Intel Core i53470 CPU@3.20GHz
- RAM: 4 GB
- HDD: 500 GB

#### **ii.DELL OPTIPLEX 755(1 No)**

- Processor: Intelcore2DouCPUE4500@2.2GHz x2
- RAM: 2 GB

## **III. WORK STATIONS (1No.s)**

#### **i.Dell Precision T3610 -1 No**

- Processor: Intel Xeron E51620v2 Quard Core HT3.76GHz Turbo
- RAM : 8GB
- HDD : 1TB

#### **ii.DELL OPTIPLEX 7010(2 Nos.)**

- Processor: Intel Core i73770 Quad Core CPU@3.4GHz
- RAM : 16 GB
- HDD : 1TB

#### IV. LENOVO THINKCENTRE All-In- Ones M Series

- Processor: Intel Core i3
- RAM : 4 GB
- HDD : 500 GB

### SECURE COMPUTING LABORATORY

This lab was established in 2005. The objective of this laboratory is to provide the infrastructure for research in various aspects of security in computing. The research scholars are the main users of this lab. The lab is equipped with state of the art machines and software.

Location: ITL 303, IT Laboratory Complex  
 Faculty-in-Charge Dr. Dr. Priya Chandran Professor, CSED  
 Staff-in-Charge Ajayachandran V R, Computer Operator, CSED

### FACILITIES

#### SERVER

1. HP ProLiant DL 360 4p Server
2. Cisco 2800 Series Router
3. Cisco Catalyst 3560 G Series 24 port Switch
4. Master View plus KVM Switch CS 9138
5. Procurve Networking 24 Port Switch
6. HP L1766 Monitor

#### Servers

1. Sun Blade 1500 (2 Nos)
2. Dell PowerEdge SC1420 (1 No)
3. IBM System x3100 M4, Intel Xeon E31120 V2, 16GB ECC-SER RAM, 1TB HDD
4. Dell PowerEdge T620, Intel Xeon E5-2690 V2, 3 GHz HT, 256 GB RAM, 6TB HDD

#### Work Stations

1. Dell Precision T 3400
2. Dell Precision T 3610, Intel Xeon E5 1620 V2, 8GB DDR3, 1 TB HDD (3 Nos)

#### High End PC

1. Dell Optiplex 7010MT, Intel Core i7, 16GB DDR3 RAM, 1 TB HDD (7 Nos)

#### Desktops

1. Dell Optiplex GX 520 (6 Nos)
2. HP Compaq (1 No)
3. Apple M8570 (1 No)
4. Dell Optiplex 7010 Intel Core i5, 4GB DDR3 RAM, 500 GB HDD (7 Nos)
5. ACER Veriton, 4GB DDR3 RAM, 500 GB HDD (1 No)

#### Laptop

HP Compaq nx6130 (1 No)

#### Printer

1. Brother DCP 7065DN (1 No)

#### Wireless Access Point

D-Link DWL 2100AP (1 No)

#### Camera

CANON SLR EOS 100D 18-55mm (1 No)

Software

1. MATLAB Server Version
2. MATLAB Desktop Version

Direct Internet connectivity through campus network

### **CENTRAL COMPUTER CENTER**

Central Computer Centre (CCC) is the central facility in NIT Calicut which caters for the computing requirements of the whole community of this institution. The Centre has state of the art infrastructure with four fully operational terminals spanning over three floors of the building. The Decision Support System (DSS) of the institute also operates from the Centre building. The Centre has 190+ client machines and has a capacity to include 400+ machines. Client systems are of both desktop and workstation genre. Desktops contain HP Prodesk 600 G2, DELL OPTIPLEX 755 and 7010 series which are of adequate performance and workstations contain Fujitsu Celsius W570 power, HP XW4550 and DELL Precision series machines which are capable of more than handling high end production and design level applications. CCC hosts some of the high end servers and a hybrid cluster machine. Servers include DELL PowerEdge T620 which has a dual Hexa-core processor and HP ProLiant Rack server which has a dual Quad-core processor. High performance cluster machine (14 node CPU-GPU cluster system) which has a computational capability of 25 TeraFlops is accessible along the length and the breadth of nitc campus. CCC plans to expand and transform into a world class facility in the near future with a futuristic outlook by strongly activating the super computer user group activities, and encompassing parallel computing servers, multi processor compute servers and application servers etc..

Location: ITL 303, IT Laboratory Complex

Faculty-in-Charge Dr. Jayaraj P B Assistant Professor, CSED

Centre Administrator A Rajagopalan

Computer Technician G Sasidharan Pillai

### **FACILITIES**

#### **DESKTOPS**

i) Intel Core i5-6500  
3.20 GHz Processor  
HP 406 Microtower  
8GB RAM  
1 TB HDD

ii) Intel core i5 6600  
3.30 GHz Processor  
HP Prodesk 600 G2  
8GB RAM  
1 TB HDD

iii) Intel core i5 3470  
3.2 GHz Processor  
DELL Optiplex 7010  
4GB RAM  
500 GB HDD

iv) Intel core 2 duo  
2.33GHz Processor  
DELL Optiplex 755  
2GB RAM



160 GB HDD

v)Intel Core i7 477k  
3.50 GHz Processor  
8 GB RAM  
Assembled Machine  
Nvidia GeForce GTX 780 Graphics Card  
1 TB HDD

## WORK STATIONS

i.FUJITSU Celsius W570 Nvidia QuadroP400 2 GB Graphics Card  
power  
Intel Xeon E3-1245 v6 3.70 GHz  
32GB RAM  
1 TB HDD

ii. DELL Precision T3610 Nvidia Quadro K2000 2 GB Graphics Card  
(OLD)  
Intel Xeon E5-1620v2 3.70 GHz  
8GB RAM  
1 TB HDD

iii.HP Workstation  
Intel Dual Core AMD Opteron  
4GB RAM  
160 GB HDD

## 3.LAPTOP

HP ProBook 450 G2  
Intel Core i5-5200U cpu,  
8GB RAM  
1 TB HDD

## SERVERS

i. DELL PowerEdge T620 600GB\*4 with RAID 5  
Intel(R) Xeon(R) CPU E5-2630 v2 @ 2.60GHz  
32GB RAM  
600GB\*4 with RAID 5

ii.DELL PowerEdge T620  
Intel(R) Xeon(R) CPU E5-2630 v2 @ 2.60GHz  
32GB RAM  
Nvidia Tesla K20c 5GB Graphics Card with 2495 Cores  
DELL PowerEdge T620 600GB\*4 with RAID 5

iii.HP ProLiant DL385 G5p

AMD Quad Core Opteron 2378 2.4GHz  
16GB RAM  
300GB\*2 HDD with RAID 1

iv. Lenovo ThinkSystem NVIDIA Tesla V100 32GB PCIe Passive GPU (5120 CUDA Cores & 640  
2\*Intel(R) Xeon(R) Silver 4116 CPU @ 2.10GHz  
96 GB DDR4 RAM  
NVIDIA Tesla V100 32GB PCIe Passive GPU (5120 CUDA Cores & 640  
Tensor Cores)  
2\*1TB HDD with RAID1 configured  
1600W (230V) Platinum Hot-Swap Power Supply

#### PRINTER

CANON LBP 6300  
USB Laserjet Printer  
Monochrome  
16 MB Internal memory

#### SCANNER

i. HP Scanjet G3110  
Flatbed  
Charge Coupled Device (CCD)  
Colour Scanning

### **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

1. Electronics Circuits Lab
2. Communication Lab
3. Integrated Circuits Lab
4. Digital Signal Processing Lab
5. Embedded Systems Lab
6. Electronics Workshop
7. Microelectronics and VLSI Lab
8. Telecommunication Lab
9. Research Lab I & II
10. Signal Processing and Communication (SPCom) Lab
11. R&D Lab
12. Project Lab
13. PSoC Lab

### **DEPARTMENT OF ELECTRICAL ENGINEERING**

#### UG Laboratories

1. Electrical Workshop
2. Electronics Workshop
3. Electronics Laboratory
4. Electrical Measurements Laboratory

5. Electrical Machines Laboratory
6. Control Systems Laboratory
7. UG Power Electronics Laboratory

PG/Research Laboratories

1. Electrical Simulation Laboratory
2. Power Systems Laboratory
3. Power Electronics Laboratory
4. DCS Applications Laboratory
5. Process Automation Laboratory
6. Embedded Systems Applications Laboratory
7. Power Electronics Research Laboratory
8. Advanced Control Systems Laboratory
9. Power Systems & Power electronics Real-Time Simulation Laboratory
10. High Voltage Engineering Laboratory
11. Bio-Signal Processing Laboratory
12. Non-destructive testing Laboratory
13. Instrumentation Systems Laboratory
14. Centre for Testing and Consultancy

Sponsored Research Laboratories

1. LVDC Microgrid Laboratory (CDAC)
2. Distributed Energy Research Laboratory (DST-FIST)

Following new laboratory is proposed:

1. Industrial Drives Laboratory

DEPARTMENT OF MECHANICAL ENGINEERING

**Laboratories under Department of Mechanical Engineering associated with the Curriculum**

- Central Workshop
- Fluid Mechanics Laboratory
- Fluid Machinery Laboratory
- Heat Engines Laboratory
- CAD/CAM Centre
- Metrology Laboratory
- Production Engineering Laboratory
- Industrial Engineering Laboratory
- Heat Transfer Laboratory

**Other Laboratories under Department of Mechanical Engineering associated with Research/Consultancy/Testing**

- Advanced Manufacturing Centre
- Centre for Precision Measurements & Nano-mechanical Testing
- Sophisticated Instruments Centre

- Materials Science Laboratory
- Mechatronics / Robotics Laboratory
- Supply Chain and Systems Simulation Laboratory
- Tribology and Vibration Laboratory
- Solar Energy Centre
- Thermal Science Laboratory
- Centre for Advanced Studies in Cryogenics
- Fuel Cell Laboratory
- Green Energy Laboratory
- Design Innovation Centre

#### **DEPARTMENT OF PHYSICS**

- 1) First Year B.Tech Lab
- 2) Computer Lab
- 3) Electronics Lab
- 4) Optics Lab
- 5) Solid State Physics Lab
- 6) Wet chemistry lab
- 7) General Physics Lab
- 8) Laboratory for Molecular Photonics and Electronics
- 9) Applied Optics and Instrumentation Lab
- 10) Organic and Nano Electronics Lab
- 11) Laser and Nonlinear Optics Lab
- 12) Critical Point Phenomena and Polymer Dynamic lab
- 13) Computational Material Science Lab
- 14) Photonic Materials and Devices Lab

#### **SCHOOL OF BIOTECHNOLOGY**

1. Biochemistry Laboratory
2. Microbiology Laboratory
3. Bioprocess Laboratory
4. Molecular Biology Laboratory
5. Immunology Laboratory
6. Bioinformatics Laboratory
7. Plant Biotechnology and Enzyme Kinetics Laboratory
8. Downstream Processing Laboratory

#### **SCHOOL OF METATERIALS SCIENCE AND ENGINEERING**

- **Microscopy centre, SMSE**

#### **9.5 Hospital, Post Office, Shopping Centre**

Institute has a Health Centre providing the medical needs of students, staff and their families. Following are the staff details:

1. Dr. Celine.A.A. - R.M.O
- 2- Dr. Balasubramanian - ( Physician Visiting Doctor)
- 3- Dr. Akhil Raj.M.P - R.M.O. (Adhoc)
- 4- Dr. Midhun A.R. - R.MO.(Adhoc)

Faculty In Charge  
 Dr. Anu Mary Chacko  
 Paramedical Staff  
 a) Sri. Abraham.P. - Pharmacist  
 b) Smt. Sasikala.L - Sanitation Worker  
 Adhoc Staff  
 a) Staff Nurse -2  
 b) Lab-Technician -1  
 c) Nursing Assistant cum Attender -1

**NIT Health centre Medical laboratory.**

A newly constructed well equipped Medical Laboratory is functioning in the Health Centre from 2000 onwards.

NITC Health Centre has been actively working with the student community proactively to improve the welfare of NITC.

The major milestone for NITC Health Centre this year was the purchase of AED (Automated External Defibrillator) as an emergency measure for saving a life in case anyone gets a sudden cardiac arrest. It is a sophisticated, yet easy-to-use, medical device that can analyse the heart's rhythm and, if necessary, deliver an electrical shock, or defibrillation, to help the heart re-establish an effective rhythm. This was formally inaugurated by Director NITC on June 19, 2020. This was followed by a session by Dr. Mohamed A. A., Emergency Physician at Meitra Hospital, Calicut for the security staff on how to handle emergencies and demo of the machine.

NITC Health Centre worked actively during COVID times to ensure that spread of COVID was contained in the campus. The doctors conducted screening for employees and students so that they can work in the department. Health Centre also co-ordinated with the local authorities to ensure that all necessary precaution was taken for the smooth functioning of the institute.

**Bank, Post Office and Telephone Exchange**

There is a branch of State Bank of India, an India Post Office, Telegraph Office and a BSNL Telephone exchange functioning in the Institute Campus

**SHOPPING CENTRE**

There is also a shopping centre run by the co-operative society of the employees of the institute staff functioning in the Campus.

**9.6 PHYSICAL FACILITIES (GAMES & SPORTS)**

Sl.No	Facilities	Quantity
(i)	25 m. Non-standard Swimming pool	01
(ii)	25 Station Multi Gymnasium	01
(iii)	Hockey field - Standard	01
(iv)	Cricket Stadium with Turf match & practice wickets	01

(v)	Cricket Net Practicing Cage-(Turf-1, Clay-1, Concrete-1)	03
(vi)	Football field - Standard	01
(vii)	Basketball - Concrete Outdoor - Standard - Flood lighted	02
(viii)	Volleyball - Standard- Outdoor - Flood lighted	01
(ix)	Tennis Complex- Clay courts - Standard - Flood lighted	03
(x)	Tennis Court Synthetic - Standard - Flood lighted	01
(xi)	Handball Court - Standard	01
(xii)	Multi-purpose Auditorium for Indoor games (non standard)	01
(xiii)	Kho-Kho - Clay Court - Standard - Flood lighted	01
(xiv)	Kabaddi - Clay Court - Standard - Flood lighted	02
(xv)	Badminton - Synthetic Court - Standard Indoor Flood lighted	01
(xvi)	Badminton - Cement Court - Standard Flood lighted	02
(xvii)	Table Tennis - Cement Court- Flood lighted	04
(xviii)	Athletic Track- 400M (Clay Track & Field)	01

## 9.7 OTHER FACILITIES

### 9.7.1. CENTRE FOR BIOMECHANICS

The Centre for Biomechanics, inaugurated on September 10, 1998, is a unique centre in which active and useful academic interactions take place between doctors and engineers. Such centres, although essential for the benefit of society, unfortunately is not common in our country. R & D work of an interdisciplinary nature is carried out here, with Faculty drawn from various departments of this Institute and Adjunct Faculty from other institutions.

#### i. Proposed plan of Research

- a. Research interactions are going on with the Department of Physical Medicine and Rehabilitation and the Department of Orthopaedics, Calicut Medical College and a few other medical/rehabilitation centres. A few inter-disciplinary research initiatives have taken place in areas like gait analysis, deformity corrections etc.
- b. There are a few PhD students and PG students who have already shown interest and in working in Biomechanics related projects under the guidance of adjunct faculty in the Centre.
- c. The Centre plans to organise seminars, workshops/training courses in relevant fields of biomechanics so as to bring an exposure and awareness among the students and faculty about various interdisciplinary research areas in biomechanics.
- d. Updating the current facilities in the Centre for Biomechanics and reviving the R&D and consultancy activities are also planned.

#### ii. Notable Achievements

1. VDS Fixator: Such a configuration, arrived at by elaborate finite element analysis, has proved to be superior to the existing ones. Clinical trials support the conclusions arrived at by detailed parametric study conducted on the computer. This invention has lead to a patent (India Patent No. 194925).

2. **Dynamic Wrist Fixator:** The new and improved dynamic wrist fixator aimed to solve the problem of healing unstable fractures of the wrist, with nearly complete recovery of the original mobility of the wrist joint. Multi-centred clinical trials were carried out at a number of medical college hospitals in Kerala and the device is proven to be superior to the existing ones available in the market. This invention also has led to a patent (India Patent No. 196326).
3. Extensive finite element analyses were carried out on Ilizarov fixator used for correcting tibial fractures and in bone-lengthening procedures. Results of parametric studies give doctors directions on how to use them more effectively.
4. **Dermotaxis:** This is a term coined to describe a simple and innovative method of achieving closure of skin defects and wounds through continual stretching of the skin. The Centre has developed a tool for skin closure using K-wires, which seems to be a cost effective and quicker method, compared to conventional procedures. It also has the advantage of retaining the sensation of skin in contrast to the conventional methods where it is lost. A viscoelastic model was used to study the behaviour of human skin the results from which indicate the rate at which the skin could be stretched without inducing separation of epidermis.
5. Methods to assess the goodness of healing of a fractured wrist were developed. Certain statistical methods were developed to estimate the gripping strength of the wrist before fracture from measurements of gripping strength of the other (unbroken) hand.
6. **Pinch-Force Meter:** A simple device to measure the pinch force has been developed. This device is useful in assessing how good the healing of a wrist injury is. A person with a wrist injury usually loses ability to exert much of pinch force.
7. Simple device to measure the viscosity of blood was fabricated. The blood viscosity measure is an easy indicator for several diseases including heart attack.
8. Simple device to prepare a blood smear has been developed. Some more studies are necessary before it can be commercialised.
9. A surgical tourniquet has been developed as part of an M.Tech project work. It is possible now, with this experience, to design a fully automatic programmable digital electronic tourniquet. Tourniquet is useful for the bloodless operation of limbs.
10. **Use of LTTP in Prostheses and Orthoses:** Low-temperature thermoplastics (LTTP) are extremely useful in developing orthoses such as braces. The advantage comes from the special property of LTTP that it becomes malleable at a temperature of 70° C and hardens when cooled to room temperature. Thus, it can be moulded by pressing against the patient's body. This enables doctors to provide the orthoses to the patients in the quickest possible time resulting in a faster cure of the disability. Trials carried out have demonstrated that it is possible to use LTTP in a variety of situations including the fabrication of sockets of artificial limbs. A research project funded by DST has been completed which benefited a large number of patients visiting the Physical Medicine and Rehabilitation Centre of Calicut Medical College. DST has sent a letter of appreciation regarding this work. It is planned to extend and propagate this work so that more patients from different parts of the country are able to draw the benefits from this work. This work is being extended so that complete prostheses could be made out of LTTP. This will enable the patients to get the prostheses with very little waiting.

Several tests on glues and appliances used by the dentists were carried out by postgraduate dental students. This formed part of a few postgraduate theses by students from different Medical Colleges in and around the state of Kerala.

#### **Patents**

1. **Tibial External Fixator Assembly**—A new biomechanical configuration for improved treatment of fractures of the tibia
2. **Dynamic Wrist Fixator**—A new biomechanical device to facilitate treatment of unstable fractures of the distal radius (wrist)

### **9.7.2 CENTRE FOR TESTING & CERTIFICATION – CTC**

The centre for testing and certification was established in 1999 with financial assistance from Ministry of Industries & Commerce, Government of Kerala. The centre was established in mainly

to help small scale entrepreneurs of the State of Kerala. Variety of testing equipments has been acquired for facilitating testing of electronic components, systems and gadgets.

Faculty in Charge : Dr. Sindhu T K

### **9.7.3 ADVANCED MANUFACTURING CENTRE & SOPHISTICATED INSTRUMENTS CENTRE**

Advanced Manufacturing Centre set up in the Department of Mechanical Engineering is one of the finest facilities available in manufacturing. Major equipment available include the following:

- Five axis CNC Coordinate Measuring Machine,
- Three axis Integrated Multipurpose Micro-Machining Centre, Four
- Four axis CNC Machining Centre,
- Rapid Prototyping Machine/ 3D Printers,
- CNC turning centres,
- CNC Surface Roughness Tester,
- Six component and Mini Cutting Tool Dynamometers.

The fully fledged CAD/CAM Centre opens round the clock conducts free training programmes to NITC students. Popular CAD/CAM software available includes: SOLIDWORKS, Creo, CATIA, Siemens NX, MSC Adams, Mastercam, Ansys, and Abaqus. Further details are available at <http://www.amc.nitc.ac.in/>

The Sophisticated Instrument Centre uses state-of-the art technology in measurements and metrology and has facilities for carrying out the measurements of industrial products. Most of the instruments like CNC Coordinate Measuring Machine (CMM), CNC surface roughness tester and measuring software have been imported from Japan with the financial assistance of the Ministry of Human Resources Development, Govt. of India. It aims to enable small industrialist to obtain certification of quality for their products at a reasonable cost. This centre also offers various training, testing and consultancy services to industries and academic institutions.

The DST- FIST Centre for Precision Measurements and Nanomechanical Testing is one of the latest additions set up at the cost of Rs 2.51 Crores under the FIST scheme. This centre has sophisticated facilities like 3D Profilometer, Nanoindenter, High Speed Camera, Thermal imager, etc. to help the research in design and manufacturing.

### **9.7.4 MICROSCOPY CENTRE**

Microscopic Centre established in 2009 and managed by school of Nano Science and Technology. Centre is equipped with advanced microscopic equipment's like Scanning Electron Microscope (SEM) and Scanning Probe microscope (SPM). Centre is actively contributing to the research and consultancy of the institute.

Centre is equipped with Hitachi make SU 6600 Variable Pressure Field Scanning Electron Microscope having Secondary Electron Imaging (SE), Backscattered Electron Imaging (BSE) and Energy dispersive spectroscopy (Horiba EMAX.137 ev) for elemental analysis. Scanning probe microscopy includes a Park XE-100 Atomic Force Microscope (AFM) having capability of performing various analysis like Electrostatic microscopy, Magnetic force microscopy, Lateral Force microscopy, Conductive AFM, Nanolithography, Nanoindentation etc.

Centre is analyzing variety of samples from different department of the institute as well as the facility is open for consultancy service. Different academic, Industrial and R&D organizations from all over the country was using the facility under consultancy basis. Centre is always promoting the industry, R&D interactions with our institute



### 9.7.5 Engineering Unit for Civil and Electrical works

Below are the details of some of the major works completed/ongoing during the period 2019-2020

<b>Civil works</b>		
<b>Sl No.</b>	<b>Name of Work</b>	<b>Status</b>
1	Construction of an additional floor over Centre for testing & Calibration lab near production engineering Block for EED	Completed
2	Construction of additional floor over the existing lecture hall complex near the football ground of NITC	Completed
3	Providing chain link fencing with barbed wire for substation and providing shelter for DG set near Mega Ladies Hostel.	Completed
4	Urgent repair works of roof including replacement of damaged wooden materials at G24 A&B, E3A&B and E2A&B( 6Nos) quarters.	Completed
5	Providing partition in IT Lab Complex Room No.305 & in Big Data and Bio Computing in CCC of CSED including replacing damaged floor tiles.	Completed
6	Construction of gents and ladies Toilet, leach pit, modification of space for hand wash area at main canteen.	Completed
7	Providing Gypsum board ceiling working room no. 102 of lecture hall complex	Completed
8	Construction of Sand Bag bund over check dam near NITC Pump house	Completed
9	Providing and laying of precast RCC slab for foot path from Administrative block to Main Canteen	Completed
10	Maintenance works of Guest House including replacing floor carpet of VIP rooms with vitrified tiles and providing interlocked block finish for parking area	Completed
11	Renovation work of Training and Placement Building including providing toilet to disabled person and construction of Aluminium partition to tea making area, changing of damaged floor tile with vitrified tile at the first floor of the building	Completed
12	Maintenance works to heat engine lab including providing ceiling in the computerized engine room and cabin	Completed
13	Providing partition and Aluminium windows in room no. 205 E for faculty room in Chemical Engineering department	Completed
14	Providing 110mm PVC pipe line for interlinking of apartment OH water tank and Guest House Oh tank for distribution of water supply towards residential area of the campus	Completed
15	Construction of overhead water tank near substation of Mega Ladies Hostel at NIT Campus	Completed

16	Providing Aluminium partition in room no. 307 of Biotechnology lab - Phase II	Completed
17	Providing GP net to cafeteria at eastern campus for preventing entry of Birds and Animals inside	Completed
18	Renovation works in physical education building consists of gymnasium, chess hall, carom space and storage spaces near main canteen	On Going
19	Providing partition and Ceiling in Electronics workshop for converting it to DST-FIST lab with faculty rooms in ECE block-II	On Going
20	Renovation works in Electrical Machines lab (Region-I) of EED including providing aluminium partition, floor tiles, ceiling with calcium silicate board etc..	On Going
21	Providing Partition, Work benches and Racks for storage of Chemicals at room no. 108, 101, 303 of Chemistry Department	On Going
22	Renovation work of Chanakya hall including interior finishing and acoustical work	On Going
23	Interior works of senate hall and Director room in Academic block of NIT Calicut	On Going
24	Various maintenance work to filter house and Sedimentation tank including providing fencing and repair work of compound wall at east side and various painting works	On Going
25	Providing Aluminium partition in NANO Material Research Laboratory, in room no. 301, SMSE	On Going
26	Leak proofing work of overhead tank near Guest House	On Going
27	Leak proofing work of inner surface of the tank near substation of MLH	On Going
28	Providing roof over the existing Open Air Theater	On Going

<b>Electrical Works</b>		
<b>SI No.</b>	<b>Name of Work</b>	<b>Status</b>
1	Replacing the existing Main switch boards including providing Three phase AC supply, UPS supply and DC supply in each work table at Electrical Machines lab ( Drives lab) - Phase I .	Billing under process
2	Replacing the existing Main switch boards and Distribution Boards of E-Hostel.	Work under process
3	Renovation of Electrical fittings at Machines Lab, EED.	Work under process

5	Electrification work of Cafeteria at East Campus.	Completed
6	Electrification of Cafeteria at Open Air Theater	Billing under process
7	Maintenance of existing street light poles including replacing the existing S V lamp fitting with LED Street light fitting, damaged metallic junction boxes, plinth and painting of poles towards residential areas.	Work under process
8	Electrification of High performance Computing facility at existing digital Library.	Billing under process
9	Providing Exhaust fans at PG Laboratory in Nanoscience & Technology.	Completed
10	Renovation of Electrical installation at first floor of High voltage Laboratory, EED.	Billing under process
11	Providing electric connection to Air conditioner, Power and UPS plug points at newly proposed room for OSD (S & P) at New Administrative Block.	Completed
12	Providing Three phase electric connection to newly purchased Welding machine at MED.	Work under process
13	Providing Additional plug points for newly purchased machines at Bio Chemistry Lab, SBT.	completed
14	Providing LED street lights at rear side of New Administrative Block to NLHC.	completed
15	Providing additional power plug points to newly purchased Machines at Transportation lab, CED.	completed
16	Providing electric connection to newly purchased XRD machine at School of Material Science and Technology.	completed
17	Providing Electric connection to Single phase Air conditioners at Bhaskara Hall.	Work under process
18	Refurbishment of Chanakya Hall.	Work under process
19	Cable trenching of existing cable to Creative zone	completed
20	Electrification of DST FIST lab at ECED	Billing under process
21	Electrification of newly constructed Toilet area at Main Canteen.	completed

## 9.7.6 CAMPUS SCHOOL

### SPRING VALLEY SCHOOL

Spring Valley School is a Senior Secondary Co-educational English Medium School, functioning in the institute campus as one of the staff welfare measures. The school is affiliated to the Central Board of Secondary Education, New Delhi with code No.930100. School is being managed by REC SPECTRA (Society for Promotion of Educational, Cultural and Training Activities), a charitable society registered under the Societies' Act (1860), the members of which are the faculty members of the institute. Most of the infrastructure facilities of the school like land, buildings, laboratories, playgrounds, etc. have been made available by the institute. The School has always excelled in academics since its inception and could achieve 100% pass both in Class X and XII CBSE Examinations. Digitally enabled classroom facilities and the School Band have been provided to strengthen the academic and co-scholastic abilities of the students. The School celebrated its Silver Jubilee during the academic year 2017-18. The School celebrated its 27th Annual Day, on 24th January 2020. Shri Jayant Ganguly Sr. Scientific and Technical Officer Regional Science Center & Planetarium Calicut, was the Chief Guest. Shri Pampally Film Director and writer released the school magazine.

During the Academic Year 2019-20, Spring Valley School excelled in CBSE Class X and XII exams. The school got Cent percent results in both X and XII exams. Out of 22 students in X, 18 students got distinction, 3 first-class and 1 second-class (Topper: Nayan Dev 95%) and in class XII, out of 15 students, 8 students got 90% and above (13 distinctions and 2 first-class) (Toppers: Gayathri J K 95.02 % and Sneha Adle 95%)

Our school participated in many activities during this academic year. In CBSE school Kalotsav, Sourav M of class IX received 1<sup>st</sup> place in story writing Malayalam at the district level and 3<sup>rd</sup> place at the state level. Anamika A R received 1<sup>st</sup> place in painting oil colour and 2<sup>nd</sup> place in the cartoon at the District level, 8 other students won 2<sup>nd</sup> and 3<sup>rd</sup> places in various other items at the district level. Nirupama J Nair of class 6 got First Rank at National Level in Maths Olympiad and Keerthana P of class 6 got the first rank in Sugama Hindi exam at District level.

The School magazine “Radiance 2019” got 2<sup>nd</sup> place at the District level. The school has participated and won prizes in very many activities and has been projecting high academic standards and discipline right from its inception.

Office Bearers as on 31.03.2020:

- Dr. Sivaji Chakravorti, Director NITC, Chairman, REC SPECTRA NIT Calicut
- Dr. R. Manu, Vice Chairman, REC SPECTRA & President, School Managing Committee.
- Dr. R. Subashini, Secretary, REC SPECTRA & Manager cum Correspondent, Spring Valley School.
- Dr. George K Varghese, Vice President, School Managing Committee.
- Dr. Ashish Awasthi, Joint Secretary cum Treasurer, REC SPECTRA
- Sri. Jayaprakasan, Senior Principal
- Smt. Shiny A., Principal

**10.0 NOTABLE ACHIEVEMENTS  
DEPARTMENT OF ARCHITECTURE**

*NIRF Rank 3 for the consecutive years 2019 and 2020.*

Sl. No	Year	Name of Faculty	Name of the award, fellowship, received from Government or recognized bodies
1	2019	Dr. Anil Kumar P.P.	Authored the Book titled 'Introduction to Smart Cities' published by Pearson Education in 2019. (ISBN No. 978-93-534-3957-6, Hardcopy and kindle editions are available). The book introduces the idea of 'Smart cities' comprehensively by covering the conceptual basis and the principles in practice systematically and sector-wise. Written lucidly, covering possible new attempts and retrofitting options in turning smart, the book is an all in one handy volume for city enthusiasts to advanced learners and also the first major text book on 'Smart Cities' in India

**DEPARTMENT OF MATHEMATICS**

1. Research and Infrastructure Development Division of Department of Science & Technology (DST), Govt. of India has Sanctioned 0.29 Crores to Department of Mathematics under FIST 2019 programme.
2. Dr. Sunil Mathew published a book titled 'Advanced Topics in Fuzzy Graph Theory', Springer 2019.

**10.1 PAST ACHIEVEMENTS**

**DEPARTMENT OF ARCHITECTURE**

Sl. No	Year	Name of Faculty	Name of the award, fellowship, received from Government or recognized bodies
1	2018	Dr. Anil Kumar P.P.	Received the Eminent Architectural Engineer Award instituted by Institution of Engineers, India in recognition of the eminence and contribution to the profession of Architectural Engineering, from P.K.Maity (Chairman, IE Division, Calcutta) and Dr. Umamaheswara Rao (Director, NIT Suratkal) during the 34th National Convention of Architectural Engineers on 24th November at NIT Suratkal.
2	2019	Dr. Bimal P	Inria Best Paper Award for "Residential location choice with multi-criteria", 'Geomatrix12', International conference held at IIT Bombay
3	2019	Dr. Bimal P.	Third best paper presentation award for "Geodesign: an emerging application of geoinformatics & urban design", at national symposium 2011 on 'Empowering Rural India Through Space Technology', Indian Society of Remote Sensing, Bhopal
4	2009-10	Dr. Deepthi Bendi	Received the Merit scholarship for International Student - University of Salford

5	2016	Dr. Kasthurba A.K.	Society of Architecture Historians and Getty Foundation Fellowship to attend annual SAH meet
6	2013	Dr. Kasthurba A.K.	Fulbright Nehru award to Visit 15 Universities in USA funded by CIES and US India educational foundation
7	2012	Dr. Kasthurba A.K.	RWTH Aachen University Visiting Fellowship to attend Administrators Enrichment Seminar
8	2009	Dr. Kasthurba A.K.	Netherland Fellowship Program to attend PG Diploma at I H S Erasmus University, Rotterdam
9	2009	Dr. Kasthurba A.K.	Vocational Excellency award by Rotary International for Architectural services
10		Dr. Mohammed Firoz C.	<ul style="list-style-type: none"> <li>• Visiting teacher at the prestigious School of Architecture, Architectural Association London (AA London), UK</li> <li>• Early Faculty Induction Programme Fellowship from All India Council of Technical Education</li> <li>• Third Rank, Bachelor of Architecture-2002, Department of Architecture, NIT Calicut, (Former REC Calicut)</li> <li>• Overall Proficiency award for academic achievements from NIT Calicut. 1997-2002 B.Arch</li> <li>• QIP Fellowship from Government of India for undertaking PhD degree.</li> <li>• M-FAR fellowship for academic achievements from Muslim Educational Society Kerala</li> <li>• School Sports Champion in the Years 1993 and 1994. Several Medals and certificates in sports events at School, District, State and South India levels.</li> </ul>
11	2017	Dr. Chithra K	<ul style="list-style-type: none"> <li>• NFP Fellowship by the Dutch Government to do a Post Graduate Diploma in Green City Planning</li> </ul>

#### **DEPARTMENT OF CIVIL ENGINEERING**

- The Department had taken up training of local unemployed youth for self-employment under the Nehru Rozgar Yoganans (NRY) funded by Kerala Urban Development Finance Corporation. Training was imparted to youth in trades such as Plumbing, Carpentry, Masonry and Landscaping. About 300 youths were trained under this programme
- The Department has four centres of excellence
  - a. Vehicle Motion Analyser Laboratory
  - b. Non Destructive Testing Laboratory
  - c. Biomechanics Laboratory
  - d. Centre for Transportation Research (CTR)

- The Department has already conducted about 50 summer/ winter schools sponsored by the Indian Society for Technical Education and the All India Council for Technical Education.
- The Department has organised in collaboration with Department of Training and Placement, more than 60 Short Term Courses in different fields of Civil Engineering
- The Department has already produced 64 Ph.D Scholars in different fields of specialisation
- The Department has completed about 50 sponsored research projects funded by various funding agencies such as the MHRD, DST, AICTE, Ministry of Water Resources, KSCSTE, etc.
- The Department has been recognized as a centre for scrutinizing the design of important public buildings by the Government of Kerala.
- The Department generates on an average about ` .25 lakhs per year through testing and consultancy.
- The faculty of the Department has published and continues to publish papers in peer reviewed national and international journals and national and international conferences
- Large scale water tanks of 5,000 and 10,000 litres capacity, fabricated using ferro-cement technology was transferred to JALANIDHI to be used in rain water harvesting schemes
- Developed an effective retrofitting technique using ferrocement wrapping for RCC frames under distress.
- Developed sustainable cementitious composites
- The Department had received two patents in the area of Bio-mechanics for the following:
  - Dynamic External Wrist Fixator
  - External Fixator Assembly for Tibial Fracture.
- Community Services
  - Popularized cost effective ferrocement water tanks in the rural and urban sector
  - Designed and assisted in the implementation of water conservation techniques - rain water harvesting and construction of check dams
  - Actively participated in the people's participation programmes of Panchayats
  - Created awareness of traffic rules and regulations in schools
  - Actively associated with the awareness building campaign in connection with the implementation of the Model Solid Waste Disposal Scheme in Calicut Corporation
  - Involved in a few biomechanics related projects which have benefited a number of patients visiting the Physical Medicine & Rehabilitation Centre of the Govt. Medical College, Kozhikode.
  - Organised special lectures on good construction practices
  - Assisted in the implementation of the Model Solid Waste Disposal Scheme in Calicut City.
  - Skill up-gradation of rural craftsmen and women workers under TEQIP
  - Organized a 5-day Workshop on "Career Guidance and Preparation for Interview" for 80 students from colleges all over Kerala from November 29-December 3, 2007 as part of NSS activities; also, conducted a 10 day special camp at Katippara Panchayat, Thamarassery, Kozhikode District from 7th December 2007 to 15th December 2007.
  - Conducted "Self Enrichment Programme" for a selected group of first year students of the Department of Civil Engineering, in association with Centre for Research & Education for Social Transformation (CREST), Kozhikode, from 22<sup>nd</sup> December to 28<sup>th</sup> December 2012
  - Developed low cost precast structural elements such as walls, lintels, beams etc. for buildings in rural areas
  - Guided preparation of Master Plan for Avala Kuttoth Higher Secondary School jointly with the Dept. of Architecture as a social service project by the students of NITC

- Prepared the Master Plan for Meppur Higher Secondary school in Calicut. NIT Calicut (Departments of Civil Engineering, and Architecture and Planning) is mentoring the activities of planning and execution carried out by KITCO and ULCCS.
- Prepared a proposal for improvement of basic infrastructure (buildings) at GUPS, Ariyallur in June 2016.
- Prepared the master plan for Spring Valley School, NIT Campus as part of its Silver Jubilee Celebrations with the help of students from the Departments of Civil Engineering, and Architecture and Planning.
- Carried out survey in Kunnamangalam Grama Panchayath for the “LIFE Mission” project of Govt. of Kerala as a student project initiative and submitted the report in January 2018.
- Carried out household survey in Meenangadi Grama Panchayath, in association with ‘Niravu’ an NGO. During July 3- 10, 2017, as part of activities of the National Service Scheme Cell, NIT Calicut.
- Carried out a household survey of Koruthodu Grama Panchayath, as part of activities of Unnat Bharat Abhiyan during May 15 - 16, 2017, as part of activities of the National Service Scheme Cell, NIT Calicut  
Carried out a blood donation drive, medical camp, bed and book donation drive as part of activities of the National Service Scheme Cell, NIT Calicut

## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **Dr. Jose Mathew**

- Installed and commissioned the FIST project items Nanoindenter (Bruker), 3D optical profilometer (Bruker-Alicona), High speed camera (Phantom) and Thermal imager (FLIR) under DST FIST
- External examiner to evaluate a PhD thesis at IIT Madras
- Best Paper award at the 7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018
- Ms. Rhinithaa (2013-2017), B.Tech Mechanical Engineering bagged TCS award for best outgoing B.Tech student (2017)
- Received a grant of Rs. 2.51 Cr from DST under FIST program to set up a centre for “Precision Measurements and Nanomechanical Testing” in 2015
- Best all-round performance award among NITC faculty during 2005-06 [Instituted by NIT Calicut and was the first award winner].
- Conducted International Conference on Precision, Meso, Micro and Nano Engineering (COPEN 8) at NIT Calicut during Dec. 13-15, 2013 and was the Organizing Secretary for the same.
- ISTE- Certificate of Achievement 2008 National award (First Prize) for having guided the Best M.Tech. Thesis in Mechanical Engineering for the thesis titled "Theoretical and Experimental Investigations on Mechanical Micro Machining (M3)" submitted by Sooraj V.S.
- ISTE - Certificate of Achievement 2012 National award (First Prize) for having guided the Best M.Tech. Thesis in Mechanical Engineering for the thesis titled “Multi-Objective Optimization of Process Parameters in Micro drilling Using Vibration Assisted Micro EDM” submitted by Deepak G. Dilip.
- DST International Travel Support (full amount) Scheme award for attending ASME International Conference at Chicago, USA during November 2012.
- Coordinator for NITC-NITK Joint National Workshop on Strategies to Attain Excellence in Impact Making Research and Development (SAEIMRD) held at NIT Calicut during Feb. 3-4, 2012
- Faculty Coordinator –Tathva, NITC Student’s annual techno management fest. First time introduced pre-Tathva Lecture series, which was graced by about 6 invited eminent personalities from various walks of life.
- A new 'Sophisticated Instruments Centre' was setup in the Department of Mechanical Engineering with the financial assistance of MHRD, which caters regular UG/PG student



needs and has facilities for carrying out measurements of industrial products/undertake consultancy projects.

- Has contributed in a big way to the modernization of Metrology Lab, CAD/CAM Centre, Production Engineering Lab., etc. and has introduced many new experiments.
- The new machines added include, Micro Machining Centre, Rapid Prototyping Machine, Cutting Tool Dynamometers and Mini dynamometers, 4 axis CNC Vertical Machining Centre, CNC Turning Centre, etc.
- LabVIEW Software and various CAD/CAM packages like ANSYS, ABAQUS, Pro/E, CATIA, ESPRIT, PREDATOR, Creo, Mastercam, SolidWorks, Siemens NX, etc. were added to the CAD /CAM Lab.
- Dean, Research and Consultancy at NIT Calicut during 2011 – 2014.
- Chairman, Technology Business Incubator (TBI) at NIT Calicut during 2011 – 2014.
- National Advisory Committee member of International Conferences COPEN and AIMTDR.
- Chairman, various Class Committees
- Represented NIT Calicut in CII-NIT's Industry Interaction Forum, Resource person for NCERT CLASS Project for Schools (1991-94).
- Was MED-Coordinator for World Bank Projects, Faculty in Charge- MED Time Table, Audio Visual Club, Warden-Student Hostels, Faculty in Charge of various Labs (CAD-CAM Centre, Advanced Manufacturing Centre, Metrology Lab., Sophisticated Instruments Centre- most are continuing) Project Coordinator for various MHRD projects, Dept., Coordinator for CEP and All India Workshops, etc. Was Secretary to NITC Faculty Association, executive member, etc

#### **Dr. V. Madhusudanan Pillai**

- Developed computational lab for the M.Tech. Industrial Engineering and Management programme and many of the exercises for the lab
- Developed a new lab, Supply Chain and System Simulation Lab with several software packages inhouse produced. Three of such software packages received copyrights
- Invitation received to visit the Innovation Exhibition and Interaction with the Grassroots innovators during FINE 2018 and the innovation activities submitted have been shortlisted for presentation at Rashtrapati Bhawan. Accordingly, visited the Innovation Exhibition and Interacted with the Grassroots innovators on 20th and 21<sup>st</sup> March, 2018. Research works carried out by research scholars under my guidance have been presented at West Hall, Rashtrapati Bhawan, on 20th March, 2018, New Delhi as part of Festival of Innovation and Entrepreneurship (FINE 2018).

**Dr. Sujith Kumar C S:** Won Common Wealth Scholarship through which undergone six-month research program at the University of Saskatchewan

#### **Dr. M L Joy**

- GIAN Course on "Tribology – Fundamentals to cutting edge" during the period: February 12 – 18 2018. Course Faculty: Prof. (Dr.) Nicholas D Spencer, Department of Surface Science and Technology, ETH, Zurich. Coordinators: Dr. K. Prabhakaran Nair and Dr. M.L.Joy
- Served NITC as Dean Students Welfare for two years
- Served NITC as Chief Warden for two years
- Five students completed and awarded Ph. D. under my guidance.
- Guided Several PG and UG projects
- Completed two sponsored externally funded projects worth Rs 17 lakhs one as Principal Coordinator and the other one as Co-investigator.
- Modernized the Tribology and vibration laboratory and procured many new equipment.

**Dr. Sandip Rudha Budhe**

- Secured second position in M. Tech in Mechanical department, IIT Guwahati
- Fourth Position for Best project in Inter university project competition

**Dr. Sudheer –**

- Invited as a keynote speaker at IISc Bangalore: Key Note address in International conference : IFToMM Asian Mechanism and Machine Sciences : Asian MMS 2018; December 2018.
- Editor: The Robotics Society of India
- Board of studies member in PSGTech Coimbatore and Sree Krishna engg and Technology Coimbatore.
- Received the following three Best paper awards in international conferences:
  1. 5th International Conference on Control, Mechatronics and Automation, ICCMA, Canada. ACM, October, 2017.
  2. Best Paper award in International conference : At IIITDM, Kanchipuram, RoSMA 2018, July 2018.
  3. Best paper award Best International Conference: ICIPDIMS 2019, June 2019, at NIT Rourkela

**Dr. K. P Murali**

- Recipient of prestigious Fulbright scholarship
- Recipient of Kerala state energy conservation award
- Received 5 patents (including 2 US patents) & 25 international journal publications
- Successfully completed six sponsored projects of total outlay of ~ Rs. 7 crores funded by different agencies
- Soft Microwave substrate Technology transfer to Private industry

**Dr. M A Joseph - Two external funded projects completed.**

**Dr. U B Jayadeep**

First rank holder during B.Tech. in REC Calicut (1998) and also has secured a CGPA of 10/10 during M.Tech. at IIT Kanpur (2003).

**Dr. Vineesh K P**

- Gandhian Young Technological Innovation Appreciation- 2016 at Rashtrapathi Bhavan on March 13, 2016
- Patent Applied (Application no. 1263/KOL/2012 dated 02-11-2012) titled “Cost-effective mechanical testing equipment for characterizing creep behaviour of materials under combined tension-torsion loadings” by Prof. Vikranth Racherla and Dr. Vineesh K P

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

1. Dr Jimmy Jose served as Session Chair for Session 6 : Track 8; Web Technology & 9; Internet of Things, ICISA2019 - International Conference on Information Science and Applications 2019 held on **December 16th -18th 2019 in Seoul, Korea**
2. The Department of Computer Science & Engineering, National Institute of Technology Calicut jointly with the Department of Radiation Oncology and Medical Physics, MVR Cancer Centre and Research Institute (MVR CCRI), Calicut organized 6-days' Faculty Development Programme on “Geometry, Imaging and Parallel Computing Techniques for Cancer Treatment (GIPCAN 2019)”, under TEQIP-III at NIT Calicut, from 10 th to 15 th June 2019. Dr. Jayaraj P B, Dr. Pournami P N and Dr. Subhashree M of Dept. of Computer Science & Engineering, NIT Calicut and Dr. NiyasPuzhakkal, Head (Medical Physics Division), MVR CCRI were the coordinators for the programme. This FDP introduced the latest trends in cancer treatment planning using various image processing, computational geometry, and parallel computing techniques.

3. Department of Computer Science & Engineering, National Institute of Technology Calicut jointly with the Institute of Mathematical Sciences Chennai organised an NCM-ACM India Summer School on “Graph theory and Graph Algorithms”, at NIT Calicut, from 17<sup>th</sup> June to 5<sup>th</sup> July 2019. Dr. Subhasree and Dr. Subashini coordinated.

#### DEPARTMENT OF CHEMICAL ENGINEERING

S. No.	Name	Award
1.	Dr. Lity Alen Varghese	<ul style="list-style-type: none"> <li>• Best poster, Material Research Society of India, 2006.</li> <li>• Best research poster, Kerala State Council for Science, Technology and Environment, 2005.</li> </ul>
2.	Dr. V Sivasubramanian	<ul style="list-style-type: none"> <li>• Jawaharlal Nehru Gold Medal award for excellence in education and research, Thiruvannamalai, Tamil Nadu, 2014</li> <li>• Dr. Radhakrishnan Gold Medal award for contribution to education and national development, Thiruvannamalai, Tamil Nadu, 2014</li> <li>• Universal Achievers Gold Medal award for contribution to education and national development, 11<sup>th</sup> Unity conference, Salem, Tamil Nadu, 2015.</li> <li>• Best paper, CHEMCON, Mumbai, 2004</li> <li>• Best paper, 20<sup>th</sup> International Conference on Sustainable Water Resources Management, London, UK, 2018</li> <li>• Best paper, National Conference on Innovative Engineering Technologies (IEEE), Bangalore, 2016</li> <li>• Best paper, National Conference on Contemporary Trends in Bioenergy and Green Technology: Challenges and Opportunities (DBT), Tamil Nadu, 2016</li> <li>• Best paper, International Conference on Green Technologies for Environmental Pollution Prevention and Pollution Control, NIT Trichy, 2016</li> <li>• Best paper, National Conference on Emerging Trends in Engineering, Kozhikode, 2014</li> <li>• Best Poster, 26<sup>th</sup> Kerala Science Congress, Kerala, 2014</li> <li>• Best paper, Biological Wastewater Treatment towards Green Environment, NIT Calicut, 2011</li> <li>• Rashtriya Gaurav Award by IIFS, New Delhi for the Contribution to Scientific Development and Social Work, 2011</li> <li>• Managing Guest Editor, Fuel, Elsevier, 2018</li> </ul>
3	Dr. M V Pavan Kumar	<ul style="list-style-type: none"> <li>• Post-doc Fellowship, Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany (2008-2010)</li> </ul>
4	Dr. Chandra Shekar Bestha	<ul style="list-style-type: none"> <li>• Chemical Weekly Award for best paper in Indian Chemical Engineer, 2017</li> <li>• IChE NRC Award for best paper in Indian Chemical Engineer, 2017</li> <li>• Kuloor Memorial Award for best technical paper in Indian Chemical Engineer, 2017</li> <li>• Best paper, International Conference on Advances In Chemical Engineering, 2015</li> <li>• Best oral presentation, S-CHEMCON, 2008</li> </ul>
5	Dr. Noel Jacob Kaleekkal	<ul style="list-style-type: none"> <li>• Hiyoshi Young Leaf Award in environmental protection and conservation, 2019</li> </ul>

		<ul style="list-style-type: none"> <li>• Acharya PC Ray Award for undergraduate students project, IChE, 2018</li> <li>• Best paper, 8<sup>th</sup> DAE-BRNS biennial symposium on Emerging Trends in Separation Science and Technology, 2018</li> <li>• Technology Transfer Fellowship, Anna University, 2015</li> <li>• Best Master's thesis, Thermax, 2015</li> <li>• Best working model, TECHFLUENCE by CII and Anna University, 2013</li> </ul>
6	Dr. Sudev Das	<ul style="list-style-type: none"> <li>• Member, Chemical Engineering Division, Tripura State Center (2011-2013)</li> <li>• Sir Ganga Ram Memorial Prize for best paper in the Journal of the Institution of Engineers, 2006</li> </ul>
7	Dr. Prasanna Kumar S Mural	<ul style="list-style-type: none"> <li>• Post-doc Fellowship, CSIR, Pretoria, South Africa (2017 – 2018)</li> </ul>
8	Dr. Panneerselvam Ranganathan	<ul style="list-style-type: none"> <li>• DST INPSIRE Faculty (2015-2020)</li> <li>• Early Career Research Plenary Presentation Award –UKCCSRC, UK, 2013</li> <li>• Research Fellow at Cranfield University (2013 – 2015)</li> <li>• Post-Doctoral Fellow at TU Delft University of Technology (2009 – 2012)</li> <li>• Best Paper, Ansys India Conference on Elevating Innovation, 2007</li> </ul>
9	Dr. Teja Reddy Vakamalla	<ul style="list-style-type: none"> <li>• International Travel Support (ITS) by SERB, DST to attend 12<sup>th</sup> International Conference on Fluidized Beds (CFB-12), Poland, 2017</li> <li>• Research Excellence Award, Department of Chemical Engineering, IIT Hyderabad (2014, 2015)</li> </ul>
10	Dr. Susmita Das	<ul style="list-style-type: none"> <li>• SERB Young Scientist (2015-2018)</li> <li>• Intellectual Ventures Invention Award (IN-810177), 2010</li> </ul>

- Department has bagged a number of R&D projects sponsored by various departments and organizations including the Ministry of Human Resources Development (MHRD), Department of Science & Technology (DST), R&D TATA Steel, Scheme for Promotion of Academic and Research Collaboration (SPARC), and the Kerala State Council for Science Technology and Environment (KSCSTE).
- Department R&D has been increased by establishing advanced laboratories.
- Department faculties are being working as technical reviewers for more than 50 international Journals.
- Department faculty has been invited for delivering lectures in various FDP's, guest lecturers conducted at different universities and colleges across the country.
- Department faculty also got the invitations to review Postgraduate and PhD thesis from various government and private universities.
- Department organized the following in the previous years

#### CONFERENCES AND WORKSHOP

- International Conference on Innovative Applied Energy 14–15 March 2019 Oxford, United Kingdom.

- International Conference on Advanced Materials for Energy Science and Technology (AMEST 2019) during February 26-28, 2019, Department of Energy Engineering, North-Eastern Hill University, Shillong-793022, Meghalaya.
- International Conference on Biotechnological Research and Innovation for Sustainable Development (BioSD 2018), Hyderabad.
- International Conference on Recent Advancements in Chemical, Environmental and Energy Engineering (RACEEE 2019), Chennai.
- International Conference on Next Generation Plant Production and Bioresources Utilization Technologies (NGPPBUT) organized by Indian Institute of Technology Guwahati, India.
- International Conference on Material for the Millenium (MATCON) organized by Cochin University of Science and Technology, Cochin, India.
- 10th International Conference on Advancements in Polymeric Materials (ICEE 2019).
- International Conference on Advanced Materials for Energy Science and Technology 2019.
- 2nd International Conference on New Frontiers in Engineering, Science & Technology (NFEST 2019), Feb 18-22, 2019, Kurukshetra, India.
- SESTEC 2018 organized by ASSET at BITS, Goa held on 23rd -26th May 2018.
- A Five Day GIAN Course on Advances in Combustion Modeling organized by NIT Calicut, 4<sup>th</sup>-9<sup>th</sup> March 2019.

#### **FACULTY DEVELOPMENT PROGRAMS**

- Modeling and Simulation in Chemical and Environmental Engineering in 2012
- Changing scenario in energy& environment (CSEE-2013).
- Recent research trends in chemical and environmental engineering in May 2013.
- Emerging trends in chemical and environmental engineering (ETCEE-2014).
- Advanced Techniques in Energy and Wastewater treatment (2018)
- Advanced Pedagogy Training Program organized by IIT Madras, 2018.
- Recent Innovations and developments in Electrochemical and Chemical Process Optimization (2019)
- Novel Perspective in Technologies for Micro-pollutant Removal from Aqueous System (2020)

#### **DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

- B.Tech ECE programme offered by Department of Electronics and Communication Engineering got accredited for 6 years by National Board of Accreditation (NBA).
- The department has conducted several workshops short term courses and summer/winter term courses.
- The department has conducted own international Conference on its own in 2011 and one international conference combined with EEE and CSE departments in 2015.
- The department has also carried out a number of research projects.
- The faculty of the department has large number of published papers in National/ International Journals and National/ International conferences.
- The department is a member of SMDP project by Government of India.

## 10.2 ACHIEVEMENTS TOOK PLACE DURING THE YEAR 2019-2020

### DEPARTMENT OF ARCHITECTURE

#### a. Publications

##### i. Journal

Name of the Author	Title of Paper	Name of Journal	Vol, Year, p.p.
Anilkumar P.P., Krishnaveni K.S	Managing Urban Sprawl Using Remote Sensing and GIS	The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences	Volume XLII-3/W11, 2020, pp 59-66.
Anilkumar P.P., Krishnaveni K.S	Study of Urban Sprawl Impact on Wetland Ecosystem Using Remote Sensing and GIS	Journal of the Indian National Cartographer Association-Indian Cartographer	Volume 38, 2019, pp 1-8.
T.M. Vinodkumar, Bimal P., Harikumar P.S., P Sankaran	Smart Water Management for Smart Kozhikode Metropolitan Area	Smart Environment for Smart Cities, 241-306, Edited by Vinod Kumar, T. M, Springer – March 2019	March 2019
Shruti Krishnan, Mohammed Firoz.C	Regional urban environmental quality assessment and spatial analysis	Journal of Urban Management, Springer	Volume 9, Issue 2 June 2020, Pages 191-204
Bendi, D., Rana, M.C Arif, M., Goulding, J.S. and Kaushik, A.	Understanding off-site readiness in Indian construction organizations	Construction Innovation.2020	(Publication date: 27 March 2020) Volume is yet to be assigned
Rahmathulla Noufal A.K. Kasthurba, J. Sudhakumar Unnikrishnan Manju	Assessment of concrete properties with iron slag as a fine aggregate replacement.	Advances in Concrete constructions (ACC), Techno-Press	9 (2020) 589-596
Shahim Abdurahiman & Kasthurba A.K.	Urban Conservation of Heritage Sensitive Zones in India: a Methodological Approach	ASTI – Advances in Science, Technology & Innovation (IERE Book Series), Conservation of Architectural Heritage, Springer Publication, ISSN: 2522-8714	(Awaiting Publication) 2020
Shahim Abdurahiman & Kasthurba A.K.	Delineation of Heritage Sensitive Zones for Urban Development of Cities in India - An Alternative Methodological Approach	Future Cities, Indian Institute of Technology, Roorkee, and ISPER (Institute for Spatial Planning and Environment	(Awaiting Publication) 2020

		Research), ISBN 978- 81-927015-5	
Alex Jose & Kasthurba A K	Stabilization of lateritic soil for masonry applications	Magazine of Civil Engineering	2020
Alex Jose & Kasthurba A K	"Alternate Construction Using Polymer Modified Stabilized Earth Blocks: A Pilot Project To Demonstrate Eco-friendly And Sustainable Housing	Journal of Critical Reviews	2020
Ar. Supriya Mahesh Patil Dr. Kasthurba A K	A Study on Thermal Performances of Historic Buildings – A Review	International Journal of Global Science Research (SCOPUS)	Volume 5, Issue 1 April 2018 , ISSN (Online) : 2348-8344
Alex Jose A. K. Kasthurba	Stabilization of lateritic soil for masonry applications	Magazine of Civil Engineering	MCE/2021 #01(10
Alex Jose A. K. Kasthurba	Alternate Construction Using Polymer Modified Stabilized Earth Blocks: A Pilot Project To Demonstrate Eco-friendly And Sustainable Housing	Journal of Critical Reviews	Vol 7, Issue 12, 2020, p.p 7-13
Alex Jose A. K. Kasthurba	Masonry Materials for the Future: Comparison on Sustainability Factors of A Few Popular Masonry Materials	International Journal of Innovative Research in Science, Engineering and Technology	Volume 5, Special Issue 14, December 2016, p.p. 200-205
N. Lazar and K. Chithra,	“A comprehensive literature review on development of Building Sustainability Assessment Systems,”	Journal of Building Engineering	vol. 32, no. May, p. 101450, Nov. 2020
N. Lazar and K. Chithra	“Comprehensive bibliometric mapping of publication trends in the development of Building Sustainability Assessment Systems,”	Environment, Development and Sustainability	In Press Jun. 2020

**ii. International Conference**

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of International conference</b>	<b>Vol, Year, p.p.</b>
Anilkumar P.P., Krishnaveni K.S.	Potential and prospects of ICT Integrated Mixed	7th International Conference on Cities, People and Places	Proceedings of 7th International

	Land-use for Controlling Urban Sprawl	(ICCPP-2019) 'Caring and Managing Cities: Transforming futures', November 14th to 16th, 2019, University of Moratuwa, Sri Lanka	Urban Design Conference on Cities, People and Places ICCPP-2019, Pages 396-408.
Anilkumar P.P., Krishnaveni K.S	Managing Urban Sprawl Using Remote Sensing and GIS	21st William T. Pecora Memorial Remote Sensing Symposium (Pecora 21) and the 38th International Symposium on Remote Sensing of Environment (ISRSE-38), Baltimore, Maryland, USA from October 6 – 11, 2019, hosted by NASA, NOAA and the USGS, with an overarching theme of "Earth Observation – Continuous Monitoring of Our Changing Planet: From Sensors to Decisions"	2020
Deepa, Bimal Puthuvayi	Understanding the transportation functions of Calicut city using system dynamics	International Conference ICUSE 20, IIT Bombay	2020
Riya Sethia, Bimal Puthuvayi	Planning for resolving conflicts between Coastal Tourism Growth v/s Coastal Sustainability	International Conference ICUSE 20, IIT Bombay	2020
Shahana Usman Abdulla, Bimal Puthuvayi	Assessment of Urban Food bowl using Spatiotemporal Analysis of Urban Growth	International Conference ICUSE 20, IIT Bombay	2020
Riya Sethia, Claddia Anna Jose, Bimal Puthuvayi	Dasymmetric mapping of Alappuzha area in Kerala	International Conference on Future Cities-2019, IIT Roorkee, 2019	2019, p 221.
Arun Baby M. Wilson Bimal Puthuvayi, Mohammed Firoz C.	Land suitability analysis of Kannur Corporation in Kerala using ArcGIS and Principal Component Analysis	International Conference on Future Cities-2019, IIT Roorkee, 2019	2019, p 232.
Sunena Abdul Huq, Bimal Puthuvayi	Fostering Urban Growth in Heritage Sensitive Areas	International Conference On Future Cities-2019, IIT Roorkee, 2019	2019, p 368.
B. Sathyapal, B. Puthuvayi	An integrated approach for ecological conservation and community livelihood development for Ashtamudi Wetland	World Forum on Climate Justice, Glasgow, UK.	2019



Viswalekshmi.B and Deepthi Bendi	An Exploratory Study on Construction and Demolition Waste	International Conference on Construction Real-estate Infrastructure and Project Management (ICCRIP) 2019	Vol 3., 2019
Mohammed Shubin and Deepthi Bendi	Evaluation of alternative building materials for passive cooling to achieve thermal comfort and energy efficiency – A systematic review	International Conference on Innovative Trends in Civil Engineering for Sustainable Development (ITCSD - 2019)	2019
Mohammed Shubin and Deepthi Bendi	Smart Building Models: Using Smart Technologies To Achieve Energy Efficiency Existing Buildings	International Conference ICUSE 20, IIT Bombay	2020
Shahim Abdurahiman & Kasthurba A.K.	Urban Conservation of Heritage Sensitive Zones in India: a Methodological Approach	4 <sup>th</sup> International Conference on Conservation of Architectural Heritage (CAH), Egypt	2020
Shahim Abdurahiman, Kasthurba A.K. & Afifa Nuzhat.	Street Art and Graffiti in Historic Precincts- Vandalism or Art for Urban Heritage in India	3 <sup>rd</sup> International Conference Design Pedagogy and Contextual Aesthetics- THANIMA 3, National Institute of Technology Calicut	2020
Jasna Bhargavan, & Kasthurba A.K.	Potable water security index in Kerala-Urban Water Infrastructure Planning and Management	2nd International Conference on Sustainable Technologies for Environmental Management	2019
Jasna Bhargavan, & Kasthurba A.K.	Comprehensive Assessment of Household Potable Water Security in Lowland Urban areas - A case study of Kozhikode, Kerala	Roorkee Water Conclave 2020	2020
Jasna Bhargavan, Shahim Abdurahiman & Kasthurba A.K.	Traditional Rainwater Harvesting Techniques - Heritage-based Solutions and Urban Aesthetics	3 <sup>rd</sup> International Conference Design Pedagogy and Contextual Aesthetics- THANIMA 3, National Institute of Technology Calicut	2020
Kasthurba A.K., Shalu M. K. & Shahim Abdurahiman	Cultural Identity in Vernacular Architectural Traditions: Study of Ethnic Hamlets in the Himalayas	3 <sup>rd</sup> International Conference Design Pedagogy and Contextual Aesthetics- THANIMA 3, National Institute of Technology Calicut	2020
Shahim Abdurahiman & Kasthurba A.K.	Delineation of Heritage Sensitive Zones for Urban Development	International Conference on Future Cities- 2019 (ICFC-2019), Indian Institute of Technology, Roorkee	2019

	of Cities in India - An Alternative Methodological Approach		
Ar. Supriya Mahesh Patil Dr. Kasthurba A K	A Study on Thermal Performances of Historic Buildings – A Review	2nd International Conference on Renewable Energy and Environmental Engineering (ICREEE 2017) at UNESCO World Heritage Site Khajuraho City, Madhya Pradesh, India	Volume 5, Issue 1, April 2018 , ISSN (Online) : 2348-8344
Alex Jose A. K. Kasthurba	Eco materials for housing and low rise building construction	4th Residential building Design & construction conference. Pennsylvania state university USA	Feb 28 - Mar 1, 2018 p.p. 617-624
Mrs Susan Cyriac, Dr. Mohammed Firoz.C	Planning and Management Issues in Rural-Urban Continuum of Kerala – The Need for a Reclassification	3 rd Asian Regional Conference on Peri-Urbanization (ARCP) December 17 – 20, 2019, Bhopal – India, SPA Bhopal	2019
Mrs. Ashna John, Dr. Mohammed Firoz C	Sustainable Urban Tourism Destination Competitiveness: A Review of Importance Performance Analysis Techniques	3 rd Asian Regional Conference on Peri-Urbanization (ARCP) December 17 – 20, 2019, Bhopal – India, SPA Bhopal	2019
Mrs. Sruthi Krishnan Dr. Mohammed Firoz C	Review of Environmental Quality Assessment Framework of a Region	3 rd Asian Regional Conference on Peri-Urbanization (ARCP) December 17 – 20, 2019, Bhopal – India, SPA Bhopal	2019
Cladia Anna Jose, Dr. Mohammed Firoz.C	Assessing Sustainability of Urban neighborhood; Study on methods and Indicators for used for measuring sustainability	SHAAPED 20- Studies in ITH academic alliance in Planning, Habitat, Environment and Design., Manipal School of Architecture and Planning	2020
Mrs Kavitha VS and Dr.Mohammed Firoz	Measuring the sustainability of pilgrimage cities: A case study of Thanjavur, India	IICSC2020, Indo-Israel International Joint Conference on Sustainable Cities	2019
N. Lazar and K. Chithra	“Green Building Rating Systems and Energy Efficiency of Building from the Building Lifecycle Perspective	GBSE 2019	H. Drück, J. Mathur, V. Panthalookaran, and V. M. Sreekumar Eds. Singapore: Springer Singapore,

			2019, pp. 173–190
N. Lazar, K. Chithra, and A. Kanmani	Indoor Environmental Evaluation of Traditional and Contemporary Mud Houses in Kerala,”	2nd International Conference on Performance of built Environment - Metagreen Dimensions 2020, College of Architecture Trivandrum	20-22 February 2020
N. Lazar and K. Chithra	Culture in Sustainable Development: Fourth Dimension for integrated and Responsible Development	International Conference on Design Pedagogy and Contextual Aesthetics – Thanima 3, National Institute of Technology Calicut	6-8 March 2020.

### iii. National Conference

Name of the Author	Title of Paper	Name of National conference	Vol, Year p.p.
Mrs Kavitha VS and Dr.Mohammed Firoz.C	A frame work for measuring Sustainability of Cities : A review of existing methods and Tools for assessment.	2 day national conference on Sustainable development through technology and management	2019
Alex Jose A. K. Kasthurba	Masonry materials for the future: Comparison on sustainability factors of a few popular masonry materials	Recent trends in computer science & engineering and Sustainability in civil engineering	Dec 19-2016, p.p 101-104

### b. Community Services

Name of Project	Faculty Involved
1. Revitalisation of Urban Heritage Core at Tali and Kuttichira, Kozhikode	Dr. Kasthurba A.K.
1. Master Plan for Cheroopa health Centre	Dr. Chithra K.
1. Architectural Consultancy: Shopping Mall cum Office building for Koyilandi Municipality. 2. Architectural Consultancy: Public Health Centre Building for Koodarnhi Panchayat. 3. Architectural Consultancy: Master Plan for GUPS Manassery.	Dr. Bimal P.
1. Member of the research project on Tribal Settlements, titled “Developing appropriate house design for tribal communities in Wayanad, Kerala”.	Dr. Deepthi Bendi
1. Member of Study team for the Conservation Appraisal Report submitted for St. Joseph’s	Dr. Amritha P.K.

Anglo Indian Higher Secondary School Calicut	
1. Architectural Design Police Station at Kunnamangalam, Kozhikode, for Kerala PWD and Dept of Home Affairs, Government of Kerala	Dr, Mohammed Firoz C.

**c. Other Academic and Administrative Services**

<b>Name of the Staff</b>	<b>Academic and Administrative Services</b>
Dr. Anil Kumar P.P.	<ul style="list-style-type: none"> <li>• Heading the Department of Architecture and Planning from June 2019</li> <li>• Member, Board of Governors, NIT Calicut from November 2019</li> <li>• PG Coordinator</li> </ul>
Dr. Anjana Bhagyanathan	<ul style="list-style-type: none"> <li>• Examination Coordinator</li> <li>• Council of Architecture Coordinator</li> <li>• Creative Arts Lab in Charge</li> </ul>
Dr. Deepthi Bendi	<ul style="list-style-type: none"> <li>• Faculty Advisor 2019 batch</li> <li>• Secretary To DCC</li> <li>• NODAL OFFICER of the International Yoga week celebrations (June 2019)</li> <li>• Member of the Sports Council NITC</li> <li>• Coordinator of Annual Sports Day 2020 (January 2020)</li> <li>• Student Activities Coordinator</li> </ul>
Dr. Bimal P.	<ul style="list-style-type: none"> <li>• Faculty Advisor 2015 Batch</li> <li>• PTA Coordinator for Department</li> <li>• Lab In Charge for IMDL</li> <li>• Sports Council Member</li> </ul>
Dr. Naseer M.A	<ul style="list-style-type: none"> <li>• Senate Member</li> <li>• BoAC Member</li> <li>• BS Lab in Charge</li> <li>• Purchase Coordinator</li> <li>• M Plan Coordinator</li> <li>• B Arch Academic Coordinator</li> </ul>
Dr. Md. Firoz C.	<ul style="list-style-type: none"> <li>• PhD Coordinator</li> <li>• Associate Dean Students Welfare</li> <li>• Coordinator of Annual Sports Day 2020 (January 2020)</li> <li>• Inter NIT Sports Coordinator</li> </ul>
Dr. Shyni Anilkumar	Faculty Advisor- 2017, Admission B. Arch.
All faculty have academic and administrative services entrusted such as FA, Lab in charges, UG/PG/PhD coordination, Examination duty etc.	

**d. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted**

<b>Sl.No</b>	<b>Title</b>	<b>Coordinators</b>	<b>Duration &amp; Period</b>
1	DST Sponsored 21 Days Summer Term Course on “Geo-spatial Technologies”	Dr Naseer M A and Dr. Bimal P	10th to 30th June 2019

2	TEQIP III Sponsored: ICDPCA-2020 -3 <sup>rd</sup> International Conference on Reinventing Design Pedagogy and Contextual Aesthetics. Organized by Dept of Architecture and Planning, NIT Calicut, The Indian Institute of Architects Calicut Center, Existential Knowledge Foundation Pune.	Dr. Anil Kumar P.P. (Organizing Chairman, Secretary)  Organizing Committee Members: Dr. Naseer MA, Dr. Chithra K, Dr. Md. Firoz C., Dr. Shyni Anilkumar, Dr. Anjana Bhagyanathan, Dr. Deepthi Bendi, Dr. Amritha P.K., Ar. Ritesh Ranjan	6 <sup>th</sup> -8 <sup>th</sup> March 2020
3	Faculty Development Programme - Introduction to BIM in the Architecture Engineering and Construction	Dr. Deepthi Bendi & Dr. Mohammed Firoz	2 <sup>nd</sup> to 6 <sup>th</sup> August 2019

**e. Expert lecturers delivered in Conferences/Seminar/workshops**

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Dr. Bimal P.	COA Regional Faculty Induction Programme on Documentation of Architectural Heritage – Topic: GIS & Remote Sensing for Documentation of Cultural Heritage.	2019	MES Kakkodi
2	Dr. Anil Kumar P.P.	16 <sup>th</sup> Municipalika at Bangalore- Topic: Best Practices in building Smart Cities	12-14 February	Government of Karnataka
3	Dr. Anil Kumar P.P.	Engineers Day Celebration – Topic: Sustainability dimensions of Vernacular and Green Practices in Architecture	17 <sup>th</sup> Sept 2019	Engineers Day at UL Technology Park
4	Dr. Kasthurba A.K.	Tracing Historical Memory through Architecture” and "Design Decisions for Alternative Living". SPACES-Design, Culture & Politics for Kerala Architectural festival	Held at Trivandrum 29 <sup>th</sup> August to 1 <sup>st</sup> September 2019.	DC Publications and Govt of Kerala
5	Dr. Kasthurba A.K.	Sustainable development along Transit Corridors” for Council of Architecture Training Program on Integrated Approach for Transport Corridors	Bangalore 25 <sup>th</sup> Feb to 1 <sup>st</sup> March 2019	Council of Architecture
6	Dr. Kasthurba A.K	Recent trends in Architecture and Civil Engineering “Towards Energy efficient and Sustainable Development” organized by Department of Architecture,NIT Trichy	10-12 January 2019.	NIT Tiruchirappalli, Tamilnadu.
7	Dr. Mohammed Firoz C.	'Development concepts for Climate Change Adaptation	Climate leadership programme 2019' held on 13 2 019	Kerala Disaster management Institute, Thiruvananthapuram.

		And Disaster Risk Reduction: An Urban planning perspective		
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**f. Details of Faculty, who acquired Higher Qualification**

Name of the Faculty	Additional Qualification
Dr. Shyni Anilkumar	PhD.

**g. Consultancy and testing**

Sl. No	Nature of Service	Organization	Revenue earned	Status
1	Comprehensive Junction Improvement of Medical College Junction for the corporation of Calicut	Municipal Corporation of Calicut	Rs. 5 Lakhs	Completed
2	CWRDM Calicut Entry Redesign and Avenue Planning	CWRDM Calicut	Rs. 3.5 Lakhs	Completed
3	Design of the Commercial Complex for Koyilandy Municipality	Koyilandy Municipality	Rs. 68 Lakhs	Completed
4	Master Plan for Public Health Centre at Koodaranji	Koodaranji Grama Panchayath	Rs. 4.43 Lakhs	Ongoing
5	Renovation and Retrofitting of the Kandamkulam, Jubilee Hall, Calicut	Kozhikode Municipal Corporation	Rs. 8.5 lakhs	Ongoing

**h. Patents acquired and filed : NIL**

**i. Student achievements**

Sl. No	Year	Name of the award	Name of the student
1	2020	<b>Best Poster Award</b> – Planning for resolving conflicts between coastal tourism Growth v/s Coastal Sustainability. – <b>International Conference ICUSE 20, IIT Bombay</b>	Riya Sethia
2	2020	<b>Best Master of Planning thesis in Kerala</b> -titled “The Impact of Upstream Land Use Land Cover Change on Downstream Flooding” – A case of Meenachal River basin Kerala, India. <b>Gold medal by ITPI Kerala chapter</b>	Mrs. Sonu Sukumaran

**DEPARTMENT OF CIVIL ENGINEERING**

**a. Publications**

**i. Peer reviewed journals**

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol., Year, p.p.</b>
N. Ganesan, P. V. Indira and P. R. Himasree	Bamboo reinforced concrete wall panels under one way in-plane action	Environment Development and Sustainability	22, 2020, pp. 1475-1488
V. Sathish Kumar, P. V. Indira and N. Ganesan,	Tension stiffening and cracking behaviour of hybrid fibre reinforced ternary blend geopolymer concrete	Journal of Structural Engineering	46 (4), 2019, pp.257-266
M Akhila, K Ranga Swamy and N Sankar	Effect of non-plastic fines on undrained response of fine sand	International Journal of Geomate	Vol.16(54), 2019, pp.170 – 175
M Akhila, K Ranga Swamy and N Sankar	Liquefaction susceptibility of silty sands based on steady state line concept	Journal of Geotechnical Studies	Vol 4(1), 2019, pp. 32-50
M Akhila, K Ranga Swamy and N Sankar	Liquefaction susceptibility of silty sand and low-plastic clayey soils	International Journal of Geotechnical Earthquake Engineering	Vol 10, 2019
M Akhila, K Ranga Swamy and N Sankar	Liquefaction susceptibility central Kerala	J. of Springer Nature Applied Sciences	2019, published online, <a href="https://doi.org/10.1007/s42452-019-0576-3">https://doi.org/10.1007/s42452-019-0576-3</a>
Rinku Varghese S, Chandrakaran S. and Rangaswamy K	Influence of type of organic substances on the strength and consolidation behavior of inorganic clay soil	International Journal of Geotechnical Engineering	2019, published online 22.3.19: <a href="https://doi.org/10.1080/19386362.2019.1591739">https://doi.org/10.1080/19386362.2019.1591739</a>
Geethu Thomas, Rangaswamy K.	Strength behavior of enzymatic cement treated clay	International Journal of Geotechnical Engineering	2019, published online 02.6.19: <a href="https://doi.org/10.1080/19386362.2019.1622854">https://doi.org/10.1080/19386362.2019.1622854</a>
M Akhila, Rangaswamy K. and Sankar N	Liquefaction susceptibility of nonplastic silty sands using hypoplastic model simulations	International Journal of Geotechnical Engineering	2019, <a href="https://doi.org/10.1080">https://doi.org/10.1080</a>
Smitha S, Rangaswamy K and Keerthi D S	Triaxial test behaviour of silty sands treated with agar biopolymer.	Int. Journal of Geotechnical Engineering	2019, 16.10.19: <a href="https://doi.org/10.1080/">https://doi.org/10.1080/</a>
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol., Year, p.p.</b>
Rinku Varghese S, Chandrakaran S. and Rangaswamy K.	Geotechnical behaviour of different organic matter on clayey soils.	Geomechanics and Geoengineering: An Int. Journal	2019, published online 04.10.19: <a href="https://doi.org/10.1080/17486025.2019.1670874">https://doi.org/10.1080/17486025.2019.1670874</a>
Geethu Thomas, Rangaswamy K.	Strengthening of cement blended soft clay with nano-silica particles.	Geomechanics and Geoengineering: An Int. Journal	2020, Vol. 20, pp. 505-516
Sukanya J. Nair and K. Sasikumar	Fuzzy reliability-based optimization of a hydropower reservoir	Journal of Hydroinformatics	2019, 308 - 317

Prakash Chinnaiyan, Santosh G Thampi, Mathava Kumar, Meera Balachandran	Photocatalytic treatment of Amiodarone and Levetiracetam in pharmaceutical industry effluent: Process optimization using response surface methodology	Desalination and Water Treatment	170, 2019, 253-264,
Ansa Thasneem, N. R. Chithra, Santosh. G. Thampi	Analysis of extreme precipitation and its variability under climate change in a river basin	Natural Hazards	98, 2019, 1169–1190
Jisha John, N. R. Chithra, Santosh. G. Thampi	Prediction of land use/cover change in the Bharathapuzha river basin, India using geospatial techniques	Environmental Monitoring and Assessment	191: 354, 2019.
Prakash. C., Santosh. G. Thampi, Mathava Kumar, and M. Balachandran	Photocatalytic degradation of metformin and amoxicillin in synthetic hospital wastewater: effect of classical parameters	International Journal of Environmental Science and Technology	16, 2019, 5463–5474
Jincy Rose M. A., & Chithra N. R.	Evaluation of temporal drought variation and projection in a tropical river basin of Kerala	Journal of Water and Climate Change	2020 Accepted
Soman, A., & Chithra, N. R.	Impacts of climate change on irrigated agriculture in the Chaliyar river basin in Kerala, India	International Journal of Big Data Mining for Global Warming	1(01), 2019, 1950001
Sitaram Nayak, M. P. Vibhoosha & Anjana Bhasi	Effect of column configuration on the performance of encased stone columns with basal geogrid installed in lithomargic clay	<u>International Journal of Geosynthetics and Ground Engineering</u>	29, 2019
Saranya P, Praveen Nagarajan, A P Shashikala	Behaviour of GGBS-dolomite geopolymer concrete short columns under axial loading	Journal of Building Engineering	30/2020 pp101232
Saranya P, Praveen Nagarajan, A P Shashikala	Behaviour of GGBS-dolomite geopolymer concrete beam-column joints under monotonic loading	Structures	25/2020 pp 47-55
P Saranya, Praveen Nagarajan, A P Shashikala	Development of Ground – Granulated Blast-Furnace Slag-Dolomite Geopolymer Concrete	ACI Materials Journal	116(6)/2019 pp1-10
P Saranya, Praveen Nagarajan, A P Shashikala	Performance evaluation of geopolymer concrete beams under monotonic loading	Structures	20/2019 Pp 560-569



<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol., Year, p.p.</b>
Anand R, A P J Usman, N. Praveen, A. P. Shashikala	Fracture Behaviour of Fibre Reinforced Rubcrete	Materials Science Forum	969/2019 pp 80-85
Sandeep, M. S, Praveen Nagarajan, A. P. Shashikala	Development of Models for Predicting Strut Efficiency Factors for Conventional and Steel Fibre Reinforced Concrete Deep Beams	Materials Science Forum	969/2019 pp187-192
Saranya, P, Praveen Nagarajan, A. P. Shashikala, Abdu P. Salam	Flexural Behaviour of GGBS-Dolomite Geopolymer Concrete Beams under Cyclic Loading	Materials Science Forum	969/2019 pp 291-296
Poonam Mohan, A P Shashikala	An investigation into the motion and stability of a Ro-Ro vessel	Ocean Systems Engineering	9/(2)/2019 pp157-177
Poonam Mohan, A P Shashikala	Stability Assessment of Drill Ship using Probabilistic Damage Stability Analysis	Transactions on Maritime Science	02/2019 pp180-197
Prashob P. S, A. P Shashikala, T. P Somasundaran	Characteristics of CFRP strengthened tubular joints subjected to different monotonic loadings	Steel and Composite Structures	32(3)/2019 pp 361-372
Mohammed Aslam, Bijudas C. R, Praveen Nagarajan, Mini Remanan	Numerical and experimental investigation of nonlinear lamb wave mixing at low frequency	ASCE Journal of Aerospace Engineering	Vol. 33, Issue 4, July 2020.
Mohammed Aslam, Praveen Nagarajan, Mini Remanan	Dynamic Response of piezoelectric smart beam with adhesive debonding	Material Design and Processing Communications	09 Feb, 2020
Mohammed Aslam, Praveen Nagarajan, Mini Remanan	A comparative study of wave excitation in plates using piezoelectric transducers operating at different modes	Materials Science Forum	Vol 969, August 2019. pp 128-133.
Mohammed Aslam, Praveen Nagarajan, Mini Remanan	Numerical studies on PZT-bonded aluminium beam	Journal of The Institution of Engineers (India): Series A	Vol.100, Issue 1, March 2019, pp:117-130
Muhammed Siddik Abdul Samad,	An environmental forensic investigation at a bio-medical waste treatment	Environmental Forensics	20:2, 162-170

Aswathi Padippingal, George K. Varghese & Babu J. Alappat	and disposal facility in Kerala, India		
Sekar, A., Varghese, G. K., & Varma, M. R.	Analysis of benzene air quality standards, monitoring methods and concentrations in indoor and outdoor environment	Heliyon	5(11), e02918.
SK, Ashwini, and George K. Varghese	Environmental forensic analysis of the microplastic pollution at “Nattika” Beach, Kerala Coast, India	Environmental Forensics	(2019): 1-16
Abdul Samad, Muhammed Siddik, Prem Mohan, George K. Varghese, Irfan Khursheed Shah, and Babu J. Alappat	Environmental forensic investigation of the air pollution from a cement manufacturing unit	Environmental Forensics	21, no. 1 (2020): 37-47
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol., Year, p.p.</b>
Nambiar, Namitha, Neelancherry Remya, and George K. Varghese.	Effective reuse of waste material as an amendment in composite landfill liner: Assessment of geotechnical properties and pollutant retention capacity	Waste Management & Research	(2019): 0734242X19886920
Rehna P.C., Harikrishna M., Anjaneyulu M.V.L.R.	Evaluation of Centre Line Marking on Driver Behaviour	Transportation Research. Lecture Notes in Civil Engineering	Vol 45. Springer, Singapore
Arun Baby Zacharia, Harikrishna M., Anjaneyulu MVL R	Geometric Factors influencing Entry Capacity of Roundabouts under Heterogeneous Traffic Conditions	Archives of Transport	Volume 49, Issue 1, 87-101
Muneera C.P and Krishnamurthy Karuppanagounder	Travel time reliability measure and level of service criteria for urban midblock	Lecture Notes in Civil Engineering, Vol 45, Tom. V. Mathew et al. (eds): Transportation Research,	Volume 45, 419-427
Drisya Manghat and K. Krishnamurthy	Performance evaluation of urban corridors using the speed profile data of automobiles	Travel Behaviour and Society	18, pp 58-67
V.P.Premchand, M.D.Narayanan, A.S.Sajith	A new cluster based harmonic balance aided optimization procedure with application to nonlinear vibration absorber	Journal of Computational and Nonlinear Dynamics	13 May 2019, Vol. 14 / 071007-1

J. Chithra, Praveen Nagarajan*, A.S. Sajith, R.A. Roshan	Critical review of design of slab bridges as per IRC 112:2011	Journal of Structural Engineering, SERC, India	Accepted for publication in September 2019
K.K. Sahoo, Prateek Kumar Dhir, Peri Raghav Ravi Teja, and Robin Davis P.	Variability of silica fume concrete and its effect on seismic safety of reinforced concrete buildings	ASCE Journal of Materials in Civil Engineering	32(4), 2020, 10.1061/(ASCE)MT.1943- 5533.0002866
Christy D L, Pillai TMM and Nagarajan P	Thin plate element for applied element method	Structures	Vol. 22, 2019, pp. 1-12
Christy, D. L., Nagarajan, P., & Pillai, T. M. M.	Development of Elements for Analysis of Functionally Graded Beams Using Applied Element Method	Arabian Journal for Science and Engineering	Vol. 45, 2020, pp. 4053-4065.
Christy D L, Nagarajan P and Pillai TMM	Simplified analysis of structures using Applied Element Method	Songklanakarin Journal of Science and Technology.	Accepted (2019)
Christy D L, Pillai TMM and Nagarajan P	Determination of stress concentration factor using applied element method	Material Design & Processing Communications	2020, pp. 1-6.
Christy D L, Pillai T M M, Nagarajan P and Manimaran L	Determination of Crack Pattern in Concrete Structures Using Applied Element Method	Materials Science Forum	Vol. 969, 2019, pp. 303-308.
Mandal, S., Arunkumar, R., Breach, P. A., and Simonovic, S. P.	Reservoir Operations under Changing Climate Conditions: Hydropower- Production Perspective	Journal of Water Resources Planning and Management, ASCE	145(5), 2019, 04019016.
Agilan V., Umamahesh N. V.	Rainfall Generator for Nonstationary Extreme Rainfall Condition	Journal of Hydrologic Engineering, ASCE	24(9), 2019, 1-13

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol., Year, p-p.</b>
Syam-Babu D., Anantha-Singh T.S., Nidheesh P.V., Suresh-Kumar M.	Industrial wastewater treatment by electrocoagulation process	Separation Science and Technology	<a href="https://doi.org/10.1080/01496395.2019.1671866">https://doi.org/10.1080/01496395.2019.1671866</a>
Popat A., Nidheesh P.V., Anantha-Singh T.S., Suresh-Kumar M.	Mixed industrial wastewater treatment by combined electrochemical advanced oxidation and biological processes	Chemosphere,	237, 2019, 124-419

N. Pani, Vishnu. Tejani, T. S. Anantha-Singh, Anurag Kandya	Simultaneous removal of COD and Ammoniacal Nitrogen from dye intermediate manufacturing Industrial Wastewater using Fenton oxidation method	Applied water science	10-66, 2020, 1-7
Seethalakshmi, P. and Sachan, A.	Dynamic behavior of micaceous sand with varying mica content and its association with compactability, compressibility and monotonic shear response	International Journal of Geotechnical Engineering	2019, <a href="https://doi.org/10.1080/19386362.2019.1589159">https://doi: 10.1080/19386362.2019,1589159</a>
Seethalakshmi, P. and Sachan, A.	Effect of microstructure on Stress–Strain and Pore Pressure Response of Sabarmati Sand under the influence of mica,	Geomechanics and GeoEngineering	2019, Vol:15, pp.123-139.
Sachan, A., Seethalakshmi, P. and Mishra, M.C.	Effect of crushing on stress-strain and pore pressure behavior of micaceous Kutch soil under monotonic compression and repeated loading-unloading conditions,	Geotechnical and Geological Engineering,	2019, 37(6), pp. 5269-5283.
Sadhvani, B., Seethalakshmi, P. and Sachan, A.	Micaceous sand stabilization with non-conventional eco-friendly bentonite clay in comparison with conventional lime: An experimental study	Journal of Geotechnical and Transportation Engineering (JGTTE)	2019
<b>Pandikkadavath, M.S.,</b> and Sahoo, D. R.	Development and Testing of Hybrid Buckling-Restrained Steel Braces	Earthquake Engineering and Engineering Vibrations	Accepted

ii. International Conference

Name of the Author	Title of Paper	Name of the Conference	Vol, Year, p.p.
Anjana Elsa Alexander A. P. Shashikala	Behaviour of Textile Reinforced Geopolymer Beams Cured at Ambient Temperature	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” (CRSIDE2020)- Kolkota	2-4 March 2020
K P Rajindas, A P Shashikala	Development of Hybrid Wave Transformation Methodology and its Application on Kerala Coast, India	International Symposium on Advances in Coastal Research with Special Reference to Indo Pacific	17-19 Dec 2019
Saranya, P., Praveen Nagarajan, A. P. Shashikala	Effect of supplementary cementitious materials on strength of GGBS geopolymer concrete	Third International Conference on Recent Advancements in Interdisciplinary Research- Thailand	August 2019
M Akhila, K Rangaswamy and N Sankar	Numerical study on the undrained response of	Proceedings of IACMAG Symposium, IIT Gandhinagar	March 5-7, 2019

	silty sands under static triaxial loading.		
S Smitha and K. Rangasway	The Potential use of Biopolymers as a Sustainable Alternative for Liquefaction Mitigation- a Review	Proceedings of International Conference ARICE'19	13 -14 June 2019
V P Devipriya, S. Chandrakaran, & K Rangaswamy	Seepage Behavior of Fiber Reinforced Embankment Fill: a Review	Proceedings of International Conference ARICE'19	13 -14 June 2019
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of the Conference</b>	<b>Vol, Year, p.p.</b>
Rinku Varghese, Chandrakaran, and Rangaswamy K	Effect of Nano-silica stabilization with cement on shear strength and consolidation properties of organic soils	2 <sup>nd</sup> ASCE India Conference on "Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE2020)	March 2-4, Kolkatta
T. V. Surya, Santosh. G. Thampi	Performance Evaluation of Vertical Subsurface Flow Constructed Wetlands in Wastewater Treatment	Second ASCE India Conference on "Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE2020)	2-4 March 2020 Kolkota
Abhijith Sathya, Santosh. G. Thampi	Impact of Projected Climate Change on Streamflow and Sediment Yield – A Case Study of the Chaliyar River Basin, Kerala	Roorkee Water Conclave 2020	26-28 February 2020 IIT Roorkee
Abhijith Sathya, Santosh. G. Thampi, Chithra. N. R.	Modelling sediment transport in the Chaliyar river, Kerala, India	HYDRO2019	18-20 December 2019 Hyderabad
Snehapoornima. P. V., Santosh G Thampi, Sathish Kumar. D.	Analysis of flow over the ogee spillway and energy dissipators of the Kuttiyadi dam	HYDRO2019	18-20 December 2019 Hyderabad
Sabitha, N. M., Santosh G Thampi, Sathish Kumar. D.	Application of the TREX model to assess the impact of changes in land-use on runoff from a small catchment	HYDRO2019	18-20 December 2019 Hyderabad
Sabitha, N. M., Santosh G Thampi, Sathish Kumar. D.	Comparison of Two Event Based Rainfall Runoff Models for a Small Catchment in Kerala	5th Int. Conf. on Modeling and Simulation in Civil Engg. (ICMSC 2019)	11 – 13 December, 2019 Kollam
Abhijith Sathya, Santosh G. Thampi	Flood inundation mapping of Cauvery River using HEC-RAS and GIS	ARICE 2019	13-14 June 2019 Kochi

Jiji Panicker K, Praveen Nagarajan, Santosh G.Thampi	Critical Review on Stress-Sensitivity and other Behavioral Aspects of Arch Dams	ARICE 2019	13-14 June 2019 Kochi
Prakash Chinnaiyan, S G Thampi	Optimisation of system parameters for the removal of Metformin in a photocatalytic reactor employing TiO <sub>2</sub>	Int. Conf. on Materials Science and Manufacturing Technology (ICMSMT 2019)	12-13 April 2019 Coimbatore
Prakash Chinnaiyan, S G Thampi	Use of TiO <sub>2</sub> for removing emerging contaminant in water – Amoxicillin as a case study	International Conf. on Materials Science and Manufacturing Technology (ICMSMT 2019)	12-13 April 2019 Coimbatore
Sandeep, M. S., Praveen Nagarajan, A. P. Shashikala,	Development of Stress Block Parameters for Steel Fibre Reinforced Rubcrete	Third International Conference on Recent Advancement in Interdisciplinary Research- Thailand	August 2019
Saranya P, Praveen Nagarajan A P Shashikala	Experimental investigation on bond strength properties of geopolymer concrete	International Conference on Advanced Research and Innovations in Civil Engineering (ARICE19)	13 -14 June 2019
Anand Raj, Kiran Kumar, Praveen Nagarajan, A P Shashikala	Numerical studies on impact response of reinforced concrete beam using FEA	International Conference on Advanced Research and Innovations in Civil Engineering, ARICE-19	13 -14 June 2019
Anand Raj, Raunak, Praveen Nagarajan, A P Shashikala	Numerical studies on impact behaviour of PSC concrete beams	International Conference on Advanced Research and Innovations in Civil Engineering, ARICE-19	13 -14 June 2019
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of the Conference</b>	<b>Vol, Year, p.p.</b>
Aravinda Rajagopal, Saranya P, A P Shashikala Praveen Nagarajan	Performance evaluation of geopolymer concrete beam column joints using finite element methods	International Conference on Advanced Research and Innovations in Civil Engineering (ARICE19)	13 -14 June 2019
Akash Kumar Behera, Saranya P, Praveen Nagarajan, A P Shashikala	Numerical studies on GGBS- dolomite geopolymer short columns	International Conference on Advanced Research and Innovations in Civil Engineering (ARICE19)	13 -14 June 2019
Trupti K., Praveen Nagarajan, A.P. Shashikala	Studies on flexural strength of members reinforced with gfrp bars	International Conference on Advanced Research and Innovations in Civil Engineering, ARICE-19	13 -14 June 2019
Anand Raj, Praveen Nagarajan, A P Shashikala	Design of reinforced concrete fencing posts	International Conference on Advanced Research and Innovations in Civil Engineering, ARICE-19	13 -14 June 2019
Anand Raj, Usman P J, Praveen Nagarajan,	Fracture behaviour of steel fibre reinforced rubcrete	International Conference on	13 -14 June 2019

A P Shashikala		Advanced Research and Innovations in Civil Engineering, ARICE-19	
A P Shashikala Praveen Nagarajan Saranya P	Mechanical and durability characteristics of ggbs dolomite geopolymer concrete	Interdependence between Structural Engineering and Construction Management- Chicago, USA	20-25 May 2019
V.P.Premchand, M.D.Narayanan, A.S.Sajith	Cluster based algorithm applied in design of stock bridge dampers, with experimental validations	Proceedngs of INCAM 2019 Conference,	3-5 July 2019 IISc Bangalore
Indu R, George K. Varghese	Risks associated with sewage sludge disposal: case study from Kerala, India,	Society for Risk Analysis - Fifth World Congress on Risk Society of Environmental Toxicology and Chemistry (SETAC) - Ninth Biennial Meeting of SETAC	2019 May 6-8, Cape Town, South Africa 2019
Siddik Muhammed A, George Varghese K, Babu Alappat J	“Retrospective risk assessment as part of environmental forensic investigations.”	Society for Risk Analysis - Fifth World Congress on Risk Society of Environmental Toxicology and Chemistry (SETAC) - Ninth Biennial Meeting of SETAC	2019 May 6-8, Cape Town, South Africa 2019
Sainulabdin JS*, Varghese GK,	Air pollution from an industrial cluster- A qualitative health risk analysis.	Society for Risk Analysis - Fifth World Congress on Risk Society of Environmental Toxicology and Chemistry (SETAC) - Ninth Biennial Meeting of SETAC	2019 May 6-8, Cape Town, South Africa 2019
Priyanka M. S., Muhammed Siddik A., Nayanathara O. S., S. Abinaya , Ashwini S. K. , Lekshmi Ashok and George K. Varghese.	How to select pollution signatures for environmental forensic investigation? A study in the context of dug-well contamination from onsite waste water treatment and disposal system	17 <sup>th</sup> International Waste Management and Landfill Symposium (SARDINIA 2019)	Forte Village, Margherita di Pula, Cagliari, Italy. 30/09/2019 to 04/10/2019
Preeti Nain, George K. Varghese and Arun Kumar	Attributing contributions of metal based sources in metal-based leachate for protecting sub-surface environment	8 <sup>th</sup> International Groundwater Conference on ‘Sustainable Management of Soil- Water Resources’.	IIT Roorkee, October 21-24, 2019
M S Priyanka Yadav, S. Mathava Kumar, George K. Varghese	Pharmaceutical wastewater treatment by OH and sulfate radical based advanced oxidation process (AOP’s)	The International water association (IWA)- Water and Development Congress & Exhibition 2019: Sustainable solutions for emerging economies.	Colombo, Sri Lanka, December 1-5,2019
Abinaya Sekar, George K. Varghese, M. K. Ravi Varma.	Particulate matter exposure of teaching	SRA conference on Risk Analysis in the Data Analytics Era	Arlington, VA, USA, December 8-12, 2019

	professionals in a typical 'chalk and talk' class		
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of the Conference</b>	<b>Vol, Year, p.p.</b>
Nayanathara O. S and Aswathy E. V	Removal of Acetaminophen by adsorption onto green synthesized zinc oxide nanoparticles.	IV International Conference on "Sustainable Energy and Environmental Challenges", NEERI, Nagpur.	27-29 November, 2019,
Avigna Sajeev Paraula Pinangoter, Jithin R., Sarath S. and Harikrishna M.	ANN based Crash Prediction Model for Horizontal Curves	Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)	March 02-04, 2020
Sangeetha R., Mounika R., Harikrishna M. and Anjaneyulu MVLR	Analysis of Overtaking Operations on Two-lane Two-way Highways	Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)	March 02-04, 2020
Aswathi Chandrahasan, Devika Edathody Sankaran Dinesh, Hridya G.M., Jithu Vijayakumar, Harikrishna M.	GIS based Evacuation and Rescue Route Planning for Disaster prone Areas	Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020)	March 02-04, 2020
Devika R. and Harikrishna M.	Analysis of Factors influencing Mode Shift to Public Transit in a Developing Country	5 <sup>th</sup> International Conference on Modelling and Simulation in Civil Engineering	December 11-13, 2019
Devika R., Harikrishna M. and Anjaneyulu MVLR	Influence of Psychological Factors in Model Choice Decision Making: A Structural Equation Modelling Approach	15 <sup>th</sup> World Conference on Transport Research	May 26-31, 2019
Krishnamurthy K & Muneera C.P	Economic Evaluation of Traffic Congestion at Intersection: Case Study from an Indian City	15 <sup>th</sup> World Conference of Transportation Research, Mumbai, India.	26-31 May, 2019.
Drisy Manghat and Krishnamurthy Karuppanagounder	Automobile Level of Service Standards for the Divided Urban Corridors with Heterogeneous Traffic Flow	Transportation Research Board (TRB) 98 <sup>th</sup> Annual Meeting, Washington D.C, USA.	2019
Renjitha Mary Varghese and G Madhavi latha	Model studies on the influence of gradation of sand in free field liquefaction	7 <sup>th</sup> International Conference on Earthquake Geotechnical Engineering, Italian Geotechnical Society and ISSMGE, Roma, Italy	17-20 <sup>th</sup> June 2019
Anjana R Menon, Shravan Konnur and Anjana Bhasi	Utilization of rubber tyre geocell infill above stone column supported embankments	Second ASCE India Conference on "Challenges of Resilient and Sustainable Infrastructure Development i	March 2-4, 2020



		Emerging Economies”(CRSIDE2020)	
Mohammed Aslam, Praveen Nagarajan, Mini Remanan	Numerical Procedures for Simulation of Wave Propagation in Plates	Advanced Research and Innovations in Civil Engineering (ARICE19)	13-14 June 2019
Christy DL, Pillai TMM and Nagarajan P	Analysis of thin plates using Applied Element Method	Advanced Research and Innovations in Civil Engineering (ARICE19)	13-14 June 2019
Chandrika T, Agilan V.	Changes in extreme rainfall characteristic over Kerala	HYDRO2019, Hyderabad,.	December11-13, 2019
Athira T, Agilan V.	Impact of climate change on rainfall over Chennai	5th International Conference on Modeling & Simulation in Civil Engineering, Kollam.	December 11-13, 2019
Athira T, Agilan V.	Temporal variation of air pollutants concentration over Chennai	International Conference on Innovative Trends in Civil Engineering for Sustainable Development, Warangal	September 13-15, 2019
Monisha M., Nibedita P., Anantha-Singh T.S.	Degradation of Ammoniacal Nitrogen from Industrial wastewater using Electro assisted Fenton catalytic process in the absence of carbon based pollutants	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” Kolkata, March 2-4, 2020	2020
<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of the Conference</b>	<b>Vol, Year, p.p.</b>
Pankti S.D., Anantha-Singh T.S.	Assessment of bio-toxicity for the industrial wastewater treated by advanced treatment process	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” Kolkata, March 2-4, 2020.	2020
Saalvee H. K., Anantha-Singh T.S., Pravin V. K.	Treatment of Greywater by Pulse Ultrasound Sonication: A Novel Approach	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” Kolkata, March 2-4, 2020.	2020
Anand V., Poornima M., Anantha-Singh T.S.	Treatment of combined industrial and sewage wastewater using Electro Fenton process with Ti electrode coated with RuO <sub>2</sub>	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” Kolkata, March 2-4, 2020.	2020
Karan P., Anantha-Singh T.S., Pravin K.	Treatment of pharmaceutical industry wastewater using ultrasound cavitation reactor	Second ASCE India Conference on “Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies” Kolkata, March 2-4, 2020.	2020

Gloria J., Nema S.K., Anantha-Singh T.S., Murugan P.V.	A comparative study on energy recovery from tyre waste using plasma pyrolysis and plasma gasification process	HERAKLION-2019 organized by National Technical University of Athens, Greece during 24th-30th June 2019	2019
Poornima M., Nibedita P., Anantha-Singh T.S.	Electro-Fenton oxidation of Nitrogen and Carbon based pollutants from Dye intermediate manufacturing industrial wastewater	11 <sup>th</sup> International Exergy, Energy and Environment Symposium (IEEEES11-2019) organized by the Department of Automobile Engineering, SRM Institute of Science & Technology, Chennai, India from July 14 to 18, 2019.	2019
Seethalakshmi, P. and Sachan, A.	A Comparative Study on Shear Behavior of Pure Sand and Micaceous Sand under Undrained Monotonic and Dynamic Loading Conditions	International Symposium by International Association for Computer Methods and Advances in Geomechanics (IACMAG)	2019, March 5-7, 2019, Gandhinagar, India.

iii. National Conference

Name of the Author	Title of Paper	Name of National conference	Vol, Year, p.p.
M Akhila, K Ranga Swamy and N Sankar	Liquefaction criteria for silts and low-plastic clays: A review.	Proceedings of Conference of the Kerala state Technological Congress	Government Engineering College Thrissur, 2019.
Abhijith Sathya, Santosh. G. Thampi, Chithra. N. R.	Modelling soil erosion in the Chaliyar river basin, Kerala	6 <sup>th</sup> India Water Week 2019	24-28 September 2019 New Delhi
Neba c Tony and Renjitha Mary Varghese	Compaction characteristics of red earth and quarry dust combinations	Indian Geotechnical Conference-2019	December 19-21, 2019, SVNIT Surat
Nayanathara O. S and Aswathy E. V	Adsorption kinetic studies of green synthesized Zinc oxide nanoparticles for the removal of Acetaminophen	National conference on Nanomaterials for Energy, Environment and Health care (NEEHCON'19)	27-28 December, 2019, NIT Calicut.

b. Community Services

**Dr. S. Chandrakaran**

- Involved in investigations related to landslides in different landslide prone areas in Kerala

**Dr. Santosh G Thampi**

- Moderator for the session on Disaster Preparedness: Standards and Actions at the National Conference on Policies and Strategies for Flood Management: Kerala Scenario, organised by the Dept. of Water Resources, Govt. of Kerala during 23-24 January 2020.

- Chaired a session at the International Conference HYDRO 2019 (Hydraulics, Water Resources and Coastal Engineering) organised by the Indian Society for Hydraulics (ISH) at Hyderabad during 18-20 December 2019.
- Joint Secretary, Organising Committee, III Indian National Groundwater Conference 2020
- Member, Technical Committee on Sewerage Management, Cochin Smart Mission Limited
- Invitee, Technical Committee, Dam Rehabilitation Improvement Project (DRIP), CWC
- Involved in the finalization of rectification works at the RCB at Velliyankallu near Thrithala
- Member of two Technical Committees constituted by the District Collector, Kozhikode, to study some environmental issues
- Member, Technical Committee for Approval of Sewerage System Designs of the STP at Govt. Medical College Hospital, Kozhikode
- Member, Regional Technical Expert Committee (Northern Region) on Storm Water Drainage for Evaluation of DPRs under AMRUT, constituted by the Govt. of Kerala.
- Reviewer for many peer reviewed journals including International Journal of Water Resources Development, Journal of Hydrology, Journal of Hydrology – Regional Studies, International Journal of Climatology, Hydrologic Processes, Transport in Porous Media, Journal of Porous Media, International Journal for Numerical Methods in Fluids, Environmental Processes, Special Topics and Reviews in Porous Media, International Research Journal of Agricultural Science and Soil Science, Agricultural Research and Reviews, Journal of the Geological Society of India, Natural Hazards, ISH Journal of Hydraulic Engineering, KSCE Journal of Civil Engineering, Theoretical and Applied Climatology, Science of the Total Environment, Environmental Technology etc

**Mr. K. Saseendran**

- Involved in investigations related to landslides in different landslide prone areas in Kerala
- Member of a Technical Committee constituted by the District Collector, Kozhikode, to study an issue related to quarrying

**Dr. Agilan V.**

- Reviewer of Scientific Reports; Journal of Hydrology; Advances in Water Resources; Journal of Hydrologic Engineering, ASCE; Water Resources Management; International Journal of Climatology; Ecological Indicators; Stochastic Environmental Research and Risk Assessment; Ecological Engineering; Sustainable Cities and Society; International Journal of River Basin Management; Current Science; ISH Journal of Hydraulic Engineering; Journal of Flood Risk Management, Journal of Earth System Science; Hydrological Sciences Journal; Water Science and Engineering.

c. Other Academic and Administrative Services

Name of Faculty	Academic and Administrative Services
Dr. P V Indira	<ul style="list-style-type: none"> <li>• Head, Department of Civil Engineering</li> <li>• Coordinator of Departmental Examination Cell</li> <li>• Program Co-ordinator , M. Tech Structural Engineering</li> <li>• Chairman of Doctoral Committees in the Department</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr A P Shashikala	<ul style="list-style-type: none"> <li>• Chairman, Class Committee</li> <li>• Faculty Advisor- 2019 Admissions</li> <li>• Faculty in charge, Offshore Engineering Lab</li> <li>• Programme Coordinator, MTech. Civil (Offshore Structures) -2018-20</li> <li>• Member, Departmental Purchase Committee</li> <li>• President Civil Engineering Association</li> </ul>

	<ul style="list-style-type: none"> <li>• Presiding Officer, Internal Complaints Committee</li> <li>• Chairman, Guest House Refurbishment Committee</li> <li>• Member in many Doctoral Committees</li> <li>• Member of the Senate of NITC</li> </ul>
<b>Name of Faculty</b>	<b>Academic and Administrative Services</b>
Dr. J Sudhakumar	<ul style="list-style-type: none"> <li>• Departmental PhD Programme Coordinator</li> <li>• Co-ordinator, Departmental Timetable Committee</li> <li>• Faculty Advisor, B.Tech (Civil) 2017 Admissions</li> <li>• Member of the Departmental Purchase Committee</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. K. Krishnamurthy	<ul style="list-style-type: none"> <li>• Associate Dean (P&amp;D)</li> <li>• Superintending Engineer (i/c), Engineering Unit</li> <li>• Warden, NITC Hostels</li> <li>• Programme Coordinator, M.Tech Traffic and Transportation Planning – 2018 Admissions</li> <li>• Faculty Advisor, B.Tech Civil Engineering – 2018 Admissions</li> <li>• Faculty i/c, Transportation Engineering Laboratory</li> <li>• Coordinator, Department Web Page Management Committee</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. M V L R Anjaneyulu	<ul style="list-style-type: none"> <li>• Dean (Planning &amp; Development)</li> <li>• Head, Centre for Transportation Research</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> <li>• Programme Coordinator – M.Tech. Traffic and Transportation Planning – 2019 Admissions</li> <li>• Coordinator, State Technical Agency, Pradhan Mantri Gram Sadak Yojana, National Rural Roads Development Agency</li> <li>• Member, Advisory Committee, Centre of Excellence in Transportation Engineering, NIT, Trichy</li> <li>• Member, Consultative Committee, Transportation Research Centre, College of Engineering, Trivandrum</li> </ul>
Dr. M Ameen	<ul style="list-style-type: none"> <li>• President , Civil Engineering Association</li> <li>• Member, Library Advisory Committee</li> <li>• Member of the Senate of NITC</li> <li>• Member of many Doctoral Committees</li> </ul>
Dr. N Sankar	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) - 2017 Admissions</li> <li>• Program Co-ordinator, M Tech Environmental Geotechnology_ - 2019 Admissions</li> <li>• Coordinator, Department Vigilance Committee</li> <li>• Member of the Departmental Purchase Committee</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. Praveen Nagarajan	<ul style="list-style-type: none"> <li>• Programme Coordinator, M.Tech. Structural Engineering – 2019 Admissions</li> <li>• Co-ordinator, Departmental Data Management</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. S. Chandrakaran	<ul style="list-style-type: none"> <li>• Chief Vigilance Officer</li> </ul>

	<ul style="list-style-type: none"> <li>• Member of Senate of NITC</li> <li>• Member in many Doctoral Committees</li> <li>• Expert member of TRDM to review watershed projects submitted to the Govt. of Kerala</li> </ul>
Dr. Santosh G Thampi	<ul style="list-style-type: none"> <li>• Program Co-ordinator, M Tech (Water Resources Engineering) – 2019 Admissions</li> <li>• Faculty i/c, Water Resources Engineering Laboratory</li> <li>• Invitee, Technical Committee of DRIP, CWC, Ministry of Jal Shakthi, Govt. of India</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. T M Madhavan Pillai	<ul style="list-style-type: none"> <li>• Dean (Faculty Welfare)</li> <li>• Head, Centre for Bio-Mechanics</li> <li>• Adviser, (WS &amp; FS, Weaker students &amp; Foreign Students) Coordinator SC/ST Cell, NITC</li> <li>• Member of the Senate of NITC</li> <li>• Member in many Doctoral Committees</li> <li>• Member, BWTAC of the Institute</li> </ul>
<b>Name of Faculty</b>	<b>Academic and Administrative Services</b>
Sri K Saseendran	<ul style="list-style-type: none"> <li>• Secretary of the Department and DCC</li> <li>• PTA Coordinator , Department of Civil Engineering</li> </ul>
Dr. Rangaswamy K	<ul style="list-style-type: none"> <li>• Program Co-ordinator, M Tech (Environmental Geotechnology_ - 2018 Admissions</li> <li>• Faculty i/c, Geotechnical Engineering Laboratory</li> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2018 Admissions</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. Sajith A.S.	<ul style="list-style-type: none"> <li>• Project Manager, TEQIP – III</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Departmental Consultancy Co-coordinator (till Jan.2020)</li> <li>• Faculty i/c, CAD Laboratory (till Jan.2020)</li> <li>• Faculty i/c, SM and Concrete Laboratories</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. K Sasikumar	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Program Co-ordinator, M Tech (Water Resources Engineering) – 2018 Admissions</li> <li>• Member in many Doctoral Committees</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Member, Departmental Purchase Committee</li> </ul>
Dr. Chitra N R	<ul style="list-style-type: none"> <li>• Member, Water Resources Management Committee, NITC</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2017 Admissions</li> <li>• Member, Department Web Page Management Committee</li> <li>• Member in many Doctoral Committees</li> </ul>
George K. Varghese	<ul style="list-style-type: none"> <li>• Associate Dean (Academic) – since January 2020</li> <li>• Faculty in charge, Environmental Engineering Lab</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2019 Admissions</li> <li>• Faculty i/c, Departmental Timetable Committee</li> <li>• Member, Committee for consolidation of database of department alumni</li> </ul>

	<ul style="list-style-type: none"> <li>• Member in many Doctoral Committees</li> </ul>
Dr. M. Harikrishna	<ul style="list-style-type: none"> <li>• Associate Dean (Academic) - till January 2020</li> <li>• Faculty Co-ordinator – CED – Student Mentorship Programme initiated by NITCUSAAA Chapter</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Member in many Doctoral Committees</li> <li>• Member, Committee for consolidation of database of department alumni</li> <li>• Member, Department Web Page Management Committee</li> </ul>
Dr. M Sivakumar	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2019 Admissions</li> <li>• Departmental Co-ordinator, GATE coaching under TEQIP</li> <li>• Warden, NITC Hostels</li> </ul>
Dr. Mini Remanan	<ul style="list-style-type: none"> <li>• Programme Cordinator, M.Tech. Structural Engineering – 2018 Admissions</li> <li>• Faculty i/c, CAD Laboratory</li> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Member in many Doctoral Committees</li> </ul>
Dr. Pramada S. K	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2016 Admissions</li> <li>• Member, Committee for Departmental Data Management</li> <li>• Member in many Doctoral Committees</li> </ul>
Mrs. Reesha Bharat K	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2019</li> <li>• Admissions Faculty i/c, Basic Engineering Workshop</li> <li>• Member, Department Web Page Management Committee</li> </ul>
Dr. Sathish Kumar D.	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech.(Civil Engineering) – 2019 Admissions Faculty i/c, Surveying Laboratory</li> <li>• Warden, NITC Hostels</li> <li>• Vice President , Civil Engineering Association</li> <li>• Member, Committee for scrutiny of tenders regarding Civil Works, NIT Calicut</li> <li>• Member in many Doctoral Committees</li> </ul>
<b>Name of Faculty</b>	<b>Academic and Administrative Services</b>
Dr Robin Davis P	<ul style="list-style-type: none"> <li>• Member, Committee for consolidation of database of department alumni</li> <li>• Member, Department Web Page Management Committee</li> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2017 Admissions</li> </ul>
Dr. Anjana Bhasi	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2017 Admissions</li> <li>• Member, Committee for consolidation of database of department alumni</li> </ul>
Dr. R. Arunkumar	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2017 Admissions Warden, NITC Hostels</li> <li>• Department nominee for T&amp;P activities</li> <li>• Faculty i/c for consolidation of proposals related to departmental purchase</li> </ul>
Dr. Renjitha Mary Varghese	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2018 Admissions Member, Library Advisory Committee</li> <li>• Faculty i/c of Teaching aids/ class rooms, Department of Civil Engineering</li> <li>• Member in many Doctoral Committees</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Member, Department Web Page Management Committee</li> </ul>
Dr. K. V Anand	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2018 Admissions</li> <li>• Programme Coordinator, MTech. Civil (Offshore Structures) -2019 Admissions</li> <li>• Member, Department Web Page Management Committee</li> </ul>
Dr. Agilan V	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2018 Admissions</li> <li>• Member in two Doctoral Committees</li> <li>• Member, Department Web Page Management Committee</li> <li>• Member, Committee for consolidation of database of department alumni</li> </ul>

Dr. Aswathy E. V	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech (Civil Engineering) – 2017 Admissions</li> <li>• Member in two Doctoral Committees</li> <li>• Member, Departmental Vigilance Committee</li> <li>• Member, Department Web Page Management Committee</li> </ul>
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d. Conferences/ Summer/ Winter School/ Short term Courses/ Workshops Conducted

Sl. No.	Title	Coordinators	Duration & Period
1	FDP on Interaction of Coastal Development with Coastal Processes - Its Highlights and Challenges	Dr K V Anand, Dr A P Shashikala	09-12-2019 to 14-12-2019 (6 days)
2	Water Resources Modelling with MIKE FLOOD	Dr. Santosh. G. Thampi (along with DHI (India) Water and Environment Pvt. Ltd.)	06-10 May, 2019 (5 days)
3	Real Time Flood Forecasting and Risk Analysis	Dr. Pramada. S. K., Dr. Sathish Kumar. D.	10-12 July, 2019 (3 days)
4	Disaster Management in the Context of Dam Distress Events	Dr. Sathish Kumar. D., Dr. Santosh. G. Thampi	29-31 January 2020 (3 days)

e. Expert Lecturers Delivered in Conferences/ Seminar/ Workshops

Sl. No.	Name of Faculty	Title of the Programme	Duration and Period	Organization
1	Dr A P Shashikala	FDP on Repair and Rehabilitation of Structures	02-06 December 2019 (5 days)	Jyothi Engineering College, Cheruthuruthy
2	Dr A P Shashikala	Young Faculty Induction Programme	17-19 December 2019 (3 days)	M Dasan Institute of Technology, Kozhikode
3	Dr. S. Chandrakaran	Workshop on “Building resilience: retrofitting plot specific landslide mitigation	8-9 April 2019	DDMA, Wayanad
4	Dr. Santosh. G. Thampi	Seminar on Advances in Flood Modelling – Coastal and Inland Cities	03-04 March 2020 (2 days)	DHI (India) Water and Environment Pvt. Ltd., at NIOT, Chennai.
Sl. No.	Name of Faculty	Title of the Programme	Duration and Period	Organization
5	Dr. Santosh. G. Thampi	Workshop on Data Collection and Design of Coastal Protection Structures	24-25 February 2020 (2 days)	IDRB, Dept. of Water Resources, Govt. of Kerala at IMG, Thiruvananthapuram
6	Dr. Santosh. G. Thampi	III Indian National Groundwater Conference (INGWC-2020)	18-20 February 2020 (2 days)	CWRDM, Kozhikode
7	Dr. Santosh. G. Thampi	International Workshop on Groundwater Modelling	17 February 2020 (1 day)	CWRDM, Kozhikode
8	Dr. Santosh. G. Thampi	National Seminar on “Solutions to Water Scarcity in Chennai City”	04-05 February 2020 (2 days)	St. Peter’s Institute of Higher Education and Research, Chennai

9	Dr. Santosh. G. Thampi	International Conference on Emerging Technologies for Sustainability	19th July 2019 (1 day)	Amal Jyothi Engineering College, Kanjirappally
10	Dr. M.V.L.R. Anjaneyulu	Short Term Training Programme of "Road Safety for Civil Engineers"	5-9 August 2019	NATPAC Thiruvananthapuram
11	Dr. M.V.L.R. Anjaneyulu	Workshop on Geotextiles Reinforced Sustainable Pavement	8 - 12 July, 2019	NIT Tiruchirappalli
12	Dr. K. Krishnamurthy	Short Term Training Programme of "Road Safety for Civil Engineers"	5-9 August 2019.	NATPAC Thiruvananthapuram
13	Dr. K. Krishnamurthy	Developing and management of Smart Cities and Homes (ICDMSCH 2020)	27-28 Feb, 2020	PSG College of Technology, Coimbatore
14	Dr. K. Krishnamurthy	FDP on "Recent Trends in Transportation Engineering and Town Planning"	13th -18 <sup>th</sup> May 2019	Coimbatore Institute of Technology
15	Dr Sajith A.S.	National conference on Structural Engineering and Construction Management – SECON'19	15-16 May 2019	Federal Institute of Science and Technology, Angamali, Kerala
16	Dr. George K. Varghese	Conference on IT/ AI Linkages with Environment Governance	31 May, 2019	Maharashtra State Pollution Control Board
17	Dr. George K. Varghese	"NBA Accreditation: POs/PSOs and their evaluation" in a dedicated session	22 Aug, 2019	JDT Islam Polytechnic College, Kozhikode
18	Dr. George K. Varghese	'Knowledge & Skill Up-gradation Certified Training Program on 'Sustainable & Good Construction Practices for Single Dwelling Units'	18 Feb, 2020	Joint initiative of Blue Planet, Tata Tiscon & NIT Calicut
19	Dr. George K. Varghese	A dedicated session (under TEQIP-III)	12 Dec, 2019	Institute of Technology Gopeshwar, Utharakhand
20	Dr. George K. Varghese	International Seminar on Contaminated Sites	18 Feb, 2020	IIT Delhi
21	Dr. George K. Varghese	Two Days National Level Seminar on " Urban Pollution, Environment and Health (UPEH)	05 Mar, 2020	Coimbatore Institute of Technology, Coimbatore
22	Dr. George K. Varghese	STTP on Recent Advances in Environmental Engineering and Management	06 Mar, 2020	CUSAT, Kochi
23	Mr. M. Sivakumar	Workshop on Geotextiles Reinforced Sustainable Pavement	8 - 12 July 2019	NIT Tiruchirappalli



24	Dr. Aswathy E. V	“Beat Air Pollution”, World Environmental Day Celebrations	13 June 2019	CWRDM, Calicut.
25	Dr. K. V. Anand	FDP on “Coastal protective measures and its importance in Kerala”	06– 10 January 2020	Department of Civil Engineering, Jawaharlal College of Engineering and Technology. Lakkidi, Palakkad

f. Details of Faculty, who acquired Higher Qualification

- Dr. M Sivakumar – acquired Ph.D from NIT Calicut

g. Consultancy and testing

Sl. No	Nature of Service	Organization	Revenue earned (Lakhs)	Status
1	Testing of materials	Central and State Govt. Departments and Organisations, Private Companies and Individuals	0.42	Ongoing
2	Safety Audit of Railway Bridges	Southern Railway Palghad Division	60.78	Ongoing
3	Structural Design of Warehouse Building, University of Calicut	University of Calicut	5.45	Ongoing
4	Malabar Cancer Centre, Thalassery- Assessment of structural stability of buildings for vertical extension	BSNL, Kannur	32.84	Completed
5	Non-destructive tests for cast columns	BRACE Management Service Pvt Ltd, Kozhikode	0.59	Completed
6	Fishing Harbour Project	Executive Engineer, Harbour Engineering Division, Kozhikode	0.413	Completed
7	Dam Rehabilitation Improvement Project	Executive Engineer, KPIP Division, Kanjirapuzha	0.826	Completed
8	Pollution investigation	BPCL	0.5	Completed
9	STP Design	NIELIT Calicut	0.5	Completed
10	Preliminary EIA	District Administration, Wynad	4.1	Completed
11	Expert Advice	Solar Hotel, Pavaratty	0.35	Completed
12	Inspection of factory building	Royal Carton at Pallikkal Bazar	0.295	Completed
13	Replacement of Cooling Tower phase II - Design of supporting system,	Calicut International Airport	0.41	Completed

14	Checking of stability of school building	Mount Tabor English School, Meppadi, Wayanad	0.494	Completed
15	Checking of stability of school building	M.S.P. Higher Secondary school, Malappuram	0.494	Completed
16	Structural design scrutiny of suspension bridge at Mukkom Municipality	Steel Industries Kerala Ltd.	0.5	Completed
17	Material testing	Various government and private agencies	0.5	Completed
18	Mix Design, Pavement roughness evaluation	PWD, ULCCS, LSGD	2.75	Completed

h. Patents acquired and filed : NIL

**i. Student achievements**

- B.Tech Final year students, Ashish Manoj J, Asiya A, Dasari Navya, and GaneshKumar G under the guidance of Dr. Robin Davis presented a paper and received best paper award in the SECON-2020 Conference conducted in FISAT Engineering College Angamaly.
- 2019 B.Tech Project group under the guidance of Dr. Sajith A. S., won the Best B.Tech. Project Award organised by Association of Engineers, Kerala for the Project “Performance evaluation of reinforced and unreinforced masonry structures subjected to dynamic loading”.

**DEPARTMENT OF CHEMICAL ENGINEERING**

a. Publications

i. Journal

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol, Year, p.p.</b>
MS Ramya Sankar, <b>V Sivasubramanian</b>	Application of statistical design to optimize the electrocoagulation of synthetic Congo red dye solution and predicting the mechanism	International Journal of Environmental Science and Technology	17 (3), 2020, 1373-1386
AA Renita, <b>V Sivasubramanian</b>	Application of computational chemistry for adsorption studies on metal–organic frameworks used for carbon capture	Physical Sciences Reviews	5 (2), 2019
LA Raman, B Deepanraj, S Rajakumar, <b>V Sivasubramanian</b>	Experimental investigation on performance, combustion and emission analysis of a direct injection diesel engine fuelled with rapeseed oil biodiesel	Fuel	246, 2019, 69-74
Raja Sivashankar, Arunachalam Thirunavukkarasu, Rajarathinam Nithya, Jeyaram Kanimozhi, Arunachalam Bose Sathya,	Sequestration of methylene blue dye from aqueous solution by magnetic biocomposite: Three level Box–Behnken experimental design optimization and kinetic studies	Separation Science and Technology	1-14, 2019

<b>Velmurugan Sivasubramanian</b>			
A Surendhar, <b>V Sivasubramanian</b> , D Vidhyeswari, B Deepanraj	Energy and exergy analysis, drying kinetics, modeling and quality parameters of microwave-dried turmeric slices	Journal of Thermal Analysis and Calorimetry	136 (1), 2019, 185-197
V Selvaraj, <b>H Krishnan</b>	Synthesis of graphene encased alumina and its application as nanofluid for cooling of heat-generating electronic devices	Powder Technology	363,2020,665-675
A Sumisha, <b>K Haribabu</b>	Nanostructured Polypyrrole as Cathode Catalyst for Fe (III) Removal in Single Chamber Microbial Fuel Cell	Biotechnology and Bioprocess Engineering	25,2020, 78-85
S Karthick, <b>K Haribabu</b>	Bioelectricity generation in a microbial fuel cell using polypyrrole-molybdenum oxide composite as an effective cathode catalyst	Fuel	275, 2020, 117994
AA Naik, V Selvaraj, <b>H Krishnan</b>	Removal of Congo Red from Aqueous Solution Using 'Pernaviridis': Kinetic Study and Modeling Using Artificial Neural Network	Arabian Journal for Science and Engineering	44,2019,9925-9937
Sumisha A, Jiben Ashar, Aswathy Asok, <b>Haribabu K</b>	Reduction of copper and generation of energy in double chamber microbial fuel cell using Shewanella putrefaciens	Separation Science and Technology	2019, 1-9
Karthick S, Sajal wankhede, Vishnu prasad, Palani R, <b>Haribabu K</b>	Experimental and kinetic study on the treatment of synthetic and real pharmaceutical wastewater by electrocoagulation	Journal of Indian Chemical Society	97,2020,326-331
P Mohanraj, J S S Allwi Ebinesar, J Amala, S <b>Bhuvaneshwari</b> ,	Biocomposite based electrode for effective removal of Cr (VI) heavy metal via capacitive deionization	Chemical Engineering Communications	207,2020, 775-789
N Mohanraj, P Mohanraj, J S S Allwi Ebinesar, <b>S Bhuvaneshwari</b>	Decolorization of anionic and cationic dyes by electro-adsorption process using activated carbon electrodes	Indian Journal of Chemical Technology	26 (4), 2019, 300-311
P Mohanraj, <b>S Bhuvaneshwari</b> , M S Sreelekshmi, V C Sekhar, K Narsimhulu, B Kiran, S Kumar	Bio-modified carbon paste electrode for the detection of pb(II) ions in wastewater	Water Science and Technology	80 (11), 2019, 2058-2066
M A Hossain, S A Naba <b>P Ranganathan</b> , L Könözsy, V Manovic	3D CFD modelling of liquid dispersion in structured packed bed column for CO <sub>2</sub> capture	Chemical Engineering Science	225 (2) , 2020, 115800

Nimmi C Sekhar, <b>Lity Alen Varghese</b>	Mechanical, thermal, and rheological studies of phenolic resin modified with intercalated graphite prepared via liquid phase intercalation	Polymer Testing	79, 2019, 106010
E Suganya, N Saranya, C Patra, <b>L A Varghese</b> , N Selvaraju	Biosorption potential of Gliricidia sepium leaf powder to sequester hexavalent chromium from synthetic aqueous solution	Journal of Environmental Chemical Engineering	7 (3), 2019, 103122
K Keerthi, N Selvaraju, <b>Lity Alen Varghese</b>	Use of combined receptor modeling technique for prediction of possible sources of particulate pollution in Kozhikode, India	International Journal Environmental Science and Technology	17, 2020, 2623- 2636
Lovey Jacob, Shiny Joseph, <b>Lity Alen Varghese</b>	Performance and antifouling behaviour of nanoclay incorporated polysulfone ultrafiltration membrane for wastewater treatment	Desalination and Water Treatment	2020,1-6
Nishan Ahammed V, <b>Lity Alen Varghese</b>	An investigative study on the ecological risk associated with the release of industrial effluents containing anionic contaminants in Chitrapuzha river, Kerala	Journal of the Indian Chemical Society	97, March 2020, 287-293
Remya Balakrishnan, A.M.Nallaperumal, S.K.Manu, <b>Lity Alen Varghese</b>	Studies on Modelling of Mechanical Properties of Polyester-based Semi-rigid Polyurethane Foams	Journal of Polymer & Composites	8(1), 2020, 77-86
Shankar Nalinakshan V.Sivasubramanian <b>Vineesh Ravi</b> Aneesh Vasudevan M.S. Ramya Sankar K.Arunachalam	Progressive crude oil distillation: An energy-efficient alternative to conventional distillation process	Fuel	239, 2019, 1331-1337
S Nivedita, <b>Shiny Joseph</b>	Optimization of Process Parameters using Response Surface Methodology for PCL based Biodegradable Composite Membrane for Water Purification	Arabian Journal for Science and Engineering	<a href="https://doi.org/10.1007/s13369-020-04530-6">https://doi.org/10.1007/s13369-020-04530-6</a> , 2020
S Nivedita, Danish Ahamed, <b>Shiny Joseph</b>	Thermodynamic analysis of phase diagram of H <sub>2</sub> O-DMF-PCL system: investigation on the influence of inorganic additives TiO <sub>2</sub> /MMT	Journal of Materials Science	55, 2020, 5431-5444
N Gazliya, <b>K Aparna</b>	Microwave-assisted alkaline delignification of banana peduncle	Journal of Natural Fibers	<a href="https://doi.org/10.1080/15440478.2019.1645786">https://doi.org/10.1080/15440478.2019.1645786</a> , 2019
S Chellappan, <b>K Aparna</b> , Ch Chingakham, V Sajith, V Nair	Microwave assisted biodiesel production using a novel Brønsted acid catalyst based on nanomagnetic biocomposite	Fuel	246, 2019, 268-276
E Abdul Jaleel, <b>K Aparna</b>	Identification of realistic distillation column using hybrid particle swarm optimization and	Evolving Systems	10 (2), 2019, 149-166

	NARX based artificial neural network		
A Sunny, N Gazliya, <b>K Aparna</b>	Optimization of regasified liquefied natural gas based reforming process for syngas production in an ammonia plant	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	<a href="https://doi.org/10.1080/15567036.2019.1604868">https://doi.org/10.1080/15567036.2019.1604868</a> , 2019
Rohinikumar B, Muraleedharan C, <b>M V Pavan Kumar</b>	Modeling and dynamic simulation of solar-thermal energy conversion in an unconventional solar thermal water pump	Renewable Energy	134, 2019, 292-305
Anish Thomas, <b>M V Pavan Kumar</b>	Comparison of the Steady State Performances of 2×2 Regulatory Control Structures for Fluid Catalytic Cracking Unit	Arabian Journal for Science and Engineering,	44, 2019, 5475-5487
Aswani MT, <b>M V pavan Kumar</b>	A novel water hyacinth based biosorbent for 2,4-dichlorophenoxyacetic acid (2,4-D) removal from aqueous solution	Desalination and water treatment	165(2019) 163-176
M. Ananda Rao, Veerapuram Yerriswamy, <b>M. V. Pavan Kumar</b> and N. Narasaiah	A comparative study on the rheological properties of two coal water slurries with sodium tripolyphosphate as dispersant	International Journal of Coal Preparation and Utilization	DOI: 10.1080/19392699.2019.1621300
A. Tyagi, <b>S. Das</b> , V. C. Srivastava	Removal of toxic hydroquinone: comparative studies on use of iron impregnated granular activated carbon as absorbent and catalyst	Environmental Engineering Research	24 (2019) 474-483.
M Padhi, N Mangadoddy, T Sreenivas, <b>TR Vakamalla</b> , AN Mainza	Study on multi-component particle behaviour in a hydrocyclone classifier using experimental and computational fluid dynamics techniques	Separation and Purification Technology	229, 2019, 115698
<b>T R Vakamalla</b> , N Mangadoddy	The dynamic behaviour of a large-scale 250-mm hydrocyclone: A CFD study	Asia Pacific Journal of Chemical Engineering	14 (2), 2019, e2287
N Mangadoddy, <b>TR Vakamalla</b> , M Kumar, A Mainza	Computational modelling of particle-fluid dynamics in comminution and classification: a review	Mineral Processing and Extractive Metallurgy	129 (2), 2020, 145-156
<b>S Das</b> , R Johnsan, CSS Kumar, A Datta	Experimental study of pool boiling heat transfer on an annealed TiO <sub>2</sub> nanofilm heating surface	Journal of Thermal Analysis and Calorimetry	<a href="https://doi.org/10.1007/s10973-020-09503-3">https://doi.org/10.1007/s10973-020-09503-3</a> , 2020
Athul Seshadri, <b>Noel Jacob Kaleekkal</b> , Suresh Kumar	Preparation and characterization of proton exchange polyvinylidene fluoride membranes incorporated with Sulfonated mesoporous carbon/SPEI nanocomposite	SN Applied Sciences	688,2020,
Jenny N, <b>Noel Jacob Kaleekkal</b> , Joel Parayil Jacob	Metal Ferrite Incorporated polysulfone Thin-Film Nanocomposites Membranes for Wastewater Treatment	Environmental Science and Pollution Research	2020

Thanigaivelan Arumugham, <b>Noel Jacob Kaleekkal</b> , Dipak Rana, Sathiyarayanan Iyer	Exploring the influence of PFOM filler on surface properties and performances of PVDF/Cellulose dual-layered membranes in direct contact membrane distillation process	Royal Society of Chemistry	2019, 41462-41474
SelvarajVetrivel, Dipak Rana, MeenakshiSundaram, Sri AbiramiSaraswathi, Kumar Divya, <b>Noel Jacob Kaleekkal</b> , AlagumalaiNagendran	Cellulose acetate nanocomposite ultrafiltration membranes tailored with hydrous manganese dioxide nanoparticles for water treatment applications	Polymers for Advanced Technologies	30(8),2019, 1943-1950
ThanigaivelanArumughan, Dipak Rana, <b>Noel Jacob Kaleekkal</b> , ReshikaGnanamoorthiAmodu	NanoCuO/g-C3N4 sheets based ultrafiltration membrane with enhanced interfacial affinity, antifouling and protein separation performances for water treatment application	Journal of Environmental Sciences	82,2019,57-69
Krishnan Muthukumar, <b>Noel Jacob Kaleekkal</b> , D. Shanthanalakshmi, Showena Srivastava, H. Bajaj	Tuning the morphology of PVDF membranes using inorganic clusters for oil/water separation	Journal of Applied Polymer Science	136, 47641(1-10),2019
S Neelakandan, A Muthumeenal, D Rana, <b>Noel Jacob Kaleekkal</b> , A Nagendran	Sulfonated poly(phenylene ether ethylene sulfone) membrane tailored with layer by layer self assembly of poly(diallyldimethylammonium chloride) and phosphotungstic acid for DMFC applications	Journal of Applied Polymer Science	136,2019, 47344
A. Sodiq, L. Mohapatra, <b>Fasmin</b> , S. Mariyam, M. Arunachalam, A. Kheireddine, R. Zaffou and B. Merzougui	Black Pearls Carbon as Catalyst for All-Vanadium Redox Flow Batteries	Chemical Communications	55, 2019, 10249-10252
<b>P. Swapna Reddy</b> , Sachin C Patwardhan, K. Yamuna Rani	Robust Trajectory Tracking in a Reactive Batch Distillation Process using Multirate Nonlinear Internal Model Control	Industrial and Engineering Chemistry Research	58,2019, 11364-11381

ii. International Conference

Name of the Author	Title of Paper	Name of International conference	Vol, Year, p.p.
<b>V.Sivasubramanian</b> , Sindhu N	Steady State Simulation of Fast Pyrolysis of Wood	2nd World Summit on Advances in Science, Engineering and	October 3-5, 2019

	Biomass using Unisim Design	Technology, Indiana Summit-2019, IUPUI, Indianapolis, USA	
<b>Ramya Sankar M.S., V Sivasubramanian</b>	Comparison of Chemical-Coagulation and Electro-Coagulation Performance Parameters	Chemcon-2019, IIT Delhi.	15-19 December 2019
<b>Ramya Sankar M.S., V Sivasubramanian</b>	Optimization of Pesticide wastewater treatment using electrocoagulation process: Prediction by RSM	Recent Trends in Clean Technologies for Sustainable Environment, SSN College of Engineering, Tamil Nadu.	September 26-27, 2019
VishnuprasadSelvaraj, BindusaiMorri, KarthickSenthilkumar, <b>Haribabu Krishnan</b>	Investigation on the heat transfer performance of BeO-water nanofluid in an electronic cooling system	International Heat and Mass Transfer conference	2019, ISBN Online: 978-1-56700496-0
<b>Sumisha A, Karthick S, Haribabu K</b>	Efficiency of single chamber microbial fuel cell for the removal of copper from wastewater	International Conference on Multifunctional and Hybrid Composite materials for Energy Environment and Medical applications	September, 2019
<b>P. Ranganathan</b>	CFD Modelling of Fast Pyrolysis of Biomass in Circulating Fluidised Bed Reactor	1 <sup>st</sup> International Symposium on Analytical and Applied Pyrolysis in Asian Region (PYROASIA 2019), IIT Madras	2019
Janakan S. Saral, <b>P. Ranganathan</b>	Catalytic hydrothermal liquefaction of Spirulina platensis for biocrude production using Red mud	New Horizons in Biototechnology (NHBT 2019), Trivandrum	2019
D. G. C Vikram Reddy, <b>P. Ranganathan</b>	Design of an intensified reactor for fast pyrolysis of lignocellulosic biomass	1 <sup>st</sup> International Symposium on Analytical and Applied Pyrolysis in Asian Region (PYROASIA 2019), IIT Madras	2019
Nishan Ahammed V , <b>Lity Alen Varghese</b>	An investigative study of the ecological risk associated with the release of industrial effluents containing anionic contaminants to Chitrapuzha river, Kerala	International Conference Chemical, Bio & Environment Engineering (CHEMBIOEN-2020)	February 2020
R Keerthi, N Selvarajua, <b>Lity Alen Varghese</b>	Risk assessment and apportionment studies of particulate pollution at Ankamaly, South India	16 <sup>th</sup> International Conference on Environmental Science and Technology (CEST 2019)	September 2019

<b>Teja Reddy Vakamalla</b>	Multiphase modelling of hydrocyclone at high feed solids content	XVIII Mineral Process Technology Conference (MPT 2019), Hyderabad	2019
<b>Vineesh Ravi</b> and Amar Krishna Gopinath	Design, Dynamics, and Control of Fuel Cell System for 5 KW Residential Purpose	11 <sup>th</sup> International Exergy, Energy and Environment Symposium (IEEES'11-2019), India	2019
<b>Vineesh Ravi</b> , Aditya Prakash, Love Nagar, Siddharth Sadanandan and Sharan Shirodkar	Design and Simulation Bipolar Plate for Direct Ethanol Fuel Cell	11 <sup>th</sup> International Exergy, Energy and Environment Symposium (IEEES'11-2019), India	2019
Akash M. Chandran, S. Varun, <b>Prasanna Kumar S. Mural</b>	Fabrication of Novel Nanogenerator from PVDF Nanocomposites Encompassing Hybrid Silanized MWCNTs	35th Europe-Africa Regional Conference of the International Polymer Processing Society (PPS2019), Pretoria, South Africa	In press
Akash M. Chandran, S. Varun, <b>Prasanna Kumar S. Mural</b>	h-BN and Graphene Oxide/Epoxy Nanocomposite – A Comparative Study of Mechanical, Electrical and	35th Europe-Africa Regional Conference of the International Polymer Processing Society (PPS2019), Pretoria, South Africa	In press
C.Sankar Rao, Simi Santosh, <b>Dhanya Ram V</b>	Tuning optimal PID controllers for open loop unstable first order plus time delay systems by minimizing ITAE criterion	6th International Conference on Advances in Control and Optimization of Dynamical Systems (ACODS-2020) IIT Madras, Chennai, India	February 16-19, 2020, 123-128.
<b>Chandra Shekar Besta</b> ; Nived Madhusoodanan ; Rakesh Nair ; A.P. Shinoy ; Shyam K. Pisharody	LACr for MIMO Chemical Processes	2019 12th Asian Control Conference (ASCC)	2019, 480-485
<b>K. A. Sidharthan, S. Joseph</b>	Preparation and characterization of polyvinyl alcohol based nanocomposite membrane for direct methanol fuel cell,	International Conference on Advanced Materials: ICAM 2019, AIP Conference Proceedings, 2162, 020143	2019
<b>K. Ambili, S. Joseph,</b> K. A. Sidharthan,	A polyvinyl alcohol/chitosan blend proton exchange membrane for direct methanol fuel cell	International Conference on Advanced Materials: ICAM 2019, AIP Conference Proceedings, 2162, 020051	2019
<b>F. Fasmin</b> , F. H. Aidoud A. Kheireddine, M. Arunachalam, A. Sodiq, Zaffou, and B. Merzougu	Electrochemical studies and performance evaluation of 1-amino anthraquinone based slurry electrodes in flow cell batteries	International Flow Battery Forum, Lyon, France.	In press



iii. National Conference

Name of the Author	Title of Paper	Name of National conference	Vol, Year, p.p.
Mohanraj, Amala J, Aravind S P <b>S Bhuvaneshwari</b>	Hexavalent chromium ions removal from wastewater using high potential capacitive deionization (CDI) method	21 <sup>st</sup> National Convention Electrochemists (NCE -21), Chennai	2020
Rahul Krishna.B, Sreeja.E.S, <b>Dhanya Ravindran V</b>	A Morphological and downstream processing study of suspension polymerization of Styrene and Divinylbenzene (Styrene-DVB) copolymer	Chemcon-2019, IIT Delhi.	16-19 December 2019
Mona Mary Varghese, Narasimha Mangadoddy, <b>Teja Reddy Vakamalla</b>	Experimental Study of Gas-Solid Fluidized Bed Hydrodynamics using Optical Fiber Probe	46th National Conference on Fluid Mechanics and Fluid Power (FMFP-2019)	2019
Akshay Sundaran, Abhey Sujith, Robin Jose, Prasad Kopparthi, <b>Teja Reddy Vakamalla</b>	Prediction of reflux classifier performance using slip velocity model	72nd Annual Session of Indian Institute of Chemical Engineers CHEMCON-2019, IIT Delhi	2019
Robin Jose, Abhey Sujith, Akshay Sundaran, Prasad Kopparthi, <b>Teja Reddy Vakamalla</b>	investigating the effects of novel reagents on coal floatation	72nd Annual Session of Indian Institute of Chemical Engineers CHEMCON-2019, IIT Delhi	2019
Abhey Sujith, Akshay Sundaran, Robin Jose, Prasad Kopparthi, <b>Teja Reddy Vakamalla</b>	Selection of low cost collector for coal floatation	72nd Annual Session of Indian Institute of Chemical Engineers CHEMCON-2019, IIT Delhi	2019
<b>P. Swapna Reddy,</b> K Yamuna Rani	Dynamic Real time optimal control of Batch reactor for production of hexyl monoester of Maleic acid	Translational Research Trends in Process Engineering (TRTPE), Indian Institute of Chemical Technology Hyderabad (CSIR-IICT)	<b>June 26<sup>th</sup> -27<sup>th</sup> 2019</b>

b. Community Services

Sl.No	Name of the Author	Title of the paper	Title of Book	Publisher	Year
1.	L Jacob, T Moses, S Joseph, L A Varghes S Nalinakshan,	Study on the Effective Removal of Chromium via Polysulfone/TiO <sub>2</sub> Nanocomposite	GLOBAL CHALLENGES IN ENERGY AND ENVIRONMENT	Springer	September 2019

		Membranes and Its Antifouling Property			
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c. Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr Lity Alen Varghese	Head of the Department, Purchase Committee Member, Faculty-in Charge -Chemical Technology Laboratory, PG Project Committee Member, Project Guide- PG & UG
K Haribabu	Warden - MBA Hostel, Faculty Coordinator – Chemical Reaction Engineering Lab, Department Exam Timetable Coordinator, Faculty Advisor – S8, Member – B.Tech Project evaluation committee.
Dr S Bhuvaneshwari	Warden LH, Library advisory committee (LAC) Member, M.Tech Programme Coordinator
Panneerselvam Ranganathan	Faculty Adviser, S5 Class Committee chairperson, Faculty-in Charge- Class room, Seminar Hall and Conference hall Facilities, Faculty-in Charge- Computer laboratory, UG Project Committee Member, PG project guide.
Vineesh Ravi	Deputy Chairperson PG Admission, Warden Mega Hostel, Sports Council Member, Internal Quality Assurance Cell Member, Department Alumni and International Affairs coordinator, Department Library in charge, Department Time Table in charge, Faculty Advisor, Project Guide, Faculty-in charge – Heat Transfer Laboratory, UG-PG Project Committee Member, Class Committee Chairperson
Dr. Prasanna Kumar S Mural	Research Lab in-charge, Student chapter in-charge, DCC secretary
Dr. Susmita Das	Warden of Ladies hostel, Committee member of “environmental issues of hostel premises”, Committee member of “maintenance of sports and games within hostels”, FA of final year students, Final year project review committee member, Class Committee Chairman of 7 <sup>th</sup> semester students
S/Lt. (Dr.) Chandra Shekar Besta	NCC Officer in NIT Calicut, Department level Placement Coordinator, UG project Evaluation committee member
Dr Malladi V Pavan Kumar	Department PhD Coordinator, Faculty advisor, Warden- MH, UG project Evaluation committee member
Dr Dhanya Ram V	Faculty In charge IChE-CHEA, Employability training coordinator, PDC Lab in charge, UG project Evaluation committee, FA (2016 batch), S8Class Committee Chairperson

d. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted

Sl.No	Title	Coordinators	Duration & Period
1	Novel Perspective in Technologies for Micro-pollutant Removal from Aqueous System	Dr Noel Jacob K & Dr Prasanna Kumar S Mural	January 20-25, 2020

2	TEQIP III sponsored Faculty Development Program on "Recent Innovations and Developments in Electrochemical and Chemical Process Optimization - RIDECP0-2019"	Prof. V.Sivasubramanian, Dr. Dhanya Ram V	17 <sup>th</sup> June and 22 <sup>nd</sup> June 2019
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e. Expert lecturers delivered in Conferences/Seminar/workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	<b>Dr.V.Sivasubramanian</b>	Short Term Training Programme (STTP) on 'Recent Advances in Environmental Engineering and Management'	2 - 7 March 2020	SCHOOL OF ENGINEERING Cochin University of Science and Technology Kochi - 682 022, Kerala
2	<b>Dr.V.Sivasubramanian</b>	FDP on Technological Application for Managing Solid Wastes from Industrial and Educational Institutions for Bioenergy Generation	15-29 September 2019	Department of Mechanical Engineering, Karpagam College of Engineering, Coimbatore, Tamil Nadu
3	<b>Dr.V.Sivasubramanian</b>	FDP on Energy Efficient Technologies and Practices for Sustainable Development	22-26 July 2019	Department of Chemical Engineering, GEC Thrissur
4	<b>Dr.V.Sivasubramanian</b>	FDP on Energy Efficient Technologies and Practices for Sustainable Development	22-26 July 2019	Department of Chemical Engineering, GEC Thrissur
5	<b>Dr.V.Sivasubramanian</b>	FDP on Recent Trends in Environmental Engineering	15-19 July 2019	Department of Chemical Engineering, TKM College of Engineering, Kollam
6	<b>Dr.V.Sivasubramanian</b>	Workshop on Recent Trends in Chemical Engineering	11 April 2019	Cochin college of Engineering and Technology
7	<b>Haribabu K</b>	Recent Innovations and Developments in Electrochemical and Chemical Process Optimization	17 <sup>th</sup> June – 22 June 2019	NIT Calicut
8	<b>Haribabu K</b>	STTO on 'Instrumental Methods of Analysis'	4 <sup>th</sup> November – 9 <sup>th</sup> November 2019	Sri Venkateswara College of Engineering, Chennai, Tamilnadu
9	<b>Haribabu K</b>	Novel Perspective in Technologies for Micro-pollutant Removal from Aqueous System (NPTMRAS)	20th – 25th Jan 2020.	NIT Calicut
10	<b>Dr. Malladi V Pavan Kumar</b>	Process control Instrumentation and Automation (PCIA 2019), a faculty Development program (FDP)	Dec 2 -7, 2019	Department of Electrical Engineering, NIT Calicut
11	<b>Dr S Bhuvaneshwari</b>	Novel Perspective in Technologies for Micro-pollutant Removal from Aqueous System (NPTMRAS)	25/01/2020 2 HOURS	NITC
12	<b>Panneerselvam Ranganathan</b>	FDP program on Advanced Separation Processes	Duration: 3 hours; 2 - 7 December 2019	Division of Chemical Engineering, Cochin

				University Science and Technology (CUSAT), Cochin.
13	<b>Dr Prasanna Kumar S Mural</b>	Faculty Development Programme on "Recent Trends in Environmental Engineering"	15th to 20th July 2019	Department of Chemical Engineering, TKM College of Engineering, Kollam
14	<b>Dr Noel Jacob Kaleekkal</b>	The International Conference on Advancements in Membrane Technologies	14-15th February 2020	Indian Membrane Society and Water Today
15	<b>Dr Noel Jacob Kaleekkal</b>	FDP: Novel Perspective in Technologies for Micro-pollutant Removal from Aqueous System (NPTMRAS 2020)	20 - 25th January 2020 (3 sessions)	NIT Calicut
16	<b>Dr Noel Jacob Kaleekkal</b>	FSDTP : Hybrid materials and Applications	13th - 18th January 2020 (1 session)	GEC Kozhikode
17	<b>Dr Noel Jacob Kaleekkal</b>	FDP: Advanced Separation Processes	2 - 7 December 2019. (1 day)	CUSAT
18	<b>Dr Noel Jacob Kaleekkal</b>	Talk: Advances in Membrane Separation	10 <sup>th</sup> October 2019.	Saintgits College, Kerala
19	<b>Dr Noel Jacob Kaleekkal</b>	FDP: Advanced pedagogy, sponsored research, ipr & entrepreneurship	22nd - 26th July 2019 (1 day)	GCT Coimbatore
20	<b>Dr Noel Jacob Kaleekkal</b>	FDP: Recent Innovations and Developments in Electrochemical and Chemical Process Optimization” (RIDECP-2019)	17 <sup>th</sup> -22 <sup>nd</sup> June 2019 FSDTP program on Hybrid materials and Applications	NIT Calicut

f. Details of Faculty, who acquired Higher Qualification: NIL

g. Consultancy and testing : NIL

h. Patents acquired and filed

Sl. No	Name of Staff	Title	Year
1.	<b>Dr.V.Sivasubramanian</b>	Development of Novel Electrochemical Reactor	October 2019

i. Student achievements

1. Anoopa Ann Thomas, Noel Jacob Kaleekkal\* “Zinc Anchored Mesostructured Cellular Foams (MCF) Incorporated Thin-Film Nanocomposite Membranes for Desalination” presented at the International Conference on Advancements in Membrane Technology held on February 14 & 15,

2020 at Chennai Trade Centre, Nandambakkam Chennai organized by Indian Membrane Society & Water today India Pvt. Ltd. in association with Membrane Society of Australia.

2. Anoopa Ann Thomas, Noel Jacob Kaleekkal\*, “*Forward Osmosis for Desalination and Wastewater Treatment: A mini-review*” (poster) presented at the International Conference on Separation Science and Technology (ICST 2019) held on December 13<sup>th</sup> -16<sup>th</sup>,2019 organized by the School of Environmental Sciences, MG University, Kottayam
3. 2<sup>nd</sup> Prize- Jenny N, Noel Jacob Kaleekkal\*, “*Improving the performance of thin-film composite membranes using structured nanofillers for removal of organic pollutants*” presented at the International Conference on Advancements in Membrane Technology held on February 14 & 15, 2020 at Chennai Trade Centre, Nandambakkam Chennai organized by Indian Membrane Society & Water today India Pvt. Ltd. in association with Membrane Society of Australia.
4. Jenny N, Noel Jacob Kaleekkal\*, “*Metal ferrite incorporated polysulfone thin- film nanocomposite membranes for wastewater treatment*” (poster) presented at the National Symposium on Environmental Pollution Prevention and Control : Future perspective (EPPC:FP:2019) held on 23-25 August 2019 organized by the Department of Chemical Engineering, NITK Surathkal, India.
5. Chethana S, Noel Jacob Kaleekkal\*, “*A mini review on forward osmosis for desalination and wastewater treatment*” (poster) presented at the National Symposium on Environmental Pollution Prevention and Control : Future perspective (EPPC:FP:2019) held on 23-25 August 2019 organized by the Department of Chemical Engineering, NITK Surathkal, India.
6. Awarded Undergraduate Student Innovative Project “Employing Mesoporous Carbon materials to enhance the performance of TFC membranes for Forward Osmosis” (2019), by Ms. Chetana et. al.- 1.80 Lakhs

## DEPARTMENT OF CHEMISTRY

### a. Publications

#### i) Journal

S. No.	Author	Title	Journal Name, Year
1	M. Sankaralingam, M. Balamurugan, M. Palaniandavar	Alkane and alkene oxidation reactions catalyzed by nickel(II) complexes: Effect of ligand factors	Coord. Chem. Rev., 2020, 403, 213085
2	S. Muthuramalingam, M. Sankaralingam, M. Velusamy, R. Mayilmurugan	Catalytic Conversion of Atmospheric CO <sub>2</sub> into Cyclic Carbonates Using Nickel(II) Catalysts of Diazepane Based N <sub>4</sub> Ligands	Inorg. Chem., 2019, 58, 12975-12985
3	S. S. Harmalkar, R. J. Butcher, V. V. Gobre, S. K. Gaonkar, L. R. D'Souza, M. Sankaralingam, I. Furtado, S. N. Dhuri	Synthesis, Characterization and Antimicrobial Properties of Mononuclear Copper(II) Compounds of N,N'-di(quinolin-8-yl)cyclohexane-1,2-diamine	Inorg. Chim. Acta, 2019, 498, 119020
4	D. S. Harmalkar, G. Santosh, S. B. Shetgaonkar, M. Sankaralingam, S. N. Dhuri	A putative heme manganese(V)-oxo species in the C-H activation and epoxidation reactions in an aqueous buffer	New J. Chem., 2019, 43, 12900-12906
5	C.-M. Lee, M. Sankaralingam, C.-H. Chuo, T.-H. Tseng, P. P.-Y.	A Mn(IV)-peroxo complex in the reactions with proton donors	Dalton Trans., 2019, 48, 5203-5213

	Chen, M.-H. Chiang, X.-X. Lee, Y.-M. Lee, W. Nam		
6	R. Suresh, M. Pandiaraj, M. Sankaralingam, K. Giribabu	Book title: Graphene-based electrochemical sensors for biomolecules- chapter title: Graphene-metal chalcogenides modified electrochemical sensors	Elsevier publication, 2019, 139-153
7	M. Jaccob, M. Sankaralingam, N. J. Britto,	Activation of small molecules by transition-metal complexes	RSC Publishers, Chemical Modelling 2020, 15, 131-172
8	S. K. Chondath, R. R. Poolakkandy, R. Kottayintavida, A.Thekkangil, N. K. Gopalan, S.T. Vasu, S. Athiyanathil, and M. M. <b>Menamparambath</b>	Water–Chloroform Interface Assisted Microstructure Tuning of Polypyrrole–Silver Sheets.	<b>ACS Applied Materials &amp; Interfaces</b> , 2019, 11, 1723–1731
9	R. Rahman Poolakandy, S. KaladiChondath, N. Puthiyottil, D. Davis, and M. M. <b>Menamparambath</b>	n-Butanol/Water Interface-Aided Physicochemical Tuning of Two-Dimensional Transition-Metal Oxides	<i>Langmuir</i> , 2020, 36, 872–879
10	Suja P Sundaran, Reshmi C.R., Sagitha P., A. <b>Sujith</b>	Polyurethane nanofibrous membranes decorates with reduced graphene oxide-TiO <sub>2</sub> for photocatalytic templates in water purification	<b>Jornal of Material Science</b> , 2020, 55, 5892
11	Jiya Jose, AbdulazizAnas, Bina Jose, AnandPuthirath, A. <b>Sujith</b> Chekidhenkuzhiyil Jasmin, M. R. Anantharaman, Shanta Nair, ChallapalliSubrahmanyam, VasudevanpillaiBiju	The extinction of antimicrobial resistant pathogens using silver embedded silica nanoparticles and an efflux pump blocker	<b>ACS Applied Biomaterials</b> , 2019, 2, 4681
12	CherumannilKarumuthil, Subash; Prabha Rajeev, Sreenidhi; Valiyaneerilakkal, Uvais; A. <b>Sujith</b> ; Varghese, Soney,	Electrospun Poly(Vinylidene Fluoride-Trifluoroethylene) based Polymer Nanocomposite Fibers for Piezoelectric Nanogenerators,	<b>ACS Applied Materials &amp; Interface</b> , 2019, 11, 40180
13	Manaf O, Anjana K, Prasanth R, Reshmi C.R., Juraij K, Rajesh P, Chingakham C, Sajith V, A. <b>Sujith</b>	ZnO decorated anti-bacterial electrospun ABS nanocomposite membrane for oil-water separation	<b>Materials Letters</b> , 2019, 256, 126626
14	C.J. Chingakham, O. Manaf, V. Sajith, A. <b>Sujith</b> ,	Hydrophobic nano bamboo fiber reinforced ABS electrospun membrane for the filtration of crude oil	<b>Applied Nano Sciences</b> , 2020, 10, 795
15	P. Sagitha, C.R.Reshmi, O. manaf, Suja P Sundaran, K. Juraij, A. <b>Sujith</b> (MohtadaSadrzadeh TorajM ohammad Eds. )	Development of Nanocomposite membranes by electrospun nanofibrous materials, In ' <b>Nanocomposite Membranes for Water and Gas Separation</b> '	Elsevier, 2019
16	Divia P Sreenivasan, A. <b>Sujith</b> , C. Rajesh	Cure characteristics and mechanical properties of natural rubber reinforced with chicken feather fibre: effect of fibre loading, alkali treatment, bonding and vulcanizing systems	<b>Materials Today Communications</b> , 2019, 20, 100555
17	Rijin K.K., Sagitha P., Amitha G.S., SuniVasudevan, A. <b>Sujith</b>	4,4-Fluoresceinoxy bisphthalonitrile (FPN) incorporated	<b>Journal of Material Science</b> ,

		polycaprolactoneelectrospun membranes: A portable sensor strip for detection of Fe <sup>3+</sup> ions	2019, 54, 13433
18	K.M. Muhammed Ismayil, O. Manaf, A. Sujith, Rosy Antony	Polymer Thin films for chromatographic separation of plant pigments	Material Letters, 2019, 252, 321
19	Suja P. Sundaran, A. Sujith	Multifunctional graphene oxide loaded nanofibrous membrane for removal of dyes and coliform from water	Journal of environmental management, 2019, 240, 494
20	Sagitha P, Reshmi C.R, A. Sujith	In-vitro evaluation on drug release kinetics and antibacterial activity of dextran modified polyurethane fibrous membrane	International Journal of Biological Macromolecules, 2019, 126, 717
21	ThekkeThattariyilDivya, Darpan Raghav, Krishnan Rathinasamy, Lakshmi Chakkumkumarath	Multifunctional fluorescent leucomalachite green derivatives for chemodosimetric detection of Fe <sup>3+</sup> , specific imaging of lipid droplets and intracellular pH monitorin	New J. Chem., 2019, 43, 16349-16358
22	R. Kalluruttimmal, D. T. Thattariyil, A. P. Parambil, A. K. Sen, L. Chakkumkumarath, and K. M. Muraleedharan	Electronically-tuned Triarylmethine Scaffold for Fast and Continuous Monitoring of H <sub>2</sub> S Levels in Biological Samples	Analyst, 2019, 144, 4210–4218
23	P.G. Lashmi, P. V. Ananthapadmanabhan, G. Unnikrishnan, S. T. Aruna,	Present status and future prospects of plasma sprayed multilayered thermal coating systems,	Journal of the European Ceramic Society, 2020, 40, 2731-2745,
24	V. H. Shafeeq, G. Unnikrishnan	Experimental and theoretical evaluation of mechanical, thermal and morphological features of EVA-millable polyurethane blends	J. Polym. Res., 2020, 27, 53
25	K. Sunitha, P.B. Soumyamol, D. Mathew, G. Unnikrishnan, C. P., Reghunadhan Nair,	Novolac-Polydimethyl Siloxane networks through click chemistry: Thermal and Thermophysical characterization	Int J Appl Ceram Technol. 2020; 17: 1264– 1275.
26	R. Sabarish, G. Unnikrishnan	A novel anionic surfactant as template for the development of hierarchical ZSM -5 zeolite and its catalytic performance	J. Porous Mater .2020, DOI: 10.1007/s10934-019-00852-5
27	R. Rarima, G. Unnikrishnan	Porous poly(lactic acid)/nano-silver composite membranes for catalytic reduction of 4-nitrophenol	Chem. Phys., 2020, 241,122389
28	B. Satheesh Kumar, Balakondareddy Sana , G.Unnikrishnan, Tushar Jana, K. S. Santhosh Kumar	Polybenzimidazole co-polymers: their synthesis, morphology and high temperature fuel cell membrane properties	Polym.Chem., 2020, 11,1043-1054
29	B. Satheesh Kumar, Sana, G. Unnikrishnan, T. Jana and K. S. Santhosh Kumar	Nano-ordered aromatic/alicyclic polybenzimidazole blend membranes,	React. Funct. Polym., 2020,146,104312
30	P. G. Lashmi, N. Balaji, K. Anil Kumar, P. V. Ananthapadmanabhan, G. Unnikrishnan, S. Senthil Kumar and S. T. Aruna	Solution combustion synthesis of calcia-magnesia-aluminosilicate powder and its interaction with yttria-stabilized zirconia and co-doped yttria-stabilized zirconia	Ceramics International 2019, 45, 18255-18264

31	K. V. Nishad, Manoj Komath and G. Unnikrishnan	Synthesis of strontium orthosilicate ( $\text{Sr}_2\text{SiO}_4$ ) by sol-gel method for the use in endodontic cements to enhance bioactivity and radio-contras	Mater.Res. Express, 2019,6,105401-105412
32	M. Vintu, G. Unnikrishnan	Indolocarbazole based polymer coated super adsorbent polyurethane sponges for oil/organic solvent removal	Environ. Manage., 2019, 248,109344-109355
33	S. Anitha, C. Suchithra, Nisha Balachandran, G. Unnikrishnan and K S. Santhosh Kumar	Hybrid poly (hydroxy urethane)s; folded sheet morphology and thermo-reversible adhesion,	ACS Omega 2019, ,4,13042-13051
34	. Vintu, Vijisha K. Rajan, G. Unnikrishnan and K. Muraleedharan	Suzuki coupling derived indolocarbazole based macromolecule as a solidphase/solution phase sensor for $\text{Hg}^{2+}$ :Experimental and theoretical explorations,Euro. Polym	Euro. Polym J., 2019, 114, 287–297
35	B. Satheesh Kumar, B. Sana, G. Unnikrishnan, Tushar Jana and K. S. Santhosh Kumar	Polybenzimidazole as proton conducting filler in polydimethylsiloxane: Enhanced oxidative stability and membrane properties,	J. Appl. Polym. Sci., 2019, 136,48151-48159
36	C. Sangeetha, G.Unnikrishnan. S. Thomas, S. S.Narine	Novel ethylene diamine functionalised nanocellulose/poly(e thylene-co-acrylic acid) composites for biomedical applications	Cellulose, 2019, 26,1795-1809
37	GS Amitha, VK Rajan, B Amritha, K Muraleedharan, S Vasudevan	Betti base and its modified phthalonitrile derivative for the turn on fluorimetric detection of $\text{Hg}^{2+}$ and $\text{Cr}^{3+}$ ions	Journal of Photochemistry and Photobiology A: Chemistry, 2019, 382, 111904
38	GS Amitha, MY Ameen, VS Reddy, S Vasudevan	Synthesis of peripherally tetra substituted neutral azophenoxy zinc phthalocyanine and its application in bulk hetero junction solar cells	Journal of Molecular Structure, 2019, 1185, 425-431
39	KK Rijin, P Sagitha, GS Amitha, S Vasudevan, A Sujith	4,4'-Fluoresceinoxy bisphthalonitrile (FPN)-incorporated polycaprolactoneelectrospun membranes: a portable sensor strip for detection of $\text{Fe}^{3+}$ ions	Journal of Materials Science, 2019, 54, 13433-13444
40	GS Amitha, S Vasudevan	DNA/BSA binding studies of peripherally tetra substituted neutral azophenoxy zinc phthalocyanine	Polyhedron, 2020, 175, 114208
41	B Amritha, S Vasudevan	Synthesis, characterisation, and DNA interaction studies of novel Cu (II), Ni (II), and Co (II) mono and bisligand complexes of N-(1, 10-phenanthroline-5-yl) acridine-9-carboxamide	Chemical Papers, 2020, 74, 1979-1996
42	B Amritha, O Manaf, M Nethaji, A Sujith, MRP Kurup, S Vasudevan	Mn (II) complex of a di-2-pyridyl ketone-N (4)-substituted thiosemicarbazone: Versatile biological properties and naked-eye detection of $\text{Fe}^{2+}$ and $\text{Ru}^{3+}$ ions	Polyhedron, 2020, 178, 114333
43	G. Rajitha, C. G. Arya, B. Janardhan,S. V. Laxmi, G. Ramesh, and U. SujanaKumari	“3-Aryl/heteryl-5-phenylindeno[1,2-d]thiazolo[3,2-a]pyrimidin-6(5H)-ones: Synthesis, characterization, and antimicrobial investigation”	Russian Journal of Bioorganic Chemistry 2020, 46,612–619



44	Rajeev, Sreenidhi Prabha; Sabarinath, S; Subash, CK; Valiyaneerilakkal, Uvais; Parameswaran, Pattiyil; Varghese, Soney;	$\alpha$ -& $\beta$ -crystalline phases in polyvinylidene fluoride as tribo-piezo active layer for nanoenergy harvester	High Performance Polymers 2019, 31, 785-799
45	Kathewad, Neha; Anagha, MC; Parvin, Nasrina; Parambath, Sneha; Parameswaran, Pattiyil; Khan, Shabana;	Facile Buchwald–Hartwig coupling of sterically encumbered substrates effected by PNP ligands	Dalton Transactions 2019, 48, 2730-2734
46	Singh, Tejender; George, Anjana; Parameswaran, Pattiyil; Bharatam, Prasad V;	Enols, Diamino Enols, and Breslow Intermediates: A Comparative Quantum Chemical Analysis	European Journal of Organic Chemistry 2019, 2481-2489
47	Sinhababu, Soumen; Siddiqui, Mujahuddin M; Sarkar, Samir Kumar; Münch, Annika; Herbst-Irmer, Regine; George, Anjana; Parameswaran, Pattiyil; Stalke, Dietmar; Roesky, Herbert W;	Treatment of Silylene–Phosphinidene with Chalcogens Resulted Exclusively in the Formation of Silicon-Bonded Chalcogens	Chemistry-A European Journal 2019, 25, 11422-11426
48	Parvin, Nasrina; Hossain, Javed; George, Anjana; Parameswaran, Pattiyil; Khan, Shabana;	N-heterocyclic silylene stabilized monocordinated copper (i)–arene cationic complexes and their application in click chemistry	Chemical Communications 2020, 56, 273-276.
49	George, Anjana; Parameswaran, Pattiyil;	Stronger Electron Sharing C $\alpha$ – N Bond in Normal Amino Acids Versus Weaker Donor-Acceptor C $\alpha$ – N Bond in Zwitterionic Amino Acids	ChemistrySelect 2020, 5, 4143-4151.
50	Prasannan, Dijo; Vasu, Suchithra Tharamel; Arunkumar, Chellaiah; Parameswaran, Pattiyil;	Development of alkyne-BODIPYs as viscosity sensitive fluorescent probes for enumeration of bacterial cells	Journal of Porphyrins and Phthalocyanines 2020, DOI:10.1142/S1088424620500194
51	Parvin, Nasrina; Mishra, Bijoyananda; George, Anjana; Neralkar, Mahesh; Hossain, Javed; Parameswaran, Pattiyil; Hotha, Srinivas; Khan, Shabana;	N-Heterocyclic Silylene/Germylene Ligands in Au (I) Catalysis	Chemical Communications 2020, 56, 7625-7628.

- Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr. Parameswaran P.	Head of the Department
Dr, M. Sankaralingam	Department Sports coordinator, Project Coordinator, Faculty Advisor for MSc Students

Dr. Mini Mol M.	NSS Programme Coordinator, Time table in-charge of the department, Committee member of institute level time table committee, POS of SAC election, Stock verification team member, Member/convener of the anti-ragging squad, Member of department-level purchase committee, Course coordinator of B.Tech physical chemistry, Physical chemistry lab-in-charge, Instrument in charge (electrochemical work station) of department
Dr. A. Sujith	Faculty in Charge, ISTE NITC Chapter, Library in Charge, Department of Chemistry, Programme Coordinator, RashtriyaAvishkarAbhiyan
Dr. Suni Vasudevan	Examination in-charge

- Conferences/Summer/Winter School/Short term Courses/ Workshops conducted

Sl.No	Title	Coordinators	Duration & Period
1	Science camp for school students, RashtriyaAvishkarAbhiyan	Dr. A. Sujith	9-10 <sup>th</sup> May 2019
2	Novel strategies and applications in organic chemistry	G. Unnikrishnan, Raju Dey	17-22 June 2019
3	International Conference on Recent Trends in Catalysis 2020, at NIT Calicut	Dr. M Sankaralingam, Dr. Raju Dey, Dr. Parameswaran P.	Feb 26-29, 2020

- Expert lecturers delivered in Conferences/Seminar/workshops

S. No	Name of Staff	Conference	Organizers	Title	Date
1.	Dr. A. Sujith	FDP on Novel perspective in technologies for micro-pollutant removal from aqueous system	Dept. of Chemical Engineering, NITC	Superhydrophobic materials	January 24 2020
2	Dr. A. Sujith	Talk	University of Shanghai for Science and Technology, China	Polymer sensing membranes	December 19 2019
3	Dr. A. Sujith	Sasthrapadham, SamagraShiksha, Kerala	PSMO College, Tirurangadi, Malappuram, Kerala	Plastics and humanity	January 19 2020
4	Dr. A. Sujith	Chemistry Association Inauguration	Farook College (Autonomous), Kozhikode	Plastics and humanity	September 3 2019
5	Dr. A. Sujith	FDP on Novel strategies and applications in organic chemistry	Dept. of Chemistry, NITC	Superhydrophobic nanomaterials	June 21 2019
6	Dr. A. Sujith	Sasthrapadham, SamagraShiksha, Kerala	PSMO College, Tirurangadi, Malappuram, Kerala	Learn from nature	January 20 2019
7	Dr. A. Sujith	Talk	St. Josephs College, Devagiri, Kozhikode	Healing mother earth-role of chemistry	December 13 2019
8	Dr. M. Sankaralingam	Recent Advances in Chemical Science	Department of Chemistry, Sri S.	Synthetic High-Valent Manganese-Oxygen	August 26, 2019

			Ramasamy Naidu Memorial College, Sattur	Intermediates Involved in Photosynthesis	
9	Dr. M. Sankaralingam	Faculty development program on Novel Strategies and Applications	Department of Chemistry, NIT Calicut	Metal complexes in organic transformation reactions	June 21, 2019
10	Dr. M.Sankaralingam	Recent Innovations and Developments in Electrochemical and Chemical Process	Department of Chemical Engineering, NIT Calicut	Determination of One Electron Reduction Potential for Manganese-Oxygen Intermediates	June 18, 2019
11	Dr. Mini Mol M.	Faculty development program on Novel Strategies and Applications	Department of Chemistry, NIT Calicut	POLYMER - NANOMATERIAL COMPOSITES FOR FLEXIBLE ELECTRONICS	June 19, 2019
12	Dr. Mini Mol M.	Recent Innovations and Developments in Electrochemical and Chemical Process	Department of Chemical Engineering, NIT Calicut	TAILORING OF 2-D POLYMERS AT BISOLVENT INTERFACE	June 22, 2019
13	Dr. Mini Mol M.	NATIONAL CONFERENCE ON SOFT MATTER AND FUNCTIONAL MATERIALS,	Department of Physics, NIT Calicut	Synthesis of Two-Dimensional nanomaterials Using Soft Template Methods	2nd March 2020
14	Dr. Mini Mol M.	Faculty development program on nanomaterials	SCHOOL OF MATERIALS SCIENCE AND ENGINEERING	INTERPHASE ASSISTED SYNTHESIS OF NANOCOMPOSITES	28TH MARCH 2019
15	Dr. Janardhan Banothu	International Seminar	Recent Advances in Chemical Sciences (RACS-2K19)" at Sri S. Ramasamy Naidu Memorial College, Sattur - 626203, Tamilnad	Synthesis and Biological Applications of Novel Heterocyclic Compounds	August 26, 2019
16	Dr. Parameswaran P.	Ninth Conference of the Asia-Pacific Association of Theoretical and Computational Chemists (APATCC)	APATCC, University of Sydney, Australia	Rule Breaking Main Group Compounds Stabilized by Donor-Acceptor Interactions	September 30 to October 3, 2019

- Patents acquired and filed

Sl. No	Name of Staff	Title	Year
1	Dr. Mini Mol. Meanamparambath, R. R. Poolakandy, G. K. Rajnikant, A.R. Neelakandan	A SENSOR FOR SELECTIVE DETECTION OF DOPAMINE IN REAL-TIME	Indian Patent (Patent Application No. 202041014799)

2	Dr. G. Unnikrishnan, Nimisha K	POLYMER CONJUGATE AND A PROCESS FOR PREPARING THE SAME	Indian patent No. 327484
3	Sunil A. David, JanardhanBanothu, Mallesh Beesu, and Michael Brush.	Therapeutic compounds and methods of use thereof	Application No. 16/447,721. Publication No. US 2019/0389854 A1. December 26, 2019
4	Sunil A. David, JanardhanBanothu, Michael Brush, Collin Gustafson, and Kathryn Trautman.	Therapeutic compounds and methods of use thereof	Provisional patent application date April 25, 2019. Final submission date April 23, 2020.

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### a. Publications

#### i. Journal

Name of the Author	Title of Paper	Name of Journal	Vol, Year, p.p.
P. B. Jayaraj and Samyak Jain	Ligand based Virtual Screen using SVM on GPU	Computational Biology and Chemistry	83, 2019, 107142
K Nagaraju, KS Sudeep, MP Kurhekar	A cellular automaton model find the risk of developing autism through gut-mediated effects	Computers in biology and medicine	110, 207-217, 2019
Ojus Thomas Lee, G J Akash, S D Madhu Kumar, Priya Chandran	Storage Node Allocation Methods for Erasure Code-based Cloud Storage Systems	Arabian Journal of Science and Engineering(Springer Berlin Heidelberg)	44, 2019, 9127– 9142
Shyam P Joy, Priya Chandran	A formal framework for verifying IKA property of protocols	Journal of King Saud Univers - Computer and Informat Sciences (Elsevier)	31(3), 2019, 318-32
Jeethu V Devasia, Priya Chandran	Graph pruning based approach for inferring disease causing genes and associated pathways	International Journal of Bioinformatics Research and Applications(Inderscience)	15(4), 2019, 359-37
Athira P K, Sruthi C J, Lijiya A	A Signer Independent Sign Language Recognition with Co- articulation Elimination from Live Videos: An Indian Scenario	Journal of King Saud University: Computer and Information Sciences	Available Online 7th May, 2019
Venkatraman, S & B. Surendiran & Arun Raj Kumar, P.,	“Hybrid Network Intrusion Detection System for Smart	Computer Journal, Oxford University Press,	Volume 62, Issue 12, December

	Environment based on Internet of Things”,		2019, pp.1822-1839.
Venkatraman, S & B. Surendiran & Arun Raj Kumar, P.,	“Spam E-mail classification for the Internet of Things environment using semantic similarity approach”,	Journal of Supercomputing	June 2019, Vol. 75, Issue 5, pp. 3369-3521.
Ojus Thomas Lee, G. J. Akash, S. D. Madhu Kumar, and Priya Chandran,	“Storage Node Allocation Methods for Erasure Code-based Cloud Storage Systems”,	Arabian Journal for Science and Engineering, Springer,	Issue. 11, 2019.
Unnikrishnan, P., Govindan, V.K., Madhu Kumar, S.D.,	“Enhanced sparse representation classifier for text classification”,	Expert Systems with Applications,	129, pp. 260 – 272. 2019.
K S Arun, V K Govindan, S D Madhu Kumar	“Enhanced bag of visual words representations for content based image retrieval: a comparative study”,	Artificial Intelligence Review, Springer,	2019
M. P. Giles, S. D. Madhu Kumar, Lillykutty Jacob.	“Resource Availability-Aware Adaptive Provisioning of Virtual Data Center Networks”	International Journal of Network Management.,	29(2), Wiley, 2019.
Jaisooraj J, S D Madhu Kumar, and Aindrila Ghosh,	“Resource Efficient Routing in Internet of Things: Concept, Challenges, and Future Directions”,	International Journal of Computing and Digital Systems, University of Bahrain,	2019.
Jose, B. , Radha Ramanan, T. , Madhu Kumar, S.D.,	A BOCR decision model for telecom cloud strategy election”	International Journal of Innovative Technology and Exploring Engineering	8(6), pp. 1788 – 1796, 2019.
Visakh R, Abdul Nazeer K A	Multi-network approach to identify differentially methylated gene communities in cancer	Gene (Elsevier)	697:227-237, 2019
Gilesh M P, Subham Jain, S D Madhu Kumar, Lillykutty	Opportunistic live Migration of Virtual Machines	Concurrency and Computation: Practice and Experience	Vol. 32, 2019 Pages: 1 - 16

Jacob, and Umesh Bellur			
Jaisooraj J, S D Madhu Kumar, and Aindrila Ghosh	Resource Efficient Routing in Internet of Things: Concept, Challenges, and Future Directions	International Journal of Computing and Digital Systems	Volume 8, 2019 Pages: 637 - 650
Bineesh Jose, Radha Ramanan, and S D Madhu Kumar	A BOCR decision model for telecom cloud strategy election	International Journal of Innovative Technology and Exploring Engineering	Volume 8, 2019 Pages: 1788 - 1796
Sheshang M Ajwalia, Anu Mary Chacko, and S D Madhu Kumar	Integrating Cloud and Health Informatics: Approaches, Applications, and Challenges	Book on Cloud Security (Chapter 2)	March 2020
Prabu Mohandas, Jerline Sheebha Anni Dhana raj, Xiao-ZhiGao	Artificial Neural Network based Smart and Energy Efficient Street Lighting System: A Case Study for Residential area in Hosur	Sustainable Cities and Society <a href="https://doi.org/10.1016/j.scs">https://doi.org/10.1016/j.scs</a>	Volume 48, July 2019, 101499
Arun Kumar Sangaiah JerlineSheebhaAnni,Prabu Mohandas, Aniello Castiglione	Cognitive IoT system with Intelligence Techniques in Sustainable Computing Environment	Computer Communications (Elsevier)	Vol.154, March 2020,pp.347-360
Arun Kumar Sangaiah JerlineSheebhaAnni, Prabu Mohandas, Aniello Castiglione	Cognitive IoT system with Intelligence Techniques in Sustainable Computing Environment	Computer Communications (Elsevier)	Vol.154, March 2020,pp.347-360
Saritha Murali, VK	Single image shadow removal	Computational Visual Media	Vol 5, 2019/9/1,

Govindan, Saidalavi Kalady	by optimization using non-shadow anchor values		pp. 311-324.
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## ii. International Conference

Komal Maheswari, Jeena K K, K A Abdul Nazeer	Identifying synonyms in bigram phrases using Compositional DSM and Artificial Neural Network	Proc.of Int. Conf. on Computing, Power and Communication Technologies (GUCON)	827-831, 2019
Sharon Sunny, Deepesh K, Jayaraj P B	An Improved Protein-Protein Docking Technique Using Multilevel Scoring Function	TENCON 2019 - 2019	2019
Bijoy M B, Ansal M, Jayaraj P B	Segmentation Based Preprocessing Techniques for Predicting the Cervix Type Using Neural Networks	Advances in Intelligent Systems and Computing,	vol 1108. Springer, 2019
SUNEERA CM, J. Prakash,	“A BERT based question representation for improved question retrieval in community question answering systems,”	International Conference on Modeling, Simulation and Intelligent Computing 2020 (Mosaicom2020),	January 29-30, 2020, Springer.
Ajish Kumar K S, Deepak Rajendraprasad and Sudeep K S	Oriented Diameter of Star Graphs	6th Annual International Conference on Algorithms and Discrete Applied Mathematics	307-317, 2020.
Swapneel Mhatre, Priya Chandran	On making xen detect hypercalls and memory accesses for simulating virtualization-enabled processors	The 35th Annual ACM Symposium on Applied Computing	2020,154-161
Ojus Thomas Lee, Vijay Sharma, S D Madhu Kumar, Priya Chandran	Modelling multi level consistency in erasure code based storage systems	The 35th Annual ACM Symposium on Applied Computing	2019, 122-129
Jeethu V Devasia, Priya Chandran, Anjana Soman, Aiswarya	Graph sparsification with parallelization to optimize the identification of causal genes and dysregulated pathway	The 34th Annual ACM Symposium on Applied Computing	2019, 747–753

Elezabeth Mathew, Jaya Jharwal			
Maddaiah P.N., Pournami P.N,	"Image Registration Using Single Swarm PSO with Refined Search Space Exploration",	Pattern Recognition and Machine Intelligence. PReMI 2019. Lecture Notes in Computer Science, vol 11941. Springer, Cham.	
M. R. Dileep and P. N. Pournami,	"AyurLeaf: A Deep Learning Approach for Classification of Medicinal Plants",,	TENCON 2019 - 2019 IEEE Region 10 Conference, Kochi, India, 2019, pp. 321-325	
Sheshang M Ajwalia, Anu Mary Chacko, and S D Madhu Kumar	Integrating Cloud and Health Informatics: Approaches, Applications, and Challenges	MIND 2019 03 – 04 March 2019 NIT Kurukshetra	
Amal K V, Jaisooraj J, Priya Chandran, and S D Madhu Kumar	Hybrid-RPL: A Step towards Ensuring	ICACCT 2019	06 – 07 December 2019 NIT Kurukshetra
Jinshiya Jafar, Jaisooraj J, and S D Madhu Kumar	Efficient Routing for Low Power Lossy Networks with Multiple Concurrent RPL Instances	PCCDS 2019	01 – 03 May 2019 NIT Kurukshetra
Sameera M. Salam, Daphna Chacko, Nandini J Warrier, K Murali Krishnan, K S Sudeep	On Chordal and Perfect Plane Triangulations	CALDAM 2019	LNCS Volume 11394, 2019, pp 274 – 285, IIT Karaghpur.



Sruthi C J, Lijiya A	Signet: A deep learning based sign language recognition system	2019 International Conference on Communication and Signal Processing (ICCSP) April,2019,	pp-0596-0600,
Shahira K C, Sagar Tripathy, Lijiya A	Obstacle detection,depth estimation and warning system for visually impaired People	TENCON 2019-2019 IEEE Region 10 Conference (TENCON) October,2019	pp-863-868
Shahira K C, Lijiya	A Document Image classification: towards assisting visually impaired	TENCON 2019-2019 IEEE Region 10 Conference (TENCON) October,2019	pp-852-857
Lubna A, Saidalvi Kalady,Lijiya A	MoBVQA: A modality based medical image visual question answering system	TENCON 2019-2019 IEEE Region 10 Conference (TENCON) October,2019,	pp-727-732
Hinisha K V, Lijiya A	Lung Nodule Identification	2019 2nd International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICT) July,2019	pp-451-455
S Sreena, Lijiya A	Skin Lesion Analysis towards melanoma Detection	2019 2nd International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICT) July,2019	pp-32-36
Remya Krishnan P. and Arun Raj Kumar P.	“Security and Privacy in VANE Concepts, Solutions, and Challenges”	5th IEEE International Conference on Inventive Computation Technologies (ICICT-2020), 26-27 February 2020,	pp. 789-794.
Farees Rahman Thadathil and Arun Raj Kumar P.,	“Emergency Message Dissemination in post disaster situations using Internet of Things (IoT)”	IEEE International Conference on "Innovating Technology for Humanity", IEEE PuneCon, 18-20 December 2019.	
Anmol Tigga and Arun Raj Kumar P.	“Towards a Vehicle’s behavior monitoring and Trust Computation for VANETs”	3rd IEEE conference on Communication and Technology (CICT 2019), IIIT Allahabad, 5-7 December 2019.	
Yun Ye, Zheng Peng, Arun Raj Kumar P., Vasudeval A R, Xiaoyan Hong,	“Active Jamming for Eavesdropping Prevention in Underwater Wireless Networks”	14th ACM International Conference on Underwater Networks and Systems, (WUWNet’19), October 2019.	
Prabu Mohandas and Divya Muraleedhar Panicker	Gender Identity in Real-Time Social Scenario: A key to Ending Socio-Economic Problems among Transwomen Population	Advances in Economics and Business Management({AEBM’2020)	Volume.7, Issue 1, pp.16-21.,2020, JNU, Delhi.

RS Reshma Raj, C Gayathri, Saidalavi Kalady, PB Jayaraj	Odd-even based adaptive two-way routing in mesh NoCs for hotspot mitigation	ICDCN-International Conference on Distributed Computing and Networking, Proceedings of the 20th International Conference on Distributed Computing and Networking, 2019,	pp. 248-252
Lubna A, Dr. Saidalavi Kalady, Dr. Lijiya A	MoBVQA:A modality based medical image visual question answering system	TENCON 2019- 2019 IEEE Region 10 Conference (TENCON)	pp. 727-7, October 2019, Kochi, Kerala
Kiran Radhakrishnan, Rajeev R Menon, Hiran V Nath	A survey of zero-day malware attacks and its detection methodology	TENCON 2019- 2019 IEEE Region 10 Conference (TENCON) Cochin Kerala	pp- 533-539,
Bijitha, CV , Rohit Sukumaran, Hiran V Nath	A Survey on Ransomware Detection Techniques	International Conference On Secure Knowledge Management In Artificial Intelligence Era 2019, December, BITS Pilani Goa Campus	pp-55-68
Jasila E K, Saleena N, Abdul Nazeer K A	Ontology Based Document Clustering - An Efficient Hybrid Approach	IEEE 9th International Conference on Advance Computing (IACC), January 2020	

**b. Community Services**

1. NSS Camp conducted at Thirunelly, Wayanad for 10 days as one of the Faculty Coordinators
2. Participation in developing software as part of an initiative of the District Collector.
3. Modification/enhancement of the "Covid 19 Jagratha Portal" - an initiative of the Calicut District administration which is presently being used in the entire state of Kerala.
4. Dr Madhukumar S D coordinated the development of Hand sanitizers for COVID 19 infection prevention and distributed to Chathamangalam Panchyath and CISF unit, Calicut International Airport along with the Chemistry Department of NITC
5. Dr. Jimmy Jose (Asso. Prof , Computer Science and Engineering Department) worked in the team that developed the Aerosol box for Govt. Medical College, Calicut
6. Technical team of DDIT (District Digital Innovation Team) of Calicut District Administration comprises of six faculty members of CSED
7. Technical support for development of Digital Display Boards for Kerala State Road Transport Corporation, Calicut depot.

**c. Other Academic and Administrative Services**

Sl No	Name of Staff	Academic and Administrative Services
1.	Dr. Saleena N	<p>Institute Level:</p> <ul style="list-style-type: none"> <li>(i) Head of the Department</li> <li>(ii) Administrative responsibility of CNC/CCC (as HoD, CSED)</li> <li>(iii) Member, BoAC</li> <li>(iv) Invitee to Senate</li> <li>(v) Member, Selection Committee for regular faculty recruitments</li> <li>(vi) Chairperson, Selection Committee for adhoc faculty/staff recruitments</li> <li>(vii) Member, Selection Committee for technical staff recruitments CCC and CNC</li> <li>(viii) Member, TEQIP purchase Committee</li> <li>(ix) Member, Purchase Committee, ECED</li> </ul> <p>Dept. Level:</p> <ul style="list-style-type: none"> <li>(x) S1 B.Tech. Class Committee Chairperson</li> <li>(xi) Faculty-in-charge of maintenance of CSED Office</li> <li>(xii) Chairperson, Doctoral Committees</li> </ul>
2.	Dr. Vineeth Paleri	<p>Institute Level:</p> <ul style="list-style-type: none"> <li>i. Central Library- LAC Member</li> </ul> <p>Dept. Level :</p> <ul style="list-style-type: none"> <li>i.Faculty in charge Examinations</li> <li>ii.Programme Coordinator Ph.D.</li> </ul>

		<ul style="list-style-type: none"> <li>iii. Faculty in charge of CSED Website</li> <li>iv. Central Library- LAC Member</li> <li>v. Faculty Advisor – Ph.D.</li> <li>vi. S8 B, Tech Calss Committee Chairperson</li> </ul>
3.	Dr Priya Chandran	<p>National/ International/ Professional Bodies:</p> <ul style="list-style-type: none"> <li>i. Track Chair-ACM SAC 2019 Cloud Computing Track</li> <li>(ii) Track Chair - Data Sciences Track - IEEE TENCON 2019</li> <li>(iii) Track Chair- ACM SAC 2018 Track on Cloud Computing</li> <li>(iv) Invited Speaker BGB 2019, IEEE Malabar Subsection</li> <li>(v) Research Collaboration / Consultancy with M/s Aryaka Systems, California.</li> </ul> <p>Institute Level:</p> <ul style="list-style-type: none"> <li>i. Member of Senate</li> <li>ii. Chairperson/ Member of several doctoral committees.</li> <li>iii. Chair Person Exam vigilance committee</li> <li>iv. Chairperson: Social Media Publicity Team, constituted by MHRD.</li> </ul> <p>Dept. Level :</p> <ul style="list-style-type: none"> <li>i. Faculty in charge Secure Computing Lab</li> <li>ii. Programme Coordinator M. Tech ( CS) and CS(IS)</li> <li>iii. In-charge of Faculty research</li> <li>iv. Faculty in charge of Academic calendar Monitor</li> <li>v. Faculty in charge of Technical Report Publishing</li> <li>vi. Faculty in charge of Dept. PTA Coordination</li> <li>vii. Faculty Advisor of M. Tech CS(IS) -2017&amp; 2018 Admissions</li> <li>viii. S4B.Tech Class Committee Chairperson</li> <li>ix. Faculty in charge of Research Collaboration / Consultancy with M/s Aryaka Systems, California.</li> </ul>
4.	Dr. S.D Madhu Kumar	<p>National/ International/ Professional Bodies:</p> <ul style="list-style-type: none"> <li>i. TPC Member- Symposium on Pervasive Systems, Algorithms, and Networks (IEEE I-SPAN 2017), Exeter, England.</li> <li>ii. PC Member - 2nd IEEE/ACM International Workshop on Distributed Big Data Management (DBDM 2017) Madrid, Spain- In conjunction with IEEE/ACM CCGRID2017.</li> <li>iii. Track Chair-ACM SAC 2017 Cloud Computing Track</li> <li>iv. Keynote Speaker- National Conference- PRABANDT H'17- Trivandrum</li> <li>v. Tutorial Speaker (Big Data Analytics Tools and Techniques) -IEEE SPICES2017</li> <li>vi. Academic Liaison Chair-IEEE Cloud Computing for Emerging Markets</li> <li>vii. Program Chair- 2nd International Workshop on Internet Scale Clouds and Big Data ( ISCBD) 2017, San Jose California</li> </ul>

		<ul style="list-style-type: none"> <li>viii. Chair- IEEE TENCON 2017 - Special session on Big Data Provenance</li> <li>ix. Keynote Speaker- ICETEST 2018, GEC Thrissur</li> <li>x. Track Chair- ACM SAC 2018 Track on Cloud Computing</li> <li>xi. Co-ordinator-Collaborative Project with Airport Authority of India- CISF Calicut Airport Unit. Member of the Board of Studies ( M.Tech) in Computer Science &amp; Engineering, Amrita Viswa Vidya Peedham, 2018.</li> <li>xii. Member of the Board of Studies In Computer Science ( Under the faculty of Technology), Cochin University of Science &amp; Technology (CUSAT) ( 2015 onwards)</li> <li>xiii. Research Collaboration / Consultancy with M/s Aryaka Systems, California.</li> <li>xiv. Member, Board of studies B.Tech Computer Science, CUSAT, Cochin</li> </ul> <p>Institute Level:</p> <ul style="list-style-type: none"> <li>I. Dean Student Welfare</li> <li>II. Faculty Convenor- Alumni Meet- Loopback'17</li> <li>III. Secretary, CREC Silver Jubilee Endowment Trust ( 2016 onwards)</li> </ul> <p>Dept. Level:</p> <ul style="list-style-type: none"> <li>i. Faculty in charge of CSEA</li> <li>ii. Faculty in charge of Cloud Computing Lab</li> <li>iii. Faculty Advisor of M. Tech CS(CSE) -2017&amp; 2018 Admissions</li> <li>iv. Faculty in charge of Big Data &amp; Bio-computing(BDBC)Lab</li> <li>v. Consultancy &amp; sponsored Research</li> <li>vi. Liaison with industries/JMR Infotech</li> <li>vii. Faculty in charge of Aryaka Networks</li> <li>viii. S6 B.Tech Class Committee Chairperson</li> </ul>
5.	Dr. K A Abdul Nazeer	<p>National/ International/ Professional Bodies:</p> <ul style="list-style-type: none"> <li>(i) Member, Doctoral Committee, VIT Vellur</li> <li>(ii) External Examiner For PG Viva Voce Exam, NIT Surathkal</li> </ul> <p>Institute Level:</p> <ul style="list-style-type: none"> <li>(i) Convener, Screening Committee for Student Research Projects (for the award of financial assistance under TEQIP)</li> <li>(ii) Member, Anti Ragging Committee</li> <li>(iii) Member, BoAC</li> <li>(iv) Senate Member</li> </ul> <p>Dept. Level :</p> <ul style="list-style-type: none"> <li>(i) Faculty in charge of Purchase Matters</li> </ul>

		<ul style="list-style-type: none"> <li>(ii) Faculty in charge, Machine Learning Lab</li> <li>(iii) Faculty in charge, Big Data and Biocomputing Laboratories.</li> <li>(iv) Faculty in Charge of Dept. Information Cell/ RTI</li> <li>(v) Faculty Adviser , B. Tech 2016 Admissions)</li> <li>(vi) S3 MCA Class Committee Chairperson</li> <li>(vii) Faculty in charge of MVRCCRI</li> </ul>
6.	Mr. Saidalavi Kalady	<ul style="list-style-type: none"> <li>i. Faculty Advisor of B.Tech 2017 Admissions</li> <li>ii. Faculty in charge, Hardware and Embedded Systems Lab</li> <li>iii. S1 MCA Class Committee Chairperson</li> <li>iv. Faculty in charge of Examinations</li> <li>v. M.tech 2018 admission class committee chairperson</li> </ul>
7.	Dr. Muralikrishnan K	<ul style="list-style-type: none"> <li>i. Faculty Adviser, B. Tech (2013 Admissions)</li> <li>ii. Faculty in charge, Examinations</li> <li>iii. B. Tech Programme Coordinator</li> <li>iv. S1 M.Tech Class Committee Chairperson</li> </ul>
8.	Dr. Vinod Pathari	<p>Institute Level: Vice Chairman, Education Technology and Library(till Oct 2016)</p> <p>Dept. Level:</p> <ul style="list-style-type: none"> <li>(i) Faculty Adviser, B. Tech (2015 Admissions)</li> <li>(ii) Faculty in charge, Technical Report Publishing</li> <li>(iii) Liaison with industries ULCCS</li> <li>(iv) Faculty in Charge of Stock update &amp; clearance</li> <li>(v) Faculty in Charge of IP camera, Finger print management system</li> <li>(vi) S4 MCA Class Committee Chairperson</li> </ul>
9.	Ms. Subhasree M.	<p>Institute Level:</p> <ul style="list-style-type: none"> <li>(i) Associate Dean Academic</li> </ul> <p>Dept. Level:</p> <ul style="list-style-type: none"> <li>(ii) Faculty Adviser, , B. Tech 2016 Admissions</li> <li>(iii) Faculty in Charge of dept. Computing facilities</li> </ul>
10.	Dr. Subashini R	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, B. Tech 2018 Admissions</li> <li>(ii) Faculty in charge, NITC-TCS Academic Interface Programme</li> <li>(iii) Faculty in charge, Dept. Time Table, DSS</li> <li>(iv) Liaison with Industries/ TCS</li> <li>(v) Secretary, CREC-Silver Jubilee Endowment Trust</li> <li>(vi) Manager, Spring Valley School</li> </ul>
11.	Mr. Srinivasa T M	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, B.Tech 2017 Admission)</li> <li>(ii) Faculty in charge, Hardware and Embedded Systems Lab</li> </ul>
12.	Dr. Lijiya.A	<ul style="list-style-type: none"> <li>(i) Faculty Adviser of B. Tech 2015</li> <li>(ii) Faculty in charge of Class Rooms Amenities</li> </ul>

		<ul style="list-style-type: none"> <li>(iii) Faculty In-Charge of Short Term Courses</li> <li>(iv) Faculty in Charge of CSE Eduserver</li> </ul>
13.	Dr. Jimmy Jose	<ul style="list-style-type: none"> <li>(i) Faculty in charge, Institute. Time Table, Class committee.</li> <li>(ii) Faculty Adviser, , B. Tech 2015</li> <li>(iii) Faculty in charge of Software systems lab</li> <li>(iv) Faculty in charge of SCTIMST</li> <li>(v) Faculty in charge of NITCAA USA Mentoring Programme</li> <li>(vi) Placement Committee Representative 2018-2019</li> <li>(vii) Faculty InCharge of NIT Calicut - SCTIMST joint project under MoU'</li> <li>(viii) You can add 'Faculty Advisor, 2019-2023 batch</li> </ul>
14.	Ms. Anu Mary Chacko	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, B. Tech 2017 Admissions</li> <li>(ii) Faculty in charge of CSED Library</li> <li>(iii) Secretary, Department Consultative Committee</li> <li>(iv) Liaison with Industries/ TCS AIP</li> <li>(v) Faculty in charge of JMR Infotech</li> <li>(vi) Coordinator of Institute-Industry Programme</li> </ul>
15.	Dr. Pournami P.N.	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, MCA 2016 Admission</li> <li>(ii) Faculty-in charge of Image Processing and Multimedia Lab.</li> <li>(iii) Faculty in Charge of Dept. Information Cell/ RTI/Ranking</li> <li>(iv)</li> </ul>
16.	Dr. Jayaraj P B	<ul style="list-style-type: none"> <li>(i) Faculty in Charge of Central Computer Centre</li> <li>(ii) Faculty in Charge of Network Systems Lab</li> <li>(iii) Faculty Adviser B. Tech 2016 Admissions</li> <li>(iv) Faculty in charge of CSEA</li> <li>(v) Faculty in Charge of Consultancy and Sponsored Research</li> </ul>
17.	Dr. Sudeep K S	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, MCA 2017 Admission</li> <li>(ii) Programme Co-ordinator MCA</li> <li>(iii) In-charge of Faculty research</li> <li>(iv) Faculty in charge of Technical Report Publishing</li> </ul>
18.	Dr. Gopakumar G	<ul style="list-style-type: none"> <li>(i) Faculty Adviser, B. Tech 2014 Admissions</li> <li>(ii) Faculty in charge, Big Data and Biocomputing Laboratories.</li> <li>(iii) Faculty in charge of Purchase Matters</li> <li>(iv) Faculty in charge of MVRCCRI</li> </ul>

		(v) Coordinator of TEQIP Stock maintenance , Twinning Activities
19.	Dr. Jay Prakash	(i). Faculty Adviser, MCA 2018 Admissions (ii). Faculty in charge TEQIP Stock maintenance , Twinning Activities (iii). Faculty in charge, Examinations (iv). Nodal officer for Ek Bharat Shrest Bharat (EBSB) (v). Member of departmental committee for TEQIP-III (vi). Worked as member of examination cell CSED (vii). Departmental Sports Coordinator
20.	Dr. Arun Raj Kumar P	(i) Faculty Adviser, B.Tech. 2018 Admissions (ii) Faculty in charge of NBA Accreditation
21.	Dr. Hiran V Nath	(i). Faculty Adviser, B.Tech. 2018 Admissions (ii). Faculty in charge of Software Systems Lab (iii). Faculty in charge of Wi-fi (iv). National Service Scheme (NSS) Program Officer from 25/07/2019 - till date.
22.	Dr. T . Veni	(i) Faculty Adviser, B.Tech. 2018 Admissions (ii) Faculty in charge of NBA Accreditation (iii) Faculty in Charge of Dept. Information Cell/ RTI/Ranking
23.	Dr. Vasudevan A R	(i) Faculty in charge of Time Table, Class Committee (ii) Faculty in Charge of dept. Computing facilities
24.	Dr. M Prabhu	(i). Faculty in Charge of Consultancy and Sponsored Research (ii). Faculty in charge of Purchase Matters (iii). Faculty in charge TEQIP Stock maintenance , Twinning Activities

**d. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted**

Sl.No	Title	Coordinators	Duration & Period
1	Cloud Computing Track in the 34 th ACM Symposium on Applied Computing, Cyprus	Dr. Priya Chandran Dr. S D Madhu Kumar	08 – 12 April 2019



2	GIPCAN 20219	Dr. Jayaraj P B, Dr. Pournami PN, Dr.. Subhasree M	10 th to 15 th June 2019.
3	NCM-ACM India Summer School on “Graph theory and Graph Algorithms	Dr. Subashini R, Dr. Subhasree M	17 <sup>th</sup> June to 5 <sup>th</sup> July 2019
4	Beyond Glass Barriers (BGB 2019)	Dr. S D Madhu Kumar	14 th December 2019

**e. Expert lecturers delivered in Conferences/Seminar/workshops**

Sl.No	Name of Staff	Title	Duration & Period	Organization
1	Dr. Lijiya, NITC	Introduction to Artificial Intelligence and Problem solving using AI Algorithms,	"Robotics, Artificial Intelligence and Control (RAIAC 2020)	NIT Calicut supported by TEQIP-III in collaboration with Indo-Korea Joint Network Centre for Robotics (IKJNCR) and The Robotics Society-India 3-8, Feb, 2020
2	Dr Arun Raj Kumar P	A Guest Lecture on “Finding Structures in Data”	Two Weeks DST Sponsored National Level Faculty Development Programme on Data Science and Big Data Analytics	Easwari Engineering College, Chennai on 14.06.2019.
3		“Transition from Cloud Computing to Edge Computing”	CSIR Sponsored Three days National Seminar on A deep Dive into Edge Computing Architecture and Future of Data Analytics	KLN College of Engineering Madurai on 29.05.2019.
4	Dr. Hiran V Nath	Expert talk on malware analysis	AICTE workshop on cyber security	Kerala Technological University
5		Expert talk on block chain & its security issues	AICTE workshop on block chain	NIT suratkal
6	Dr. K A Abdul Nazeer	Expert talk on Introduction to Bioinformatics	Workshop organized by Computer Science	Younus College of Engineering and Technology (YCET), Kollam 29.04.2019

			Association, YCET	
7	Dr. Saleena N	Expert talk on Placement and Higher Studies opportunities in Computer Science & Engineering	Workshop organized by Computer Science Association, YCET	Younus College of Engineering and Technology (YCET), Kollam 29.04.2019

**f. Details of Faculty, who acquired Higher Qualification : NIL**

**g. Consultancy and testing**

Sl. No	Nature of Service	Organization	Revenue earned	Status
1	Research and Consultancy	Aryaka Network Solutions, California	3.45 Lakhs	On-Going
2	Sponsored Project -"Proactive Monitoring of Online Social Networks for Prevention of Crime against Women and Children" - Dr S D Madhukumar ,Dr Anu mary Chacko, Dr Lijiya A	BPR&D	Rs.50Lakhs	On-going
3	Initiatives to Resolve Socio-Economic Issues of the Marginalized Transgender Community through Fuzzy Cognitive Map Approach, Dr. M. Prabu(PI), Dr. K.S Sudeep(Co-PI)	MHRD-ICSSR	Rs.10,00,000	Ongoing
4	Design and Development of a Social Networks Monitoring System to Prevent and Recognize Cyber Crime Through Multiple Aliases Detection - Dr Jay Prakash	Institute funded FRG	Rs. 4,50,000	Ongoing
5	Towards addressing the DDoS Security threat in IoT network - Dr. Vasudevan, A.R.	Institute funded FRG	Rs.2,88,000-	Ongoing

**h. Patents acquired and filed:**

(i) Hiran V Nath, B. M. Mehtre: Patent Title - A System and Method for Detection and Prevention of Data Breach and Ransomware Attacks. US Patent Office NPA Application No 15/821902, Filed on 24/11/2017.

(ii) Hiran V Nath, B. M. Mehtre: Patent Title - A System and Method for Detecting Zero-Day Privilege Escalation Malware. Indian Patent Office Provisional Patent Application Reference No 6477/CHE/2015, Filed on 02/12/2015. US Patent Office NPA Application No 15093690, Filed on 07/04/2016; URL:<https://patents.google.com/patent/US20170161495> .

**i. Student achievements**

Sl.No	Name of Student	Title	Year
1	Mr Bharat Bhushan Reddy (Roll No. B160198CS- CSED student ).	Prof. P.M. Jussay Gold Medal for the Best Outgoing Student of NIT Calicut – 2020	2020
2	TGDK Sumanathilaka Uddav Raj Vignnah Selvaraj Venkatesh Raju (B.Tech CSE)	TCS Award for best B.Tech CSE project and PTA Award for best B.Tech CSE project	2019

**DEPARTMENT OF ELECTRICAL ENGINEERING**

**(a) Publications**

**i. Journals**

Sl. No.	Authors	Title of the Paper	Journal Name	Other Details
1.	P.Hema Rani , S Navasree, Saly George, S.Ashok,,	Fuzzy logic supervisory controller for multi input non-isolated DC to DC converter connected to grid	International Journal of Electric Power and Energy Systems	Volume 112, November 2019, Pages 49-60
2.	Surya D, Puthankattil SD.	Complex network analysis of MCI-AD EEG signals under cognitive and resting state	Brain Research.	2020 Feb 27:146743.
3.	Radhakrishnan, Rohikaa Micky, Ashok Sankar, and Sunitha Rajan.	A combined islanding detection algorithm for grid connected multiple microgrids for enhanced microgrid utilisation	<i>International Transactions on Electrical Energy Systems</i> (2019).	2020 Feb;30(2):e12 232.

4.	Deepthi S. Nair, Jagadanand G, Saly George,	“Modified Switching Scheme based Explicit Torque Control of BLDC Motor Drive”,	IET Electric PowerApplications,	Volume 13, Issue 7, p. 1051 –1060, May 2019
5.	Anjali Anand ; Akhil Vinayak B ; Nithin Raj ; Jagadanand G ; Saly George	A Generalized Switch Fault Diagnosis for Cascaded H- Bridge Multilevel Inverters using Mean Voltage Prediction	IEEE Transactions on Industry Applications 10.1109/TIA.2019.2959540	13 December 2019 , Impact factor: 3.347
6.	Akhil Vinayak B, Anjali Anand K; Jagadanang G	Wavelet Based Realtime Stator Fault detection of Inverter-fed Induction motor	IET Electric Power Applications, 10. 1049/ IET- EPA	2019, Print ISSN 1751- 8660, Online ISSN 1751- 8679 (Accepted)
7.	Nithin Raj , Anjali Anand , Jagadanand G, Saly George	Development and experimental validation of fault detection and diagnosis method in SPWM modulated symmetric cascaded H-bridge multilevel inverte	International journal of power electronics, doi.org/10.1504/IJPELEC.20 20.106229	30 March 2020, Vol. 11, issue 3, IF: 0.35
8.	Kumaravel S., Ravishankar A. N., V. Seshagiri Rao, and Ashok S	A Dual Input-Dual Output DC-DC Converter for Solar PV/Battery/Ultra-capacitor Powered Electric Vehicle Application	IET Power Electronics(10.1049/iet- pel.2019.0123)	Volume: 12 , Issue: 13 , 11 6 2019
9.	Haritha G, Kumaravel S and Ashok S,	Xilinx System Generator- based Rapid Prototyping of Solid-State Transformer for On- Grid Renewable Energy Integration”,	IEEE Journal of Emerging and Selected Topics in Power Electronics.	0.1109/JESTP E.2019.29632 77
10.	HD. Prince Winston, Kumaravel S, B. Praveen Kumar, Devakirubakaran S.	“Performance Improvement of Solar PV Array Topologies during Various Partial Shading Conditions”	Solar Energy, Elsevier,	Volume 196, 15 January 2020, pp 228- 242
11.	Nidya M. V., Jeevamma Jacob and Mija S. J.,	"Stabilisation of Ball and Beam Module Using Relatively Optimal Control",	International Journal of Mechanical Engineering and Robotics Research,	Vol. 8, No. 2, 2019
12.	Avinash Nelson Asokan, A.P. Anagha, P. Preetha and K. Sunitha,	"Effect of Interphase on Dielectric Relaxation Mechanisms in Epoxy- Alumina Nanocomposite",	IEEE Transactions on Dielectrics and Electrical Insulation.	Vol. 26, No. 4, August 2019, pp. 1211-1219.

13.	Sandeep J, Ashok S, Rijil Ramchand,	“Current Error Space Vector Based Hysteresis Controller for VSI Fed PMSM Drive”,	IEEE Trans. On Power Electron.	DOI:10.1109/TPEL.2020.2977581  Volume: 35 , Issue: 10 , <b>Date of Publication:</b> 02 March 2020
14.	Kumaravel S., Vinu Thomas, Terence O'Donnell and Ashok S	Virtual synchronous machine control of grid connected power electronic converters as a ROCOF control Device for power system applications for power system applications	Electrical Engineering Springer, doi. <a href="https://doi.org/10.1007/s00202-019-00835-4">https://doi.org/10.1007/s00202-019-00835-4</a>	Volume 101, Sept. 2019, Issue 3, pp 983–993
15.	Kumaravel S., Vinu Thomas, Terence O'Donnell and Ashok S	Virtual synchronous machine controlled grid connected power electronic of grid connected power electronic converters for power system applications	Journal of Engineering Research(Kuwait University)	Vol 7, 2019, no.2, pp. 172-185. Accepted 10 September 2019 Published 25 September 2019
16.	Rohit K. Mathew, Ashok S. and Kumaravel S	An Efficient and Fast Fault recovery algorithm for a Resilient Grid under Extreme Events	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects <a href="https://doi.org/10.1080/15567036.2019.1652371">https://doi.org/10.1080/15567036.2019.1652371</a> .	2019
17.	Kumaravel S, Ravishankar A. N., V. Seshagiri Rao and Ashok S	A Dual Input-Dual Output DC-DC Converter for Solar PV/Battery/Ultra-capacitor Powered Electric Vehicle Application	IET Power Electronics DOI: 10.1049/ietpel.2019.0123	Volume 12, Nov.2019, Issue 13, p. 3351 – 3358.
18.	Smitha B, Paul Joseph K	Fractal and multifractal analysis of atherosclerotic plaque in ultrasound image of the carotid artery	Chaos, Solitons and Fractals	2019 Jun 1;123: 123, pp. 91-100
19.	Ahammed Muneer K.V, V.R. Rajendran and Paul Joseph K.	Glioma Tumor Grade Identification Using Artificial Intelligent Techniques	Journal of Medical Systems	2019 May 1;43(5):113

20.	K.V. Ahamed Muneer K V, V.R. Rajendran, K. Paul Joseph	Automation of brain tumor classification using modified fuzzy c-means hybrid segmentation	Journal of Medical Systems	Vol.43,No.5, May 2019
21.	Pournami Padmalatha,Susy Thomas	Discrete time reaching law based variable structure control for fast reaching with reduced chattering	International journal of Robotics and Automation (IJRA)	Vol.8, No. 1, pp. 51-61, March 2020
22.	V Karthikeyan Kumaravel S G Gurukumar Sivaprasad A	Dual input super boost dc- dc converter for solar powered electric vehicle	IET power electronics	Vol. 12 Page 86-84 August 2019
23.	V Karthikeyan Kumaravel S G Gurukumar E Babaei	Regenerative switched- inductor / capacitor type dc-dc converter with large voltage gain for PV application	IET power electronics (doi: 10.1049/IET- PEL.2019.0408)	October 2019
24.	V Karthikeyan Rajesh gupta	Distributed power flow control using cascaded multi level isolated bidirectional dc-dc converter with multi-phase shift modulation	IET power electronics (doi: 10.1049/IET- PEL.2019.0077)	November 2019
25.	V Karthikeyan Kumaravel S G Gurukumar E Babaei	Switched capacitor- inductor network based ultra-gain dc-dc converter using single switch	IEEE Transaction on industrial electronics (doi: 10.1049/IET- PEL.2019.0077)	November 2019
26.	Bekkam Krishna; D Anusha; V. Karthikeyan	Ultra-Fast DC Charger with Improved Power Quality and Optimal Algorithmic Approach to enable V2G and G2V	Journal of Circuits, Systems and Computers DOI: 10.1142/S0218126620501 972	January 2020
27.	G Vivek , Jayanta Biswas , Meenu D Nair , Mukti Barai,	A Simplified Double Switching SVPWM implementation for Three Level VSI	IET, The Journal of Engineering, DOI: 10.1049/joe.2018.5106	31 July 2019
28.	Jineeth Joseph, Anagha E R and Sindhu T.K	Modeling and experimental validation of EM wave propagation due to PDs in XLPE cables	IET Science Measurement and Technology (DOI: 10.1049/iet- smt.2018.5403)	vol. 13, no. 5, 2019, pp. 692- 699
29.	joyce jacob; preetha p; sindhu t k	Stability Analysis and Characterization of Natural Ester Nanofluids for Transformers	IEEE Transactions on Dielectrics and Electrical Insulation	Jan 5, 2020

30.	Lekshmi Mohan, Poliseti Naveen Kumar, Sunitha K and Sindhu T K,	Determination of electrical percolation threshold of carbon nanotube based epoxy nanocomposites and its experimental validation	IET Science Measurement and Technology	August 2019
31.	Jaya C K, Sunitha R, Abraham T Mathew	Security Prediction of High Voltage Transmission System (HVTS) Based on k-Nearest Neighbor (k-NN) Classifier Technique	Journal of Intelligent & Fuzzy Systems	vol. 36, no. 6, 2019, pp. 5773-5782
32.	Diptak Pal, Balimidi Mallikarjuna, Pathirikkat Gopakumar, M. Jaya Bharata Reddy, Bijaya Ketan Panigrahi, Dusmanta Kumar Mohanta	Probabilistic Study of Undervoltage Load Shedding Scheme to Mitigate the Impact of Protection System Hidden Failures	IEEE Systems Journal /10.1109/JSYST.2019.2901350	Volume: 14, Issue: 1, March 2020, Page(s): 862 – 869
33.	Balimidi Mallikarjuna, Gopakumar Pathirikkat, Diptendu Sinha Roy & Jaya Bharata Reddy Maddikara	A Real-Time Synchronized Harmonic Phasor Measurements-Based Fault Location Method for Transmission Lines	Journal of Control, Automation and Electrical Systems -Springer / 10.1007/s40313-019-00500-y	Issue: 30, December 2019, Pages: 1082–1093
34.	P. S. Ambika, P. K. Rajendra Kumar, Rijil Ramchand,	Vibration signal based condition monitoring of mechanical equipment with scattering transform	Journal of Mechanical Science and Technology DOI: 10.1007/s12206-019-0604-7	Vol. 33, Issue.7, July 2019, pp. 3095-3103
35.	P. S. Ambika, P. K. Rajendra Kumar, Rijil Ramchand,	Mode determination in Variational Mode Decomposition and its application in Fault Diagnosis of Rolling Element Bearings	SN Applied Sciences DOI: 10.1007/s42452-019-1005-3	1:1020 September 2019, pp. 3095-3103
36.	Biju K, Rijil Ramchand	A new space vector pulse width modulation technique for single phase seven level inverter with reduced number of switches	IETE Journal of Research, DOI: 10.1080/03772063.2019.1664339	September 2019
37.	Biju K, Rijil Ramchand	An adaptive control strategy for single-phase cascaded H-bridge multilevel inverter under distorted load conditions	Electrical Engineering, Springer	Jan. 2020
38.	Mital Kumar Ladani and Preetha P.	"Reduction of Electric Field Stress on the Surface Contour and at the Triple	International Journal of Emerging Electric Power Systems	20(2), Jun. 2019, doi:10.1515/ij

		Junction in UHVAC GIS by Spacer Design optimization		eeps-2018-0160.
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ii) International Conferences

Sl. No.	Authors	Title of the Paper	Name of the Conference	Venue and Date
1	Akhil Vinayak B, M D Faiyaz Alam, Jagadanand G, Anjali Anand K	Stator Inter turn fault diagnosis by Hugh frequency Modeling Fed Induction motor	2020 IEEE International Conference on Power Electronics, Smart grid and renewable Energy (PESGRE2020)	Held on 2-4 January 2020 at Le Meridien Kochi, Kerala, India
2	Akhil Vinayak B, M D Faiyaz Alam, Jagadanand G, Anjali Anand K	Stator Interturn fault diagnosis by Hugh frequency Modeling Fed Induction motor	2020 IEEE International Conference on Power Electronics, Smart grid and renewable Energy (PESGRE2020)	Held on 2-4 January 2020 at Le Meridien Kochi, Kerala, India
3	Priyanka C P, Jagadanand G	Design and Analysis of BLDC Motor for Electric Vehicle Application	International Conference on Automation, Signal Processing, Instrumentation and Control(iCASIC-2020)	Held from 27-28 February at VIT , Vellore, TN
4	Priyanka C P, Jagadanand G	Inter Turn Fault Analysis of Three Phase Induction Motor	IEEE 9th Power India International Conference(PIICON 2020)	Held from 28 Feb- 01 March 2020 at Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Haryana
5	Rinsha V, Jagadanand G.	Open Switch Fault Analysis of Three level Neutral Point Clamped Inverter	International Conference on Automation, Signal Processing, Instrumentation and Control(ICASIC)	Held at Vellore Institute of Technology, Vellore-February 2020
6	Ashitha V.T. and Mija S. J.,	"Sliding mode control based design for a 6-DoF miniature helicopter in hovering flight mode",	Proceedings of the 5th IEEE International Conference on Mechatronics System and Robots, NTU,	Singapore, 2019. 3-5 May 2019
7	Farzana Pasha J and Mija S. J.,	"Discrete Laguerre based MPC for	Proceedings of the 5th IEEE International	Singapore, 2019. 3-5 May 2019



		constrained asymptotic stabilization of 4 DOF ball balancer systems",	Conference on Mechatronics System and Robots, NTU,	
8	Femi Thomas and Mija S J,	"Stability Augmentation System for Hovering Helicopter: A Preliminary Design",	Proceedings of the Fifth Indian Control Conference,	New Delhi, India, 2019 <b>Date of Conference:</b> 9-11 Jan. 2019 <b>Date Added to IEEE Xplore:</b> 16 May 2019
9	Farzana Pasha, J., Mija, S.J.	Asymptotic Stabilization and Trajectory Tracking of 4 DOF Ball Balancer using LQR	IEEE Region 10 Annual International Conference, TENCON	17 <sup>th</sup> -20 <sup>th</sup> October 2019, Kochi
10	Binu Krishnan U, Mija S J, Elizabeth P Cherian	<i>Small signal stability analysis of droop controlled microgrid with state feedback controller</i>	9th International Conference on Power and Energy Systems (ICPES)	10 <sup>th</sup> – 12 <sup>th</sup> December 2019, Perth, Australia
11	Thomas Issac, Femi Thomas and Mija S. J.	Trajectory Tracking of Unmanned Helicopter Using PSO Tuned IntegralLQR Controller	2020 International Conference on, Inventive Systems and Control(ICISC)	8th - 10th January 2020, Coimbatore
12	Jesvin Jose and Mija S. J.	An Output Feedback Integral Optimal Sliding Mode Controller for Magnetic Levitation Systems	2020 International Conference on, Inventive Systems and Control(ICISC)	8th - 10th January 2020, Coimbatore
13	Jacob P Vargheese, Avinash Nelson Asokan, A.P., Subham Khatua Preetha P and Sunitha R	Electric field Stress Optimization of Permittivity graded Spaces in UHVAC Gas Insulated System.	TENCON 2019	17 - 20 October 2019.Kochi

14	Joyce Jacob,Uppu Navya Rashmika, Archana Jha,Chelli Divya Sai,Katta Lakshmi Sai Sravani, Preetha P	Compatibility Study of Paper and Epoxy with Natural Ester- A substitute for Transformer Mineral Oil	TENCON 2019	17 - 20 October, 2019.Kochi
15	Vaishnavi Cheemala, Avinash Nelson Asokan, Preetha P	Transformer Incipient Fault Diagnosis using Machine Learning Classifiers	CATCON 2019	21-23 November, 2019 at Indian Institute of Technology Madras
16	Kuber Kumar, Preetha P, Sovan Dalai, Biswendu Chatterjee	Condition Assessment of Epoxy Nanocomposites Using Polarization and Depolarization Current	CATCON 2019	21-23 November, 2019 at Indian Institute of Technology Madras
17	Avinash Nelson Asokan, Jacob P Varghese, Joyce Jacob, Preetha P and Sunitha K	Dielectric characteristics of epoxy alumina nanocomposites with Cole-Cole plot	IEEE Region 10 Symposium TENSYP 2019	Kolkata. June 2019.
18	Shubham Khatua, Preetha P	Effect of Surface charge accumulation on electric field computation in CO2 filled GIS	IEEE Region 10 Symposium TENSYP 2019	Kolkata. June 2019.
19	Joyce Jacob, Dhanya S, Lakshmi Tharammal, Avinash Nelson A, Preetha P	Partial discharge characteristics of nanofilled mineral oil	IEEE Region 10 Symposium TENSYP 2019	Kolkata. June 2019.
20	Deepa Jose, Jeevamma Jacob, Sanila P, Rijil Ramchand,	“Disturbance Observer Based Formation Control Of Multi Agent System”,	ICICICT 2019,	5-6 July 2019, Kannur, Kerala, India. DOI: 10.1109/ICICICT46008.2019.8993354

21	Sajitha M, Rijil Ramchand,	“Space Vector PWM Scheme for Three Phase Three Level T-type NPC Inverter”,	ICICICT 2019,	5-6 July 2019, Kannur, Kerala, India. DOI: 10.1109/ICICICT46008.2019.8993215
22	V. Vinay Kumar Reddy, A Augustin Gandhiraj, Rijil Ramchand,	“MTPA/MTPF Control of Interior Permanent Magnet Synchronous Machine by Estimating Inductances”,	PETPES 2019, ,	29-31 August 2019 NITK Surathkal, Mangalore, India. DOI: 10.1109/PETPES47060.2019.9004034
23	Neeraja Vijayan, J Sandeep, Rijil Ramchand,	“An Arduino based Speed and Rotor Position Measurement Technique for Electric Drives”,	PETPES 2019,	29-31 August 2019, NITK Surathkal, Mangalore, India. DOI: 10.1109/PETPES47060.2019.9003851
24	Biju K, Rijil Ramchand,	“A Modified Lyapunov Function Based Control Strategy for Single Phase Cascaded H-bridge Multilevel Inverter with Nonlinear Loads”,	IEEE IAS Annual Meeting 2019	29 September – 3 October 2019, Baltimore, USA. DOI: 10.1109/IAS.2019.8912341
25	Kumar P Roshan ; Kuruva Veeranna ; Shinto Antony ; S Kumaravel ; Rijil Ramchand,	“A Low Cost Development Tool for Educating Electric Machines ”,	IECON 2019,	14-17 October 2019, Lisbon, Portugal. DOI: 10.1109/IECON.2019.8927745
26	Sajitha M, Sandeep J, Rijil Ramchand,	“Comparative Analysis of Different Modulation Techniques for	TENCON 2019,	17-20 October 2019, Kochi, India. DOI: 10.1109/TENCON.2019.8929574

		Three Level Three Phase T-type NPC Inverter ”,		
27	Athira Raju, Elizabeth P Cheriyan, Rijil Ramchand,	“Nearly Constant Switching Frequency Hysteresis Current Controller for Multilevel Inverter based STATCOM”,	TENCON 2019,	17-20 October 2019, Kochi, India. DOI:10.1109/TENCON.2019.8929458
28	Deepa Jose, Jeevamma Jacob, Sanila P, Rijil Ramchand,	“Disturbance Observer Based Formation Control Of Multi Agent System”,	ICICICT 2019,	5-6 July 2019, Kannur, Kerala, India. DOI: 10.1109/ICICICT46008.2019.8993354
29	Ravishankar A N, Kumaravel S, Ashok S	Bidirectional Dual-Input Single-Output DC-DC Converter for Electric Vehicle Charger Application	IEEE 8th Global Conference on Consumer Electronics (GCCE 2019)	October 15-18, 2019, Osaka , Japan
30	Megha G Krishnan and Ashok S	Kinematic Analysis and Validation of an Industrial Manipulator	IEEE TENCON	17-21 Oct. 2019, Hotel Grand Hyatt, Bolgatty, Kochi.
31	Vinu Thomas, Kumaravel S, Ashok S	Reduction of Frequency Oscillations in Solar PV Microgrid using Virtual Synchronous Machines	International Conference on Power Electronic Applications and Technology in Present Energy Scenario	Aug 29-31, 2019, NIT Karnataka, Surathkal.
32	Hadif Abdul, Vinu Thomas, Kumaravel S, Ashok S	Performance Comparison of RootFinding Algorithms for Solar PV Emulator	International Conference on Power Electronic Applications and Technology in Present Energy Scenario	Aug 29-31, 2019, NIT Karnataka, Surathkal.

33	Alakesh Narzary, Ashok S	Real-Time Monitoring Of Conveyor Sorting using Computer Vision and IoT	ICICICT 2019	VimalJyothi Engineering College, Kannur, July 5-6, 2019.
34	Jahfar Saddique MA, Ashok S, Sandeep J, Deepthi S	Position Sensorless Control of BLDC Motor for Powertrain Applications	ICICICT 2019	VimalJyothi Engineering College, Kannur, July 5-6, 2019.
35	Akash C Babu, Ashok S, Sandeep J	FPGA based speed controller for 8/6 switched reluctance motor using hysteresis controller	ICICICT 2019	VimalJyothi Engineering College, Kannur, July 5-6, 2019.
36	Aditya Ranjan Brahma, Vinu Thomas, Kumaravel S, Ashok S	Impact of System Parameters on the Performance of Synchronverter	IEEE TENSYP 2019	June 7-9, 2019, Kolkata.
37	Meria Mathew, Jeevamma Jacob, Rijil Ramchand	Robust Dynamic Formation Acquisition Control for Multi Robotic Vehicles	2020 International Conference on, Inventive Systems and Control (ICISC)	8th - 10th January 2020, Coimbatore
38	Saranya S Nair, Jeevamma Jacob	Event-Triggered Control for Multi-Agent Systems using Consensus Protocol	2020 International Conference on, Inventive Systems and Control (ICISC)	8th - 10th January 2020, Coimbatore
39	A N Sruthy, Jeevamma Jacob, Rijil Ramchand	Pso Based Integral Backstepping Control for Leader-Follower Quadrotors	2020 International Conference on, Inventive Systems and Control (ICISC)	8th - 10th January 2020, Coimbatore

40	Riyas U T ,Jeevamma Jacob	Formation Maneuvering of Mobile Inverter Pendulum Robots with Attitude Synchronization	2020 International Conference on, Inventive Systems and Control(ICISC)	8th - 10th January 2020, Coimbatore
41	Subhash K.M. and Paul Joseph K.	Chaotic Aspects of EMG Signals in Normal and Aggressive Human Upper Arm Actions	Modelling, Simulation & Intelligent Computing (MoSICom 2020),	29-31 January 2020 BITS Pilani, Dubai Campus, UAE
42	Smitha B, Paul Joseph K	Non-linear analysis of Carotid Plaque using Fractal dimension and lacunarity	K IEEE Symposium on computer applications and Industrial electronics(ISCAIE20 19)	April 2019
43	Smitha B, Paul Joseph K	Analysis of carotid plaque using multifractal method in ultrasound images	41st Annual international conference of the IEEE Engineering in Medicine and Biology Society (EMBC'19	July 2019
44	SyamSundar, Hema Rani, K Manikanta, Ashok S., Saly George	Modified Non- Inverting Buck- Boost PFC Converter with One Cycle Current Control Strategy	International Conference on Power Electronic Applications and Technology in Present Energy Scenario	Aug 29-31, 2019, NIT Karnataka, Surathkal.
45	Pournami P and Susy Thomas	A New Discrete Reaching Law for Discrete- time Sliding Mode Control	IEEE International Conference on Intelligent Computing, Instrumentation and Control Technologies - ICICICT 2019	pp 280-284 5-6 July 2019 <a href="https://doi.org/10.1109/ICICICT46008.2019.8993113">10.1109/ICICICT46008.2019.8993113</a>
46	Anthrayose Ajith Chacko and Susy Thomas	Distributed Model Predictive Control Based Formation Tracking For Differential Drive Robots	IEEE International Conference on Intelligent Computing, Instrumentation and Control Technologies - ICICICT 2019	pp-306-310 5-6 July 2019

47	Pournami P and Susy Thomas	Novel Discrete Reaching Law for Sliding Mode Control of Robotic Manipulators to Reduce Quasi Sliding Mode Band with Improved Reaching	TENCON 2019	2019 Oct 17 (pp. 2669-2674).
48	S.Chakradhar Reddy, S.Muthukumari, T. K. Sunil Kumar, S. Kumaravel, S. Kanagalakshmi	TLBO based Droop Optimization Technique for DC microgrid	TENCON 2019	17-20 October 2019, Kochi
49	S. Kanagalakshmi, S.Mageshwari, Ajeet Kumar	Design of Control Strategy of DC/AC Converter for Grid Connected PV System	International Conference on Electrical, Control And Instrumentation Engineering (ICECIE 2019)	25th November 2019, Kuala Lumpur, Malaysia
50	S.Muthukumari, S.Kanagalakshmi, T. K. Sunil Kumar	Optimal Tuning of LQR for Load Frequency Control in Deregulated Power System for Given Time Domain Specifications	29th Australasian Universities Power Engineering Conference (AUPEC 2019)	26th - 29th November, 2019, Fiji
51	R. B. Balaram Naik, S.Kanagalakshmi	Mathematical Modelling and Controller Design for Interacting Hybrid Two Tank System (IHTTS)	International Conference on Inventive Systems and Control, ICISC 2020	Presented on 8th January 2020 at Coimbatore, India
52	Nithin S. Nair, MuktiBarai	Performance Evaluation of Carrier based Modulation Strategies for Five Level Modular Multilevel Converter (MMC)	International Conference on Automation, Signal Processing, Instrumentation and Control, iCASIC 2020	VIT, Vellore, February 27-28, 2020.

53	Konagalla Ram Kiran, Ajay K Mathew and Mukti Barai	Study, Design and Development of a Bidirectional DC- DC converter,	6th International Conference on Electrical Energy Systems - 2020 (ICEES 2020)	Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam, Kancheepuram District, 20- 22 February 2020
54	Parida A, Barai M, Mothukuri KR	Study of a soft switched Isolated DC-DC Bidirectional Converter for Electric Vehicles	TENCON 2019-2019 IEEE Region 10 Conference (TENCON)	2019 Oct 17 (pp. 1136-1141). IEEE.
55	Nimmy John T, Subha D P, RamshekarN .Menon	Mutual information analysis on MCI- AD EEG signal during resting and task condition	IEEE TENCON 2019,	Oct 17-20,Kochi
56	Sandheep P, Vineeth S ,MeljoPoulose , Subha D P	Performance analysis of deep learning CNN in classification of depression EEG signals	IEEE TENCON 2019	Oct 17-20,Kochi
57	Nikhil Chandran, KarthikSreekum ar, Subha DP	EEG-based Automated Detection of Schizophrenia using Long Short Term Memory (LSTM) network	International conference on Modelling, Simulation & Intelligent Computing (MoSICom 2020)	30-Jan-20
58	<u>T.S.Bheemraj</u> ;  BekkamKrishn a ; <u>V.Karthikeyan</u> ; <u>S.</u> <u>Kumaravel</u>	High Accurate Dual Loop Controller for Power Regulation in DAB DC-DC Converter for Solar PV Applications	<u>2019 International Conference on Computing, Power and Communication Technologies (GUCON)</u>	Date of Conference: 27-28 Sept. 2019 Date Added to IEEE <i>Xplore</i> : 26 December 2019 Conference Location: NCR New Delhi, India, India
59	Aman Harikumar, Rijil Ramchand	Analysis on the Extend of Application of Artificial Neural Networks in Direct Torque Control- Space Vector Modulated Drives	PESGRE 2020	2-4 January 2020, Kochi, India



iii)National Conferences: NIL

(b) Community Services/ other outreach activities

Sl. No	Name of faculty / Group	Services
1.	Dr. Abraham T Mathew	<p><b>i.</b> Nodal Officer: Unnat Bharat- Abhiyan</p> <p><b>ii.</b> Nodal Officer: Rashtriya Avishkar Abhiyan</p>
2.	Dr. Paul Joseph K	<p><b>i.</b> Associate editor of Journal of Health Management and Informatics (JHMI)</p> <p><b>ii.</b> Member of the academic council of Sahridaya College of Engineering and Technology Trissur.</p>
3.	Dr. Susy Thomas	<p><b>i.</b> Expert Member for Ph. D selection in APJ Abdul Kalam Technological University.</p>
4.	Dr. Kumaravel S.	<p><b>i.</b> Session Chair, Int. Conference on Advanced Technologies in Electrical Engineering – Kamaraj College of Engg. Tamilnadu</p>
5.	Dr. Rijil Ramchand	<p><b>i.</b> Acted as session chair and track chair during the TENCON 2019</p> <p><b>ii.</b> Acted as session chair and track chair during the PESGRE 2020</p>
6.	Dr. Jeevamma Jacob	<p><b>i.</b> Acted as session chair and track chair during the TENCON 2019</p>
7.	Dr. M Sanjay	<p><b>i.</b> Question paper setter for B.Tech &amp; Ph.D Entrance Exam under APJ Abdul Kalam Kerala Technological University .</p> <p><b>ii.</b> Member of judging panel for B.Tech projects in connection with National Technology Day held at KMCT College of Engg For Women, Kozhikode</p>
8.	Mr. Subhash K.M.	<p><b>i.</b> Chaired a session in “International Conference on Modelling, Simulation &amp; Intelligent Computing (MoSICom 2020) JANUARY 29-31, 2020, Dubai, UAE”</p> <p><b>ii.</b> Question Paper setter for Electronics and Communication Engineering B.Tech 2008 Scheme for University Of Kerala.</p>

(c) Other Academic and Administrative services (Institute Level)

Sl. No	Name of faculty	Academic and Administrative Services
1.	Dr. Jeevamma Jacob	<p><b>i.</b> Dean: Alumni Affairs and International Relations</p> <p><b>ii.</b> Chairperson, ETL</p>
2.	Dr. Jagadanand G	<p><b>i.</b> Nodal Officer for TEQIP III</p> <p><b>ii.</b> Serving as JoSAA/ CSAB official at NIT Calicut</p>

3.	Dr. Abraham T Mathew	i. TEQIP Coordinator
4.	Dr. S Ashok	i. Dean: Research & Consultancy ii. Chairman, Technology Business Incubator NITC
5.	Dr. Saly George	i. HOD, EED ii. Dean, Academic
6.	Dr. Kumaravel S.	i. Electrical maintenance in charge ii. IEEE NITC chapter Branch counsellor
7.	Dr. Sindhu T. K	i. Internal Complaints committee member ii. Associate Dean (academic)
8.	Dr. M. Sanjay	i. Faculty representative to Training and Placement Cell from EED
9.	Dr Nikhil Sasidharan	i. Co-chair, Promotion of innovation and Entrepreneurship, IEEE Malabar Sub-section Kerala ii. TEQIP MIS Coordinator iii. NBA coordinator of EED
10.	Dr. S.Kanagalakshmi	i. Ladies Hostel warden
11.	Dr. Preetha P.	i. Ladies Hostel warden
12.	Mr. Subhash K.M.	i. NIRF Coordinator for EED ii. Central Library Advisory Committee member
13. 1 3	Dr. Rijil Ramchand	i. Chairperson, ETL ii. HOD, EED

**(d) Conferences/ summer/ winter Schools/short term courses/workshops conducted**

Sl. No.	Title	Coordinators	Duration and Period
1. 1	TEQIP sponsored faculty development programme on Electrical Vehicle and Renewable Powered Charging Stations 2019 (EVRC 2019)	Dr Nikhil Sasidharan & Dr Jagadanand G.	1 Week 15/12/2019 – 21/12/2019

2.	Short term course on Renewable Powered EV Charging Station- Challenges in converter Design and Storage (RPECS 2020)	Dr Nikhil Sasidharan & Dr Jagadanand G.	5 days, 10/03/2020 to 14/03/2020
3.	TEQIP III Sponsored FDP on 'PROCESS CONTROL, INSTRUMENTATION AND AUTOMATION'	Dr. Kanagalakshmi S	6 days 02-12-2019 to 07-12-2019
4.	Deep learning and machine learning approaches and its applications.	Dr. Subha D.P	09-12-2019 to 13-12-2019
5.	Power System Simulation Studies Using ETAP Software	Dr. Sunitha R	30-12-2019
6.	Workshop on Applications of LabVIEW in Electrical Engineering and hands-on training on LabVIEW based Hardware Modules	Dr. S Ashok, Dr. Kumaravel	IEEE Power and Energy Society
7.	Workshop on SCADA	Dr. S Ashok, Dr. Kumaravel	and IEEE Power and Energy Society
8.	One-day Industry- Institute Interaction Programme (Mathworks & Bosch)	Dr. Gopakumar P.	26.10.2019

(e) Expert lectures delivered in conferences/ Seminars/ Workshops

Sl. No.	Name of faculty	Title of the expert lectures delivered	Duration and Period	Organization
1	Dr. Jagadanand G.	Delivered an expert talk in a Technical Session, on 7-1-2020 as part of the DTE sponsored four days faculty development program on "Recent Trends in Electric drives" during the period 6th to 9th January 2020.	7/1/2020	Department of Electrical and Electronics Engineering, Government college of engineering, Kannur
2	Dr. Jagadanand G.	Hands on Training programme on "MPLAB IDE for PIC16F452/458" as part of STTP on simulation & modeling of Electronic system	12/12/2019	Department of Electronics & communication Engineering, Govt. Engineering College, Thrissur
3	Dr. Jagadanand G.	Expert lecture on "Condition monitoring of EV drives" as part of FDP on ELECTRICAL VEHICLE AND RENEWABLE POWERED CHARGING STATIONS 2019 (EVRC 2019).	20/12/2019	Department of Electrical engineering, National Institute of technology, Calicut
4	Dr. Jagadanand G.	Delivered an expert talk in a technical session as part of the seven day short term training programme on " Electric vehicle scope, Challenges and developments" during the period 3-10 January 2020	06/01/2020	Division of Electrical engineering, school of Engineering, CUSAT, kochi-22
5	Dr. Jagadanand G.	Delivered an expert talk in a Technical Session, on 14-3-2020 as part of the five days faculty development program on "Recent Trends in Electric drives" during the period 10th to 14 March 2020 under the aegis of NaMPET Phase III, MeitY and CDAC.	3/14/2020	Department of Electrical and Electronics Engineering, National Institute of Technology, Calicut
6	Dr. Jagadanand G.	Delivered a talk on 'dsp Processors & Controllers" under the " "visiting faculty scheme" organized by Department of ECE.	21/11/ 2019	Government Engineering College, Trissur
7	Dr. Jagadanand G.	Delivered a Keynote speech in "National conference on recent advancements in power electronics and power systems",	21-22/05/ 2019	Department of Electrical and Electronics Engineering Federal Institute of science and technology (FISAT), Angamaly
8	Dr. Jagadanand G.	Expert Lecture on "SVM classification" for TEQIP III sponsored faculty development programme, RIDECP-2019	17th- 22nd June 2019	Department of Chemical Engineering, NITC.
9	Dr. Jagadanand G.	keynote session on " Latest Trends in power electronics"	3rd May 2019	National conference "Emerging Trends in Power Electronics" organized by

				Department of Electrical and Electronics Engineering
10	Dr. Jagadanand G.	Keynote speaker	21st and 22nd May 2019	National conference on recent advancements in power electronics and power systems, (FISAT), Angamaly
11	Dr. Kumaravel S.	Keynote Speaker and Session Chair	4 - 5 October, 2019	Int. Conference on Advanced Technologies in Electrical Engineering – Kamaraj College of Engg. Tamilnadu
12	Dr. Shreelakshmi M P	Hands on Sessions and talk on Power Electronics for EV	2 Hours	FDP at NIT CALICUT
13	Dr. Shreelakshmi M P	Electric Drives for EV	2 Hours	FDP at GEC Kannur
14	Dr. Shreelakshmi M P	High Voltage gain converters for EV	2 Hours	FDP at NIE Mysore
15	Dr. Shreelakshmi M P	High efficiency gain converters for EV	2 Hours	FDP at MES Kuttipuram
16	S Dr. hreelakshmi M P	Power Electronic converters for EV	2 Hours	FDP at GEC Thrissur
17	Dr. S. Kanagalakshmi	Expert lecture on 'Instrumentation in Process Industries' in FDP on 'Process Control, Instrumentation and Automation'	1.5 hrs on 7.12.2019	NITC under twinning with Govt. Engineering College Bharatpur, NITC
18	Dr Sunitha K	MODERN RESEARCH STRATEGIES IN CONDITION MONITORING OF POWER EQUIPMENT, "Introduction to GIS/GIL & Condition Monitoring Techniques"	13-12-2019	NITC
19	Dr. Gopakumar P	Dispatchable Hybrid Energy Frameworks for Resilient Smart Power Grids	10/07/2019	TEQIP-3 Sponsored National Workshop on “Resilient Operation of Electronically Coupled Systems in Electrical Power Grid”, NIE Mysore

20	Dr. Gopakumar P	Synchrophasors and Proactive Defense	18/06/2019	Recent Trends in Power Electronics and Power Systems, NIE Mysore
21	Dr V. Karthikeyan	Advanced Power Converters to Renewable Energy Systems	18 <sup>th</sup> April 2019	PA College of Engineering and Technology
22	Dr V. Karthikeyan	Research Challenges in Integration of Energy Storage System to Sustainable Energy	26 <sup>th</sup> April 2019	PA College of Engineering and Technology
23	Dr V. Karthikeyan	Advancement in Energy management in DC Micro Grid	14 <sup>th</sup> June 2019	NSS college Palakkad
24	Dr. Rijil Ramchand	Introduction Multilevel Inverters	9 <sup>th</sup> July 2019	National Workshop on "Resilient Operation of Electronically-Coupled Systems in Electrical Power Grid"
25	Dr. Rijil Ramchand	Power Converter Topologies for EVs	24 <sup>th</sup> July 2019	FDP on "Electric Vehicle - Electric Machine Drives, Power Converters and Latest Technologies"

**(g) Consultancy and testing**

**i. Consultancy:**

Sl. No.	Ref. No. & item	Receipt No. & Date
1.	Energy Utilization Analysis of Sreekala Oxygen Plant, Chelari Calicut.	01/07/2019
2.	EARTH RESISTANCE MEASUREMENT IN EAZHIMALA NAVAL ACADEMY	R-C2/19/N019/489 DATE: 12-04-2019
3.	CERTIFICATION CHARGES FOR ELECTRICAL DESIGN OF SOLAR PV INSTALLATION IN EAZHIMALA NAVAL ACADEMY	R-C2/19/N019/2662 DATE: 12-04-2019

**i. Testing**

Sl No	Item	Firm	Investigators
1	LED STREET LIGHT FITTINGS	ALLUMINA ELECTRONICS	Dr. Ashok S

2	45W LED STREET LIGHT FITTINGS	KSEBL VADAKARA	Dr. Ashok S
3	60W LED STREET LIGHT FITTINGS	STEEL INDUSTRIES KERALA LTD	Dr. Ashok S
4	PVC INSULATED COPPER WIRES&4C*16mm2 A2XFY CABLE	KEI INDUSTRIES LTD	Dr. Ashok S
5	40kVA UPS	MJ POWER SOLUTION CLT	Dr. Ashok S
6	11kV STAY INSULATORS	KSEBL KOZHIKODE	Dr. Ashok S Dr.TK Sindhu
7	PVC INSULATED COPPER WIRES	ULCCS LTD	Dr. Ashok S
8	PVC INSULATED COPPER WIRES	HSCC(I)LTD	Dr. Ashok S
9	LT A2XFY UG CABLES	ULCCS LTD	Dr. Ashok S
10	LT WP CABLES	KSEBL THRISSUR	Dr. Ashok S
11	11kV DROP OUT FUSES	KSEBL VADAKARA	Dr. Ashok S Dr.TK Sindhu
12	PVC INSULATED COPPER WIRES	CPWD GOVT OF INDIA	Dr. Ashok S
13	TRANSFORMER OIL	HYSON HERITAGE CALICUT	Dr. Ashok S Dr.TK Sindhu
14	LED STREET LIGHT FITTINGS	USHA ELECTRONICS SYSTEMS	Dr. Ashok S
15	11 kV DO FUSE	KSEBL KANNUR	Dr. Ashok S Dr.TK Sindhu
16	LED STREET LIGHT FITTINGS	NANNAMBRA GRAMA PANCHAYATH	Dr. Ashok S
17	LED LUMINARIE FITTINGS	CPWD GOVT OF INDIA	Dr. Ashok S
18	9 kV LIGHTNING ARRESTOR	KSEBL KANNUR	Dr. Ashok S Dr.TK Sindhu
19	11kV PIN INSULATOR	KSEBL VADAKARA	Dr. Ashok S Dr.TK Sindhu
20	LT WP CABLES	KSEBL KOZHIKODE	Dr. Ashok S
21	11 kV DO FUSE	KSEBL KOZHIKODE	Dr. Ashok S Dr.TK Sindhu
22	LT WP CABLES	KSEBL KOZHIKODE	Dr. Ashok S
23	11kV AB SWITCH	KSEBL KOZHIKODE	Dr. Ashok S Dr.TK Sindhu
24	LED STREET LIGHT & FLOOD FITTINGS	HAVELLS INDIA LTD	Dr. Ashok S
25	36W FLUORESCENT TUBE,70W HSPV & 150W HSPV	KOZHIKODE CORPORATION	Dr. Ashok S

**(h) Participation in Conferences/Seminars/Workshops/Other training Programmes**

Sl. No.	Name of faculty	Programme
1.	Dr. Sindhu T. K	1. 4th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON 2019)
2.	Dr Subha D P	1. Faculty development programme on electric vehicles and renewable powered charging stations. 2. International Conference on Modelling, Simulation & Intelligent Computing (MoSICom 2020) JANUARY 29-31, 2020, Dubai, UAE
3.	Mr. Subhash K.M.	1. International Conference on Modelling, Simulation & Intelligent Computing (MoSICom 2020) JANUARY 29-31, 2020, Dubai, UAE 2. Summer School on Deep Learning” 17 <sup>th</sup> –21 <sup>st</sup> May 2019 at National Institute of Technology Karnataka, Surathkal. Sponsored by TEQIP-III. 3. Short-Term Course on “Machine Learning for Engineering Applications” at Indian Institute of Technology Delhi. 9 <sup>th</sup> – 13 <sup>th</sup> December 2019 Sponsored by TEQIP-III.
4.	Dr. Jagadanand G. Dr. Jeevamma Jacob Dr. Saly George Dr. Kanagalakshmi S. Dr. Karthikeyan V. Dr. Kumaravel S. Dr. Gopakumar P. Dr. Subha. D.P.	2. CEP course on Introduction to machine learning and deep learning organized by IIT Bombay from 13 <sup>th</sup> may 2019 to 17 <sup>th</sup> May 2019
5.	Dr. Jagadanand G.	2. Workshop on “Applied deep leaning” organized by MANS LAB, school of computing and electrical engineering, IIT Mandi held from 1 <sup>st</sup> July 2019 to 5 <sup>th</sup> July 2019
6.	Dr. Jeevamma Jacob	2. Two-day seminar on the topic “Internationalisation: Strategies, Implementation and Structures. Chances and Challenges for Indian Universities”, held from 10 – 11 October, 2019 at the Indian Institute of Technology Madras, Chennai.
7.	Dr. Susy Thomas	2. Short Term Course under technical Education Quality Improvement Program-III on 'Mind,



		<i>Meditation and Human values- A Scientific Perspective at IITD. 21-25 October 2019</i>
8.	Dr. Abraham T. Mathew	1. ‘The Workshop on Exploring New Frontiers of Digital Transformations’, MHRD,NPIU 7-9 November 2019
2.	Dr Ashok S	2. TEQIP III sponsored FDP on Process Control, Instrumentation and Automation PCIA- 2019 from 2-Dec-19 to 7-Dec-19

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

### a. Publications

#### Book Chapters

Sudeep, P.V., Palanisamy, P. and Rajan, J., 2019. Advances in Ultrasound Despeckling: An Overview. In *Advanced Classification Techniques for Healthcare Analysis* (pp. 311-335). IGI Global.

Anoop, B.N., Girish, G.N., Sudeep, P.V. and Rajan, J., 2019. Despeckling Algorithms for Optical Coherence Tomography Images: A Review. In *Advanced Classification Techniques for Healthcare Analysis* (pp. 286-310). IGI Global.

#### i. Journal

Sl No	Name of the Author	Title of Paper	Name of Journal	Vol, Year, p.p.
1	M. P. Gilesh, S. D. Madhu Kumar, and Lillykutty Jacob	Resource Availability-Aware Adaptive Provisioning of Virtual Data Center Networks	<i>International Journal of Network Management</i> , Wiley	Vol. 29, Issue 2, March-April 2019
2	Susan Dominic and Lillykutty Jacob	<u>Distributed interference-aware admission control and resource allocation for underlaying D2D communications in cellular networks.</u>	Sadhana – Academy Proceedings in Engineering Sciences, Springer	Vol. 44, Issue 6, June 2019.
3	M. P. Gilesh, S. D. Madhu Kumar, and Lillykutty Jacob	Opportunistic Live Migration of Virtual Machines	<i>Concurrency and Computation: Practice and Experience</i> , Wiley	Vol. 32, Issue 5, March 2020
4	Sreelakshmy K R and Lillykutty Jacob	Simultaneous Wireless Information and Power Transfer in Heterogeneous Cellular Networks with Underlay D2D Communication	Wireless Networks, Springer	Jan 2020 DOI: 10.1007/s11276-020-02261-y
5	Emy mariam George	Interference Mitigation for Coexisting Wireless Body Area	<i>IEEE Access</i>	DOI:10.1109/ACCESS.2020.2970581

	and Lillykutty Jacob	Networks: Distributed Learning Solutions		
6	Jihās Khan and Lillykutty Jacob	Availability Maximization Framework for CoMP Enabled URLLC with Short Packets	<i>IEEE Networking Letters</i>	Vol.2, Issue 1, March 2020
7	Susan Dominic and Lillykutty Jacob	Joint Resource Block and Power Allocation Through Distributed Learning for Energy Efficient Underlay D2D Communication with Rate Guarantee	<i>Computer Communications</i> , Elsevier	Vol. 159, 1 June 2020, Pages 26-36
8	Steffy Maria Joseph And P.S. Sathidevi	A Fully Automated Gridding Technique for Real Composite cDNA Microarray Images	IEEE Access	Vol.8, 2020, 1-18
9	MSA Sankar, P.S.Sathidevi	<u>Design of MELPe-Based Variable-Bit-Rate Speech Coding with Mel Scale Approach Using Low-Order Linear Prediction Filter and Representing Excitation Signal Using Glottal Closure Instants</u>	Arabian Journal for Science and Engineering, Springer	Vol.45, 2019, 1785–1801
10	K.L. Nisha, Sreelekha G., P.S. Sathidevi, Poornima Mohanachandran, Anand Vinekar	A computer-aided diagnosis system for plus disease in retinopathy of prematurity with structure adaptive segmentation and vessel based features	Computerized Medical Imaging and Graphics, Elsevier Publications, Volume 74, pp 72-94, June 2019	Volume 74, pp 72-94, June 2019
11	MSA Sankar, PS Sathidevi	A scalable speech coding scheme using compressive sensing and orthogonal mapping based vector quantization	Heliyon, Elsevier	5 (5),2019, e01820
12	C. P. Najlah and S. M. Sameer	Interference Cancellation In Hetnet Uplink With 13And Without MU-CSIR: A Subspace-Based Approach	<i>IET Communications</i>	vol. 14, no. 7, 2019 pp. 1113-1119
13	Deepak Jose and S. M. Sameer	Compressive Sensing-Based Low-Complexity Detector for Differential Spatial Modulation	<i>IET Communication</i>	vol. 13, no. 19, pp. 3229-3234
14	Finto Raphel and Sameer S. M.	Speed Adaptive Joint Subcarrier and Power Allocation Technique for Downlink OFDMA Video Transmission Over Doubly Selective Channels	IEEE Transactions on Vehicular Technology	vol. 69, no.2, pp. 1879-1887-7121, Feb.2020
15	Rambabu Katla and A.V. Babu	Multihop Full Duplex Relaying with Coherent Signaling: Outage Probability Analysis and Power Optimization	Ad Hoc Networks, Elsevier	vol. 97, Feb 2020, pp. 1-13.

16	V. Aswathi and A. V. Babu.	Ensuring Equal Outage Performance for Down-link Secondary Users in Full/Half Duplex Cognitive NOMA Systems	IET Communications	vol. 14, issue 1, pp. 63–75, Jan 2020
17	Upama Rajan M.N. and Babu A.V	Combining Contention based Access and Dynamic Service Period Allocation for performance Improvements in IEEE 802.11ad mmWave WLAN,	International journal of Communication Systems (Wiley)	2020; e4304, pp. 1-24.
18	U. Sangeetha and A.V. Babu	Fair and Efficient Resource Allocation in IEEE 802.11ah WLAN with Heterogeneous Data Rates	Computer Communications, Elsevier	151, 2020, pp. 154–164
19	Aswathi V., and Babu A. V.	Non-Orthogonal Multiple Access in Full Duplex based Coordinated Direct and Relay Transmission (CDRT) System: Performance Analysis and Optimization	EURASIP Journal on Wireless Communications and Networking	2020:24, pp. 1-27
20	V. Aswathi, and A. V. Babu	Full/Half Duplex Cooperative NOMA under Imperfect Successive Interference Cancellation and Channel State Estimation Errors	IEEE Access	Vol. 7, pp. 179961 – 179984, Dec 2019
21	Shubham Bisen and A.V. Babu	Outage analysis of underlay cognitive NOMA system with cooperative full duplex relaying	Transactions on Emerging Telecommunication Technologies	Vol. 30, issue 12, Dec. 2019, pp. 1-22
22	Aswathi, V., and Babu A. V	Performance analysis of non-orthogonal multiple access-based underlay cognitive relay network	International Journal of Communication Systems (Wiley)	vol. 32, no. 13, 2019, pp. 1-31
23	S. Poornima and A.V. Babu	Optimal Power Allocation for Energy-Efficient Full-Duplex Cognitive Relay Networks under Primary Interference	IET Communications	vol. 13, issue 19, pp. 3317-3325, Dec. 2019
24	S. Poornima and A.V. Babu	Outage Performance Comparison of Dual-Hop Full Duplex Underlay Cognitive Relay Networks	Wireless Personal Communications	vol. 106, issue 3, June 2019, pp. 1135-1160
25	Amit Satish Unde and Deepthi P. P	Adaptive compressive video coding for embedded camera sensors: Compressed domain motion and measurements estimation.	IEEE Transactions on Mobile Computing	DOI: 10.1109/TMC.2019.2926271
26	Aneesh M. Koya and Deepthi P. P	Plug and play self-configurable IoT gateway node for secure telemonitoring of ECG.	Computers in Biology and Medicine, Elsevier	vol.112, pp. 103359, September 2019

27	V.S. Lakshmi, P.P. Deepthi	A Secure Regenerating Code based Cloud Storage with Efficient Integrity Verification	International Journal of Communication Systems, Wiley	April 2019, <a href="https://doi.org/10.1002/dac.3948">https://doi.org/10.1002/dac.3948</a>
28	Supriya Unnikrishnan, G. Sreelekha	Highly parallel Vector Radix FFT for high throughput video applications	IEEE Transactions on Circuits and Systems II: Express Briefs	<b>DOI: <a href="https://doi.org/10.1109/TCSSII.2019.2940998">10.1109/TCSSII.2019.2940998</a></b>
29	Arun Varghese, G. Sreelekha	An efficient algorithm for detection of vacant spaces in delimited and non-delimited parking lots	IEEE Transactions on Intelligent Transportation Systems	DOI: 10.1109/TITS.2019.2934574
30	Gayatri Parthasarathy, G. Abhilash	Entropy-based learning of sensing matrices	IET Signal Processing,	Vol.13, 2019, Issue. 7, pp. 650-660
31	Jaikumarm G & Dr. S. Karmalkar	An algorithm to design floating field rings in SiC and Si power diodes and MOSFETs	Solid state electronics	156, 2019 73-78
32	Archana Prasannakumar, Nithin Thomas Abraham & Dhanaraj, K. J	MOSFETs-only sub-1-V voltage references for ultra-low-power applications	<i>Analog Integrated Circuits and Signal Processing</i>	Vol 103, 2020,pp: 355–365
33	Anju Jose Tom, Sudhish N George	<i>Video Completion and Simultaneous Moving Object Detection for Extreme Surveillance Environments</i>	<b>IEEE Signal Processing Letters</b>	Vol. 26, No. 4, April 2019, pp. 577-581.
34	Anju Jose Tom, Sudhish N George	<i>A Three-Way Optimization Technique for Noise Robust Moving Object Detection using Tensor Low Rank Approximation, l1/2 and TTV Regularizations</i>	<b>IEEE Transactions on Cybernetics,</b>	June 2019, DOI: 10.1109/TCYB.2019.2921827.
35	Baburaj M, Sudhish N George	<i>Simultaneous Reconstruction and Anomaly Detection of Subsampled Hyperspectral Images using l1/2 Regularized Joint Sparse and Low Rank Recovery</i>	<b>IEEE Transactions on Geoscience and Remote Sensing</b>	Vol.57, No. 7, July 2019 pp. 5190-5197.
36	Sameera Mohd Sageer V, Sudhish N George,	<i>Despeckling of 3D Ultrasound Image using Tensor Low Rank Approximation</i>	<b>Biomedical Signal Processing and Control, (Elsevier)</b>	Vol. 54, Sept. 2019, 101595.
37	Geona Mary P D, Baburaj M, Sudhish N George	<i>Entropy-based Reweighted Tensor Completion Technique for Video Recovery</i>	<b>IEEE Transactions on Circuits, Systems and Video Technology,</b>	Vol. 30, No. 2, February 2020, pp. 415-426,
38	V Hareesh, TS Bindhya	Analysis of Different Rational Decimated Filter Banks Derived From the Same Set of Prototype Filters	IEEE Transactions on Signal Processing	68, 2020, 1923-1936

39	V Hareesh, TS Bindiya	Design of Low-Complex Linear-Phase Non-uniform Filter Bank to Realize Wavelet Approximation of Bark Frequency Partitioning for Real-Time Applications	Circuits, Systems, and Signal Processing,	2020, <a href="https://doi.org/10.1007/s00034-020-01390-1">https://doi.org/10.1007/s00034-020-01390-1</a>
40	Roy, T., R. Sethunadh, and P. M. Ameer	Polarimetric SAR image despeckling using bandelet transform based on additive–multiplicative speckle model	Electronics Letters	56, 2020, 293-296
41	Deepak, S., and P. M. Ameer	Brain tumor classification using deep CNN features via transfer learning	Computers in biology and medicine	111, 2019, 103345
42	Nidheesh, N., KA Abdul Nazeer, and P. M. Ameer	A Hierarchical Clustering algorithm based on Silhouette Index for cancer subtype discovery from genomic data	Neural Computing and Applications	2019,2019
43	Mridula, K. M., and P. M. Ameer	On the fundamental limit to the use of cognitive radio in underwater acoustic sensor networks	Telecommunication Systems	71, 2019, 303-308
44	Thankachan, Roy, R. Sethunadh, and P. M. Ameer	Spatially adaptive polarimetric image despeckling using bandelet transform	European Journal of Remote Sensing	2019, 2019
45	Sandeep M., Adarsh K P, P. K. Tiwari, and G.K. Saramekala	Analog and radio-frequency (RF) performance evaluation of negative capacitance SOI junctionless transistors	AEU - International Journal of Electronics and Communications	vol. 12, 2020, 153243
46	Ramesh L, Sandeep M., Visweswararao S., P. K. Tiwari, and G.K. Saramekala, “ , 2020 (Accepted)	Investigation of the Electrical Properties of Double-Gate Dual-Active-Layer (DG-DAL) Thin-Film Transistor (TFT) with HfO <sub>2</sub> /La <sub>2</sub> O <sub>3</sub> /HfO <sub>2</sub> (HLH) Sandwich Gate Dielectrics,”	Semiconductors	vol. 54, Issue 10,2020
47	Sanil Daniel, Aswathi Nair, and Sanjiv Sambandan	Test System for Thin Film Transistor Parameter Extraction in Active Matrix Backplanes	Journal of the Electron Devices Society	vol.7, June 2019, pp.638-644

## ii. International Conference

Sl No	Name of the Author	Title of Paper	Name of International conference	Vol, Year, p.p.
1	Sreelakshmy K R and Lillykutty Jacob	SWIPT Techniques in Multi-tier D2D Networks for Energy Efficiency	IEEE TENCON 2019	Kochi, Kerala, Oct 2019.
2	Emy mariam George and Lillykutty Jacob	Multi-Class Delay Sensitive Medical Packet Scheduling in Inter-WBAN Communication	IEEE International Conference on Advanced Networks and	Goa, Dec 2019.

			Telecommunications Systems (IEEE ANTS 2019)	
3	Jihās Khan and Lillykutty Jacob	Learning Based CoMP Clustering for URLLC in Millimeter wave 5G networks with Blockages	IEEE International Conference on Advanced Networks and Telecommunications Systems (IEEE ANTS 2019)	Goa, Dec 2019.
4	Jihās Khan and Lillykutty Jacob	Multi-connectivity for URLLC: Performance Comparison of Different Architectures	IEEE TENSYP 2020	Dhaka, Bangladesh, June 2020.
5	Jihās Khan, Raveen Yadav, and Lillykutty Jacob	Learning Based Resource Allocation Under Limited Backhaul Capacity of Millimeter Wave Networks	IEEE TENSYP 2020	Dhaka, Bangladesh, June 2020.
6	Akshay Sreekumar, Naga Sasidhar Reddy Alavala, UdayaRavikanth D, Chaitanya Chowdary M, Nithin G and Sathidevi P S	Epileptic Seizure Detection using Machine Learning Techniques	ICACCT-2019	December 2019
7	ArunSankar M. S. , Tharak Sai Bobba , and Sathidevi P. S	Seven Stage Audio Classifier using Artificial Neural Network	International Conference on Communication, Computing and Electronics Systems (ICCCES 2019) (Springer)	Coimbatore, November 2019
8	Steffy Maria Joseph, P.S.Sathidevi,	cDNA Microarray Image Enhancement for Effective Gridding of Spots	IEEE TENCON 2019	October 17-20, 2019, KOCHI,Kerala
9	MSA Sankar, P.S.Sathidevi	<u>Bit rate reduction in CELP coders by applying Vocal Tract Filter similarity behaviour</u>	IEEE TENCON 2019	October 17-20, 2019, KOCHI,Kerala
10	<u>K.L. Nisha , G. Sreelekha , P.S.Sathidevi , Poornima Mohanachandran , Anand Vinekar</u>	A Robust Algorithm for Automated Detection of Optic Disc in Retina of Premature Infants,	IEEE TENCON 2019	October 17-20, 2019, KOCHI,Kerala
11	Thiramdas Narendra, MS Athulya, PS Sathidevi	<u>Classification of Pitch Disguise Level with Artificial Neural Networks</u>	IEEE International Conference on Communication and Signal Processing (ICCSP) 2019	April 04-06, 2019 Tamilnadu, India

12	K.S.Chandran and C.K.Ali	Filtered OFDM with index modulation for mixed numerology transmissions	6 <sup>th</sup> international conference on advance computing and communications (ICACCS),Coimbatore , India.,2020	PP306-310, doi:10.1109/.
13	C. P. Najlah and S. M. Sameer	A GEVD Based Interference Alignment Method for Uplink Heterogeneous Network Under imperfect CSIT	IEEE Region 10 Conference (TENCON), Kochi, India	October, 2019 pp. 835-840
14	Nithya Rajendran, C. P. Najlah and S. M. Sameer	Bit Error Probability Analysis of UFMC Systems with Carrier Frequency Offset	IEEE Region 10 Conference (TENCON), Kochi, India	October, 2019 pp. 841-845
15	Ahammed Sabir K A, Charls Babu, Ranjith V R, Unnikrishnan M, Supriya Unnikrishnan, Dhanaraj K J, Sreelekha G	FFT Architecture for Motion Estimation Using Phase Correlation	2019 IEEE Region 10 Conference TENCON 2019,	Kochi, Kerala
16	Namburi GNVV Satya Sai Srinath, Athul Zac Joseph, S Umamaheswaran, Ch. Lakshmi Priyanka, Malavika Nair M, Praveen Sankaran,	"NITCAD - Developing an object detection, classification and stereo vision dataset for autonomous navigation in Indian roads",	Third International Conference on Computing and Network Communications (CoCoNet'19), Trivandrum, Kerala,	Dec 18-21, 2019
17	Namburi GNVV Satya Sai Srinath, Athul Zac Joseph, S Umamaheswaran, Ch. Lakshmi Priyanka, Malavika Nair M, Praveen Sankaran, ,	"Stereo Vision Based Speed Estimation for Autonomous Driving"	18th International Conference on Information Technology, Bhubaneswar,	Dec 19-21, 2019
18	Mিনny George, Praveen Sankaran	"A Deep Neural Network Classifier Based on Belief Theory"	4th International Conference on Computer Vision and Image Processing (CVIP 2019) at MNIT Jaipur, India	September 27 - 29, 2019
19	Megha Sharma, S. Sai Venkatesh, Swetha A, V.M Muralikrishna, Varsha J Kattampally, Praveen Sankaran	"Driver Distraction Detection using ensemble techniques to improve low performing classifiers"	4th International Conference on Computer Vision and Image Processing (CVIP 2019) at MNIT Jaipur, India	September 27 - 29, 2019

20	Kalpana George, Shameer F., Praveen Sankaran, Paul K. Joseph	"Deep learned nucleus features for breast cancer histopathological image analysis based on belief theoretical classifier fusion"	TENCON 2019, Kochi, India	
21	Tissa Jose, Praveen Sankaran	"Deep neural networks for out-of-sample classification of non-linear manifolds"	International Conference on Machine Intelligence and Signal Processing (MISP-2019), IIT Allahabad, India	September 7-10,
22	Nora Elizabeth Joby, Nimisha Susan George, M.N. Geethasree, NimmiKrishna B, Noora Rahman Thayyil and Praveen Sankaran	"Storm tracking using Geo-stationary lightning observation videos"	Third International Conference on Computer Vision and Image Processing, Jabalpur	Pages 391-40
23	U. Venkatesh, M. P. Kumar, R. Saketh, C. U. R. Sai, S. V. K. Naik and K. J. Dhanaraj	An Analog Design of 2D DCT Processor	TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON), Kochi, India, 2019	pp. 1606-1610
24	Rejitha M.R., Sudhish N George,	An Unsupervised Abnormal Crowd Behavior Detection Technique using Farneback Algorithm	IEEE Int. Conf. Electronics, Computing and Communication Technologies (IEEE CONECCT-2019)	Bangalore, India, July 2019
25	Treasa Joy, Sudhish N George	Power Optimization Techniques in High Frequency Processor Blocks	4th IEEE Int. Conf. Inventive Systems and Control (ICISC-2020)	January, 2020
26	Lekshmi M S, Suja K J	Acetone gas sensing at room temperature Using metal oxide Semiconductor nano Material based gas Sensor	International conference on Microelectronics, Signals & Systems(icmss 2019)	September 2019
27	Arun K, Lekshmi M S, Suja K J	Design and simulation of zno based acetone gas sensor using comsol multiphysics	<u>2020 7th international conference on signal processing and integrated networks (spin)</u>	April 2020 <u>10.1109/spin48934.2020.9070835</u>
28	Lekshmi M S, Arun K, Suja K J	Design and simulation of metal oxide gas sensor for breath analyzer application	2020 11th international conference on material and manufacturing technology (icmmt)	April 2020
29	S Sudharman, TS Bindiya	Multiplier-free Realization of High Throughput Transpose Form FIR Filter	12th IET International Symposium on Communication Systems, Networks	Accepted



			and Digital Signal Processing, CDSNDSP 2020	
30	G Sreegul, TS Bindiya	An approximation algorithm for reducing the number of non-zero bits in the filter coefficients	2020 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)	1-6, 2020
31	E Naresh, V Hareesh, TS Bindiya	Realization of Power Efficient FIR Filters using Hybrid Accurate-Inaccurate Adder Architecture	2020 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)	1-5, 2020
32	S Sudharman, TS Bindiya	Design and Implementation of Maximally Decimated Polyphase Filter Bank for Power and Delay Efficient Digital Hearing Aids	TENCON 2019-2019 IEEE Region 10 Conference (TENCON)	1329-1334, 2019
33	KR Sreelekha, TS Bindiya	A New Multiplier-free Transformation for the Design of Hardware Efficient Circularly Symmetric Wideband 2D Filters	TENCON 2019-2019 IEEE Region 10 Conference (TENCON)	2376-2381, 2019
34	Arun P Shenoy, PM Ameer	Anamoly Detection in Wireless Sensor Networks	TENCON 2019-2019 IEEE Region 10 Conference	2019
35	M. Venkata Siva and Jayakumar E. P	A Low Cost High Performance VLSI Architecture for Image Scaling in Multimedia Applications	IEEE 6th International Conference on Signal Processing and Integrated Networks (SPIN 2019)	2020, pp. 278-283
36	Sukanya Ghosh, Lintu Rajan	ZnO Schottky Thin Film Transistors: Single Gate and Dual Gate Frameworks and Electrical Characterizations: A Comparative Analysis	International Conference on Innovative Trends in Information Technology (ICITIT-20)	February 2020
37	Sukanya Ghosh, Lintu Rajan	Influence of Gate Dielectrics on Electrical Characterization of ZnO Schottky Thin Film Transistor	Third International Conference on Computing and Network Communications (CoCoNet'19)	December 2019
38	Lintu Rajan	Device Design Space Exploration of Zinc Oxide thin film based Hydrogen Sensors using machine learning.	IEEE SENSORS 2019	October 2019
39	Aswathi R Nair, Venu Anand, Sanjiv Sambandan	Bias stress induced threshold voltage shift in buckled thin film transistors	IEEE Region 10 Conference (TENCON 2019)	2019, 78-89

40	Anjana J. G., Venu Anand	Two dimensional numerical simulation of Zinc Oxy-Nitride Thin Film Transistors	International conference on Electronics and Sustainable Communication Systems (ICESCS 2020)	June 2020
41	Guda, Harsha Vardhan and Guntur, Srivenkat and M, Gowri Pratyusha and Gupta, Kunal and Volam, Priyanka and Sudeep, P V	Hardware Implementation of Sign Language to Text Converter using Deep Neural Networks.	International Conference on “Advances in Electronics, Electrical & Computational Intelligence” (ICAEEC 19), IIIT Allahabad India	<a href="http://dx.doi.org/10.2139/ssrn.3576354">http://dx.doi.org/10.2139/ssrn.3576354</a> 31st May - 1st June, 2019
42	Vineeth Murali, Sudeep, P.V.	Image Denoising Using DnCNN : An Exploration Study	SPRINGER International Conference on "Communication systems and networks" (ComNet 2019)	pp. 847-859 12th and 13th December 2019 10.1007/978-981-15-3992-3 Advances in Communication Systems and Networks: Select Proceedings of ComNet 2019
43	S. Moparthi, P. K. Tiwari and G. K. Saramekala	Temperature Dependence of Subthreshold Characteristics of Negative Capacitance Recessed-Source/Drain (NC R-S/D) SOI MOSFET	IEEE conference proceedings, ISES	NIT Rourkela, Odisha, 2019
44	S. V. Rao, G. K. Saramekala and P. K. Tiwari	Modeling of Drain Current and Analog Characteristics of Dual-Metal Quadruple Gate (DMQG) MOSFETs	IEEE conference proceedings, ISES	NIT Rourkela, Odisha, 2019
45	Y. N. Kumar, M. K. Rao, Ch. Haswanth, R. Raj, P. A. Chakrobarty, M. H. Kiran, G. K. Saramekala	Automated Seed Sowing Agribot	IEEE conference proceedings, ICESIP,	IIIT Kancheepuram, Tamilnadu, 2019
46	S Shahnawazuddin, Waquar Ahmad, Nagaraj Adiga, Avinash Kumar	In-Domain and Out-of-Domain Data Augmentation to Improve Children’s Speaker Verification System in Limited Data Scenario	ICASSP 2020-2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)	Barcelona, Spain, March, 7554-7558
47	P. Kopperundeivi, M. Surya Prakash	An Efficient Hardware Architecture for Deblocking Filter in HEVC	International Conference on Electrical and Electronics Engineering (ICEEE 2020)	2020 (to be published as book chapter in Springer books, proof reading going on)

48	R. S. Prasobh Sankar, L. Asish and <b>B. Bhuvan</b>	Design of stable error-correction ramp generators considering process and run-time variations	IEEE Asia Pacific Conference on Circuits and Systems	2019, pp. 257-260.
49	Anand P and <b>B. Bhuvan</b>	An alternate, discrete-time approach to the analysis of continuous-time negative feedback systems	IEEE Region 10 Conference (TENCON)	2019, pp. 2194-2198.
50	L. Asish, R. S. Prasobh Sankar, Krishnan Aravind and <b>B. Bhuvan</b>	High speed error correction in continuous-time ramp generators using loop gain optimization	IEEE Region 10 Conference (TENCON)	2019, pp. 2538-2543
51	K. Akshay, R. P. Parvathy and <b>B. Bhuvan</b>	System level design of a novel CMOS image sensor with high dynamic range and fill factor	IEEE Region 10 Conference (TENCON)	2019, pp. 82-84.
52	Ajay Mathew, John Paul, Nair S Karthika, US Sachin, Srikanth Koncherry, CV Raghu	Design and Implementation of a Smart Medicine Dispenser	TENCON 2019-2019 IEEE Region 10 Conference (TENCON)	2019, pp. 1059-1064

### iii. National Conference

Sl No	Name of the Author	Title of Paper	Name of National conference	Vol, Year, p-p.
1	C. P. Najlah and S. M. Sameer	A Novel NOMA Scheme for Uplink Heterogeneous Network Using QR Decomposition-Based Projection	2020 National Conference on Communications (NCC), Kharagpur, India, 2020	February, 2020 pp. 1-5
2	Arun Varghese, Sreelekha G	A Robust, Low-Complexity Realtime Vehicle Counting System for Automated Traffic Surveillance	NCC 2019	MNNIT, Allahabad
3	Vaisakh V.K and Lyla B.Das	Handwritten Malayalam Character Recognition System using Artificial Neural Networks	SCEECs 2020. (2020 IEEE International Students' Conference on Electrical, Electronics and Computer Science)	2020
4	Akhil Johnson, Jobin Francis, Baburaj M, Sudhish N George	A Two Way Optimization Framework for Clustering of Images Using Weighted Tensor Nuclear Norm Approximation	IEEE National Conference on Communications (NCC -2020)	Feb. 2020, IIT Kharagpur.

### b. Community Services

Sl No	Name of Staff	Service
1	Dr. G. Abhilash	<ul style="list-style-type: none"> <li>• Reviewer to Journals: Elsevier Signal Processing, Springer (Sadhana), IET Signal Processing, IET Image Processing, IET Science, Measurement and Technology, IET Radar, Electronics Letters.</li> <li>• Reviewer to McGraw Hill Education (Reviewed a book on Digital Signal Processing)</li> <li>• Faculty Advisor to IEEE Signal Processing Society (SB) Chapter NIT Calicut</li> <li>• Green Volunteer</li> </ul>
2	Dr. Sameer S. M.	<ul style="list-style-type: none"> <li>• Chair, IEEE Kerala Section</li> </ul>
2	Dr. Dhanaraj K. J.	<ul style="list-style-type: none"> <li>• Secretary, IEEE Educational Activities, Kerala Section</li> <li>• Vice chair, IEEE Circuits and Systems Society, Kerala Chapter</li> </ul>
3	Dr. V. Sakthivel	<ul style="list-style-type: none"> <li>• Observer for the JEE Main Exam, April 2019 conducted by NTA, MHRD, India</li> <li>• Observer for the NEET Exam, May 2019 conducted by NTA, CBSE, MHRD, India.</li> <li>• Observer for the ICAR Exam, July 2019 conducted by NTA, MHRD, India.</li> <li>• External Examiner for M.Tech Project Viva at NIELIT, Calicut in July 2019.</li> <li>• Observer for the JEE Main Exam, Jan 2020 conducted by NTA, MHRD, India.</li> </ul>
4	Dr. Raghu C. V.	<ul style="list-style-type: none"> <li>• 2019 Kerala flood relief activities as NSS Programme co-ordinator, NIT Calicut</li> </ul>
5	Dr Sudeep P V	<ul style="list-style-type: none"> <li>• Reviewer to Journals: <ul style="list-style-type: none"> <li>○ IET Image Processing,</li> <li>○ IEEE Journal of Biomedical and Health Informatics,</li> <li>○ Elsevier Journal of Signal Processing</li> </ul> </li> <li>• Reviewer to Conference: <ul style="list-style-type: none"> <li>○ IEEE International conference - Tencon 2019 (17<sup>th</sup> to 20<sup>th</sup> October 2019),</li> <li>○ Springer international conference on COMMUNICATION SYSTEMS AND NETWORKS (12 and 13<sup>th</sup> December 2019)</li> </ul> </li> <li>• DC Member at school of information technology and engineering, VIT Vellore</li> <li>• Appointed as External Examiner for M.Tech Project Viva at NIELIT, Calicut in July 2019.</li> </ul>

### c. Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr. Sameer S. M.	<ul style="list-style-type: none"> <li>• Professor &amp; Head, Centre for Training and Placement, NIT Calicut</li> <li>• Faculty Advisor, 2018-2022 Batch B.Tech</li> </ul>

Dr. A V Babu	<ul style="list-style-type: none"> <li>• HOD, ECE</li> </ul>
Dr P S Sathidevi	<ul style="list-style-type: none"> <li>• Dean Academic (2017-2020)</li> </ul>
Dr. Deepthi P.P.	<ul style="list-style-type: none"> <li>• Warden (Ladies Hostel) till Aug 2019</li> <li>• NSS Programme Officer till July 2019</li> <li>• Chairperson (PG Admissions)</li> <li>• PhD Coordinator &amp; Purchase Committee Member at ECED</li> </ul>
Dr. Sreelekha G	<ul style="list-style-type: none"> <li>• Programme Co-coordinator, M.Tech (Signal Processing)</li> <li>• Class Committee Chairperson - M.Tech (Electronics Design and Technology)</li> <li>• Faculty in charge of DSP Lab</li> <li>• Chairman, Project evaluation Committee, M. Tech Signal Processing</li> <li>• Faculty Coordinator IPR Cell</li> <li>• Member of Institute Innovation Cell (IIC)</li> <li>• Convener, Reception &amp; Hospitality Committee, 15<sup>th</sup> Convocation</li> </ul>
Dr. G Abhilash	<ul style="list-style-type: none"> <li>• Teaching 13 credits (UG and PG),</li> <li>• Member of M.Tech (SP) Project evaluation Panel,</li> <li>• Research Guidance,</li> <li>• PG Project Guidance,</li> <li>• Doctoral Committee Member in CSE, EEE, ECE, MED, Maths</li> <li>• External examiner/subject expert for Comprehensive Exam in the Mechanical Engineering Department.</li> <li>• Served as Member of Library Advisory Committee,</li> <li>• Served as Member of Design Innovation Center NITC.</li> <li>• Organized External Lectures under IEEE SPS.</li> <li>• Organized and Offered a course of Lectures for 15days (From 12 to 27 June 2019) under IEEE SPS jointly with the ECE Dept.,</li> </ul>
Dr. Dhanaraj K. J.	<ul style="list-style-type: none"> <li>• First Year B.Tech Coordinator</li> <li>• Chairman of First Semester B.Tech class committee</li> <li>• Faculty in charge of ECE Association</li> <li>• Member of purchase committees in ECED, EED, MED and T&amp;P</li> <li>• Member: PG project evaluation committee (Microelectronics and VLSI Design)</li> </ul>
Dr. V. Sakthivel	<ul style="list-style-type: none"> <li>• Warden B Hostel, From Dec 2018 to February 2020.</li> <li>• SPCOM Lab Faculty-in-charge</li> <li>• Faculty Advisor for B.Tech ECE 2017 batch</li> <li>• Member in ECED Exam Vigilance committee</li> <li>• Department Sports coordinator</li> <li>• Member in B.Tech Major Project Evaluation Committee from July 2019 to January 2020.</li> <li>• Member in Institute Antiragging committee</li> <li>• DC member in EED and CSED.</li> </ul>
Dr. Bindiya T. S.	<ul style="list-style-type: none"> <li>• ECED Time Table in Charge</li> <li>• ECED Purchase Coordinator</li> <li>• Faculty advisor of 2017-2021 ECE B. Tech Batch</li> <li>• B.Tech Major Project Evaluation Panel Member</li> </ul>
Dr. Jayakumar E.P.	<ul style="list-style-type: none"> <li>• Faculty in Charge – Integrated Circuits Lab</li> <li>• Faculty advisor of 2015-2019 ECE B. Tech Batch</li> </ul>

	<ul style="list-style-type: none"> <li>• M.Tech EDT Project Evaluation Panel Member</li> <li>• Faculty in charge – Staff and Department amenities</li> </ul>
Mr. B. Bhuvan	<ul style="list-style-type: none"> <li>• Co-PI, SMDP-C2SD</li> <li>• Faculty-in-charge, Staff and department amenities</li> <li>• Faculty-in-charge, Microelectronics &amp; VLSI Lab</li> <li>• Faculty adviser, 4<sup>th</sup> year B.Tech ECE</li> <li>• B.Tech project evaluation committee member (Embedded System/VLSI)</li> </ul>
Dr. Raghu C V	<ul style="list-style-type: none"> <li>• Faculty Advisor, B.Tech 2016 admission</li> <li>• Co-ordinator, B.Tech major project evaluation Committee</li> <li>• Member, Department purchase committee</li> <li>• NSS Program coordinator, NIT</li> </ul>
Dr. Lalit Kumar	<ul style="list-style-type: none"> <li>• Assisting in Subject Electromagnetic Field Theory (EMFT)</li> </ul>
Dr. Ameer P M	<ul style="list-style-type: none"> <li>• Faculty in charge – Communication Lab</li> <li>• Faculty advisor 2018 admission batch</li> </ul>
Dr. M. Surya Prakash	<ul style="list-style-type: none"> <li>• Member of the exam vigilance committee.</li> <li>• Faculty Advisor for Ist year Btech (2019-2023 batch), ECE.</li> <li>• Member of the Btech Major Project evaluation committee for Embedded System/VLSI streams.</li> </ul>
Dr Sudeep P V	<ul style="list-style-type: none"> <li>• Member of B.Tech Project evaluation Panel</li> <li>• Member of B.Tech Seminar evaluation Panel</li> <li>• Faculty Advisor of B.Tech ECE 2017-2021</li> <li>• Department Library-in-charge</li> <li>• Department website coordinator</li> <li>• Member in ECED Exam Vigilance committee</li> <li>• Doctoral Committee Member in CSE, EEE, ECE, Architecture and Planning</li> <li>• NITC Institution's Innovation Council (IIC) Member</li> </ul>

**d. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted**

Sl.No	Title	Coordinators	Duration & Period
1	IEEE TENCON 2019	P S Sathidevi SP Track Chair	17-10-2019 to 20-10-2019
2	IEEE Region 10 Conference (TENCON), Kochi, India	Dr. Sameer S. M., General Co-Chair	17-20 October, 2019
3	TEQIP III sponsored under twinning with GEC Bharatpur FDP on Research Trends in Multimedia and Multirate Signal Processing. Duration 24-06-2019 to 29-06-2019	Dr. V. Sakthivel	24-06-2019 to 29-06-2019 (Six days).
4	Recent Trends in Semiconductor Devices and MEMS/NEMS (RTSDM 19)	Dr Suja K J, Dr Lintu Rajan & Dr Gopikrishnan	June 10-14,2019
5	Recent Development in engineering science humanities and management	Dr. Aruna Pathak (GEC Bharatpur) & Dr. Gopi Krishna Saramekala	24 <sup>th</sup> -25 <sup>th</sup> Jan 2020 at GEC Bharatpur
6	Lecture Series on Multi-Resolution Analysis and Wavelet Design	G Abhilash Ph.D. (Coordinated and served as course faculty) Ms. Athulya M S, IEEE SPS	15 Days; From 12 to 27 June 2019 under IEEE SPS jointly with the ECE Department

	(SB) Chapter Coordinator
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**e. Expert lecturers delivered in Conferences/Seminar/workshops**

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Dr. Sathidevi P S	FDP on DSP and its Applications	25 <sup>th</sup> to 27 <sup>th</sup> July 2019	Sahrdaya College of Engg. & Technology, Kodakara, Thrissur
2	Dr. Sameer S. M.	FDP on “Advances in Wireless Communications”	08-th to 12-th July 2019	Mar Baselios College of Engineering & Technology, Trivandrum, Kerala
3	Dr. Sameer S. M.	Young Faculty Induction Program	17-19 December 2019	M-Dasan Institute of Technology, Kozhikode, Kerala
4	Dr. Sameer S. M.	International Conference on Computing, Communication and Energy Systems 2020 (ICCCES 2020)	26-27 February 2020	MEA Engineering College, Perinthalmanna, Kerala
5	Dr. A V Babu	AICTE sponsored faculty development program on Wireless Communications Networks and Signal Processing	4-17 December 2019	Jyothi Engineering College, Trichur
6	Dr. Deepthi P.P.	Research Trends in Multimedia and Multirate Signal Processing	1.5 hours on 28/06/2019	NITC
7	Dr. Sreelekha G	An FDP programme on Digital Signal Processing in association with Institution of Electronics and Telecommunication Engineers (IETE) & STEPS – Knowledge services, Coimbatore	7th & 8 th June 2019	Jointly organised by the Departments of ECE, EEE and CSE , PSG Institute of Technology and Applied Research, Coimbatore.
8	Dr. Sreelekha G	TEQIP-III Sponsored FDP on “Research Trends in Multimedia and Multirate Signal Processing (RTMMSP’19)”	24th to 29th June 2019	Department of Electronics & Communication Engineering, National Institute of Technology Calicut
9	Dr. Dhanaraj K. J.	Five Day Workshop on “Recent Trends in Semiconductor Devices and MEMS/NEMS (RTSDM’19)”	10-14 June 2019	NIT Calicut
10	Dr. Dhanaraj K. J.	Talk on “Integrated Circuit Design” under “Visiting Faculty Scheme”	3 Oct 2019	GEC Thrissur
11	Dr. Dhanaraj K. J.	IEEE student branch talk on “MOSFETs: Device physics and characteristics”	22 Nov 2019	GEC Kozhikode

12	Dr. Dhanaraj K. J.	IEEE Educational Society talk on “Introduction to MOSFETs”	23 Nov 2019	GEC Kozhikode
13	Dr. Dhanaraj K. J.	IEEE Educational Activities Kerala Section 3 day Young Faculty Induction Program	17-19 Dec 2019	M. Dasan Institute of Technology, Ulliyeri
14	Dr. V. Sakthivel	FDP on Research Trends in Multimedia and Multirate Signal Processing	24-06-2019 to 29-06-2019 28-06-2019 (FN session)	Department of ECE, NIT Calicut
15	Dr. Suja K J	Recent Trends in Semiconductor Devices and MEMS/NEMS (RTSDM 19)	14/06/2019	NIT Calicut
16	Dr. Suja K J	Faculty Development Program in VLSI & Nano technology	7/08/2019	Dept of ECE, College of engineering, Vadamakara
17	Dr. Venu Anand	One day lecture on Digital System Design	1 day	Govt. Engg. College, Kozhikode
18	Dr. Sudeep P V	TEQIP-III SPONSORED Faculty Development Program on Deep learning and Machine Learning approaches and its applications	9th to 13th December, 2019	NITC Calicut under TWINNING with Govt. Engineering College Bharatpur Bharatpur, Rajasthan.
19	Dr. Sudeep P V	Research and Application Perspectives of Artificial Intelligence and Machine Learning	1st to 5th July, 2019	MES College of Engineering, Kuttipuram, Kerala
20	Dr. M. Surya Prakash	Research Trends in Multimedia and Multirate Signal Processing (RTMMSP'19)	6 days (24/06/2020 - 29/06/2020)	NIT-C
21	Dr. Raghu C V	Addressing first year students on ‘ Engineering education’ as part of their orientation program	2 <sup>nd</sup> August 2019 (Half Day)	Rajagiri School of Engineering and Technology
22	G Abhilash Ph.D.	Lecture Series on Multi-Resolution Analysis and Wavelet Design	15 Days; From 12 to 27 June 2019 under	IEEE SPS (SB) Chapter NIT Calicut and the ECE Department.

**f. Details of Faculty, who acquired Higher Qualification: Nil**

**g. Consultancy and testing : Nil**

**h. Patents acquired and filed**

Sl. No	Name of Staff	Title	Year
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1	Sreelekha G, P.S. Sathidevi	A System And A Method For Classification Of Retinal Images Through Empirical Measures And Machine Learning	Indian Patent Application No. 202041002182, filed on 17.01.2020
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#### **i. Student achievements**

##### **Achievements of Past Students based on their works at NITC:**

1. Mr. Namburi GNVV Satya Sai Srinath, Mr. Athul Zac Joseph, Mr. S Umamaheswaran, Ms. Ch. Lakshmi Priyanka and Ms. Malavika Nair of 2019 B.Tech ECE presented and published a technical research paper titled “NITCAD - Developing an object detection, classification and stereo vision dataset for autonomous navigation in Indian roads” in Third International Conference on Computing and Network Communications (CoCoNet’19), Trivandrum, Kerala during December 18-21, 2019.
2. Mr. Namburi GNVV Satya Sai Srinath, Mr. Athul Zac Joseph, Mr. S Umamaheswaran, Ms. Ch. Lakshmi Priyanka and Ms. Malavika Nair of 2019 B.Tech ECE presented and published a technical research paper titled “Stereo Vision Based Speed Estimation for Autonomous Driving” in 18th International Conference on Information Technology, Bhubaneswar during December 19-21, 2019
3. Ms. Megha Sharma, Mr. S. Sai Venkatesh, Ms. Swetha A, Mr. V.M Muralikrishna, and Ms Varsha J Kattampally of 2019 B.Tech ECE presented and published a technical research paper titled “Driver Distraction Detection using ensemble techniques to improve low performing classifiers” in 4th International Conference on Computer Vision and Image Processing (CVIP 2019) at MNIT Jaipur, India during September 27 - 29, 2019
4. Mr. L. Asish, Mr. R. S. Prasobh Sankar and Mr. Krishnan Aravind of 2019 B.Tech ECE presented and published a technical research paper titled “High speed error correction in continuous-time ramp generators using loop gain optimization” in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.
5. Mr. K. Akshay and Ms. R. P. Parvathy of 2017 B.Tech ECE presented and published a technical research paper titled “System level design of a novel CMOS image sensor with high dynamic range and fill factor” in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.
6. Mr. Ajay Mathew, Mr. John Paul, Ms. Nair S Karthika, Mr. US Sachin and Mr. Srikanth Koncherry of 2019 B.Tech ECE presented and published a technical research paper titled “Design and Implementation of a Smart Medicine Dispenser” in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.
7. Mr. Ahammed Sabir K A, Mr. Charls Babu, Mr. Ranjith V R and Mr. Unnikrishnan M of 2018 B.Tech ECE presented and published a technical research paper titled FFT Architecture for Motion Estimation using Phase Correlation” in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.
8. Mr. U. Venkatesh, Mr. M. P. Kumar, Mr. R. Saketh, Mr. C. U. R. Sai and Mr. S. V. K. Naik of 2018 B.Tech ECE presented and published a technical research paper titled “An Analog Design of 2D DCT Processor” in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.

##### **Achievements of Current Students**

1. A final year B.Tech ECE project idea of Mr. Guda Harsha Vardhan, Mr. Guntur Sri Venkat, Mr. Arun Jarapala, Kunal Gupta and Mr. Harsha Vardhan Gotru was selected as one among the best innovative ideas for Young Innovator Programme 2019-2022 conducted by Kerala Development and Innovation Strategic Council (KDISC) and Kerala Startup Mission (KSUM)
2. Mr. Guda Harsha Vardhan of final year B.Tech ECE presented and published a technical research paper titled “ RIGGU: A Semi-humanoid Robot Platform for Speech and Image Recognition” in 5<sup>th</sup>

International Symposium on Intelligent Systems Technologies and Applications (ISTA'19) held at IITMK, Kerala, during December 18-21, 2019

3. Ms. Amoolya of final year B.Tech ECE presented and published a technical research paper titled "Wi-Fi RSSI Based Optimal Path Planning and Collision Avoidance in A Multi Robot Environment" in 2019 IEEE International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS) held at Tamilnadu during April 11-13, 2019
4. Ms. Arunima and Ms. Meghana of final year B.Tech ECE presented and published a technical research paper titled "Word Based Text Extraction Algorithm Implementation in Wearable Assistive Device for the Blind" in 2019 IEEE International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS) held at Tamilnadu during April 11-13, 2019.
5. The project idea of Ms. Arunima and Ms. Meghana of final year B.Tech ECE was selected as one among the best innovative ideas for Young Innovator Programme 19-22 conducted by Kerala Development and Innovation Strategic Council (KDISC) and Kerala Startup Mission (KSUM).
6. Mr. Shijon Joy of final year B.Tech ECE won the third prize in All India Inter NIT Swimming 4x50 relay held at NIT Surathkal during January 2020.
7. Mr. Anand P. of final year B.Tech presented and published a technical research paper titled "An alternate, discrete-time approach to the analysis of continuous-time negative feedback systems " in TENCON 2019, IEEE Region 10 Conference, held at Kochi during October 17-20, 2019.
8. Mr. Guda, Harsha Vardhan, Mr. Guntur, Srivenkat Mr. M, Gowri Pratyusha , Mr Gupta, Kunal and Ms. Volam, Priyanka presented and published a technical research paper titled "Hardware Implementation of Sign Language to Text Converter using Deep Neural Networks." In International Conference on "Advances in Electronics, Electrical & Computational Intelligence" (ICAEEC 19), IIIT Allahabad India during 31st May - 1st June,2019
9. Ms. Archana Chandrashekar, Mr.Vishnu B Malikayil, and Mr. Rohith Sai of third year B.Tech ECE got selected after the prelims of "Code for Good hackathon" conducted by JP Morgan on 20 March 2019. (Conducted online). The final round will be conducted virtually from 23-26 July.
10. Ms. Diyea Robin K of second year B.Tech ECE won first prize in Blitzkrieg, National Business Quiz conducted in association with Tarang'20 held at NIT Calicut
11. Ms. Diyea Robin K of second year B.Tech ECE won first prizes in Defense Infrastructure Planning and Management Council of India National Essay Writing competition held at DIPM,New Delhi
12. Ms. Diyea Robin K of second year B.Tech ECE got selected for Selected for the student Exchange programme conducted by the Ministry of HRD.

## **DEPARTMENT OF MECHANICAL ENGINEERING.**

### a. Publications

#### i. Journal

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol, Year, p.p.</b>
Deepak G Dilip, George John, Satyananda Panda and Jose Mathew	Finite-volume-based conservative numerical scheme in cylindrical coordinate system to predict material removal during micro-EDM on Inconel 718	Journal of the Brazilian Society of Mechanical Sciences and Engineering	42, 2020, Article number: 90
Jibin T. Philip, Deepak Kumar, Jose Mathew, Basil Kuriachen	Experimental Investigations on the Tribological Performance of Electric	Journal of Tribology	142(6), 2020

	Discharge Alloyed Ti-6Al-4V at 200-600° C		
Jibin T. Philip, Deepak Kumar, S.N. Joshi, Jose Mathew, Basil Kuriachen	Monitoring of EDM parameters to develop tribo-adaptive Ti6Al4V surfaces through accretion of alloyed matrix	Industrial Lubrication and Tribology	72, 2019 pp. 291-297
Anand Krishnan N and Jose Mathew	Evaluation of size effect and improvement in surface characteristics using sunflower oil-based MQL for sustainable micro-endmilling of Inconel 718	Journal of the Brazilian Society of Mechanical Sciences and Engineering	42, 2020, Article number: 156
Jibin T Philip, Jose Mathew and Basil Kuriachen	Tribology of Ti6Al4V: A review	Friction	7, 2019 pp. 497-536
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b. International Conference

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of International conference</b>	<b>Vol, Year, p.p.</b>
Anand Krishnan N, Vipindas K, Jiju V Elias, Jose Mathew	Modeling and Simulation of Cutting Temperature during Micro Endmilling on Inconel 718	International Conference on Precision, Meso, Micro & Nano Engineering (COPEN 11), IIT Indore	December 12-14, 2019
Deepak G Dilip, Jeess George, R Manu, Satyananda Panda, Jose Mathew	Roundness and Tool Wear Rate Investigations during Micro-EDM Drilling of Inconel 718	International Conference on Precision, Meso, Micro & Nano Engineering (COPEN 11), IIT Indore	December 12-14, 2019
Deepak G Dilip, Satyananda Panda, Jose Mathew	Evaluation of Side Wall Roughness and Material Removal Rate in Vibration Assisted Powder Mixed Micro-EDM Drilling	7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018), Anna University, Chennai	Published in Advances in Micro and Nano Manufacturing and Surface Engineering, Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore, 2019
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Anjana, V., Muhammed Anees, V.V., Sridharan, R. and Ram Kumar, P N	Modified Genetic Algorithm for the Multi-objective Scheduling of a Flow Shop with Sequence Dependent Setup Times	International Conference on Advances in Material Science and Mechanical Engineering (ICAMSME 2020), N.B.K.R. Institute of Science & Technology, Nellore, Andhra Pradesh	7-9 Feb 2020
Anees, M.V.V., Abdul Nazar, K.P. and Sridharan, R.	Simulation modelling and analysis of due date assignment methods and scheduling decision rules in a flexible manufacturing system	International Conference on Advances in Material Science and Mechanical Engineering (ICAMSME 2020), N.B.K.R. Institute of Science & Technology, Nellore, Andhra Pradesh	7-9 Feb 2020
G. Balakrishna Reddy and K. Ratna Kumar	Quality Improvement in Organic Food Supply Chain Using Block chain Technology	1st International Conference on <u>Innovative Product Design and Intelligent Manufacturing Systems</u> NIT Rourkela	2019, pp 887-896
Madhav, N.C.M. Reddy, K. Ratna Kumar, R. Sridharan	Modified Savings Algorithm for Capacitated Vehicle Routing Problem: Development and Analysis	6th International Conference on Production and Industrial Engineering CPIE-2019 NIT Jalandhar	<b>2019, pp 86</b>
K Sekar,	Fabrication of A7050 hybrid composite reinforced with nano Al <sub>2</sub> O <sub>3</sub> / micro ZrO <sub>2</sub> particles by stir casting method and study of mechanical and tribological properties	SME-2019 “International Conference on Smart and Sustainable Developments in Materials, Manufacturing and Energy Engineering” N.M.A.M. Institute of Technology, Nitte. Mangalore	May 2019
K Sekar, DV Ananda Rao	Investigation of Hybrid Composite A7075/SiC/B4C by Stir and Squeeze Casting method	ICMMM -2019 “2nd International Conference on Materials, Manufacturing and Modeling” , VIT, Vellore .	March 2019
K Sekar, P Vasanthakumar	Mechanical and Tribological Properties of Al6063 Hybrid Composites Reinforced with SiC/ZrO <sub>2</sub> by Stir	ISERMAT-2019 Conference on “Sustainable Energy Resources, Materials and Technologies, SSN college of engineering, Chennai.	March 2019

	Casting and Thixoforming Process		
K Sekar, K Jayakumar	Mechanical Properties of AA 5754 Hybrid Metal Matrix Composite Fabricated through Rheo-Squeeze Casting	ISERMAT-2019 Conference on “Sustainable Energy Resources, Materials and Technologies, SSN college of engineering, Chennai.	March 2019
Praveen O V S, Dileep B, Gayatri S, Manu R, Deepak Lawrence K	Automated Tolerance Analysis of Mechanical Assembly Using STEP AP 242 Managed Model Based 3D Engineering	International Conference on Industry 4.0 and Advanced Manufacturing (I-4AM’19) organized by Indian Institute of Science (IISc), Bangalore	28-29 June 2019
P. Sai Ram, Deepak Lawrence K	Implementation of Quality Information Framework (QIF): Towards Automatic generation of inspection plan from Model Based Definition (MBD) of Parts	International Conference on Industry 4.0 and Advanced Manufacturing (I-4AM’19) organized by Indian Institute of Science (IISc), Bangalore	28-29 June 2019
Ajith Kurian Baby, Priyaranjan M, Deepak Lawrence K and P. K. Rajendrakumar	Tribological Behaviour of Hypereutectic Al-Si Automotive Cylinder Liner Material under Dry Sliding Wear Condition in Severe Wear Regime	10th International Conference on Industrial Tribology, Indian Institute of Science (IISc) Bangalore, India	1 - 4 December 2019
Karande, A., Krishna, A., Jayasurya, R., Gopan, G., Gopinath, M.V., Kumar, S., Anoop, K.P., Vinay V. Panicker, Varaprasad, G.	Performance analysis of storage warehouses in a food grain supply chain using data envelopment analysis	2019 IEEE International Conference on System, Computation, Automation and Networking	Published in IEEE Digital Library on October 2019
Ajay Vishnu, A., Shashank Siddaveeraiah, K., Venkata Rahul, K., Nirmal, S., Thalor, P., Sultana, S., Emmatty, F.J., Vinay V. Panicker	Observation-based postural assessment of waste sorting tasks	2019 IEEE International Conference on System, Computation, Automation and Networking	Published in IEEE Digital Library on October 2019

Emmatty, F.J., Vinay V. Panicker	Posture assessment among waste loading workers in India	Proceedings of International Conference on Intelligent Manufacturing and Automation as Springer Lecture Notes in Mechanical Engineering	2019, pp. 229-237
Vinay V. Panicker Aryadutt, C.S., Anoop, K.P.	Elitist non-dominated sorting genetic algorithm-based heuristic for optimizing rail freight transportation	Proceedings of International Conference on Intelligent Manufacturing and Automation as Springer Lecture Notes in Mechanical Engineering	2019, pp. 623-630
Bharti S., Kurian D.S., Pillai V.M.	Reinforcement Learning for Inventory Management	1st International Conference on Innovative Product Design and Intelligent Manufacturing System (ICIPDIMS), May 17-18, 2019, NIT Rourkela, India.	2020, Lecture Notes in Mechanical Engineering. pp 877 – 885, Springer, Singapore.
Joby George and V. Madhusudanan Pillai	Bullwhip effect quantification in a supply chain under periodic review inventory policies.	International Conference on Emerging Technologies for Sustainability (AICERA 2019), July 18-20, 2019, Amal Jyothi College of Engineering, Kanjirappally, Kerala, India.	2020, pp 433-440
Ranjith A. M., and V. Madhusudanan Pillai	Determination of safety stock in divergent supply chains with non- stationary demand process	International Conference on “Emerging Trends in Mechanical & Industrial Engineering” (ICETMIE 2019), October 10 – 11, 2019, The NorthCap University, Gurugram, Haryana 122017.	In press
Irappa Basappa Hunagund, V. Madhusudanan Pillai, and U.N.Kempaiah	Solving Unequal Area Facility Layout Problems with Flexible Bay Structure by Simulated Annealing Algorithm	International Conference on “Emerging Trends in Mechanical & Industrial Engineering” (ICETMIE 2019, October 10 – 11, 2019, The NorthCap University, Gurugram, Haryana 122017.	In press

Manu Mathew, Justin sunny, V. Madhusudanan Pillai	Review on Perspectives in Supply Chain Trust Evaluation	Organised by Dwarkadas J. Sanghvi College of Engineering (DJSCE), Mumbai, India, March 27- 28, 2020	2020, Proceedings of International Conference on Intelligent Manufacturing and Automation (ICIMA2020), Lecture
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			Notes in Mechanical Engineering, pp 285 – 298, Springer, Singapore.
A. Tamizhinian and V. Madhusudanan Pillai	Performance evaluation of warehouse operations in air cargo business of a company	International Conference on Industrial and Manufacturing Systems (CIMS - 2020), Dr B R Ambedkar National Institute of Technology Jalandhar, Punjab, INDIA, 26 <sup>th</sup> – 28 <sup>th</sup> June 2020	Accepted for presentation publication
Sreenija Kompally and V. Madhusudanan Pillai	Determining manpower requirement for material handling in a factory	International Conference on Industrial and Manufacturing Systems (CIMS - 2020), Dr B R Ambedkar National Institute of Technology Jalandhar, Punjab, INDIA, 26 <sup>th</sup> – 28 <sup>th</sup> June 2020.	Accepted for presentation publication
Justin Sunny, Kenil Shah, Prajwal Ghoradkar, Manu Jose, Malhar Shirswar, Hiran V. Nath and V. Madhusudanan Pillai	Blockchain: A Makeover to Supply Chain Management	International Conference on Industrial and Manufacturing Systems (CIMS - 2020), Dr B R Ambedkar National Institute of Technology Jalandhar, Punjab, INDIA, 26 <sup>th</sup> – 28 <sup>th</sup> June 2020.	Accepted for presentation publication
A. Tamizhinian and Vinay V. Panicker	Influence of Backpack Load on Energy Expenditure during Walking	International Conference on Innovative Technologies in Mechanical Engineering ITME-2019 18-19 October, 2019 Organized by Department of Mechanical Engineering Of KIET Group of Institutions, Ghaziabad, Uttar Pradesh, INDIA in collaboration with Cranfield University, United Kingdom Sponsored by AICTE	Accepted for presentation publication in Springer Lecture Notes in Mechanical Engineering
Lasin and Vinay V. Panicker	Worker Fatigue Model and its Ergonomic application for a Dish Washing Task	International Conference on Innovative Technologies in Mechanical Engineering ITME-2019 18-19 October, 2019 Organized by Department of Mechanical Engineering	Accepted for presentation publication in Springer Lecture Notes in Mechanical Engineering

		Of KIET Group of Institutions, Ghaziabad, Uttar Pradesh, INDIA in collaboration with Cranfield University, United Kingdom Sponsored by AICTE	
Shaiju M R, S Arun P, Jayaraj	Artificial intelligence based gas turbine compressor wash: A predictive approach	ASME 2019 Gas Turbine India Conference, The American Society of Mechanical Engineers	2019, ASME 2019 Gas Turbine India Conference December 5–6, 2019 Chennai, Tamil Nadu, India, Paper No: GTINDIA2019-2434, V002T09A006; 8 pages
Bijesh R, Arun P, C Muraleedharan	Heating value estimation of municipal sewage sludge using proximate analysis	International Conference on Recent Advances on Renewable Energy (RARE2020), National Institute of Technology Karnataka, Surathkal	2019
Rony Johnson, S Jayaraj, Arun P	Condensate and Feedwater Heating Option for Solar Heat Integration to a Coal fired Thermal Power Plant	International Conference on Recent Advances on Renewable Energy (RARE2020), National Institute of Technology Karnataka, Surathkal	2019
Subramani N and Biju T. Kuzhiveli	“The effect of silica nanoparticle on thermal, chemical, corrosive and the nature friendly properties of refrigerant compressor lubricants – A comparative study.”	International Conference on Multifunctional and hybrid materials for chemical process, energy, environment and medical applications (ICMHCEE 2019), by National Institute of Technology Tiruchirappalli.	9 <sup>th</sup> to 11 <sup>th</sup> September 2019

Bakhirathan A, Gangadhara Kiran Kumar Lachireddi	Thermal Investigation of Multi-Branched Micro-Grooved Micro Heat Pipe – A CFD Approach	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),
Giridhar R, Gangadhara Kiran Kumar Lachireddi	A Computational Study on Performance of Micro-Pulsating Heat pipe	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),

Ramesh Krishnan L, Gangadhara Kiran Kumar L	Comparative study of energy analysis on underfloor and split air conditioning system	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),
Ijas Ahmed M, Nagadeepak M, Gangadhara Kiran Kumar L	Comparison between falling film and drop wise liquid desiccant dehumidification: Numerical simulation	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE IHMTTC 2019
Ramesh Krishnan L, Mohamed Ilyas A, Gangadhara Kiran Kumar L	Computational analysis of PCM based cascaded thermal energy storage in solar assisted vapor absorption refrigeration system	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE IHMTTC 2019
Ijas Ahmed M, Gangadhara Kiran Kumar L	Retrofitting analysis of a residential building towards energy efficiency	25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2019),	Proceedings of the 25th National and 3rd International ISHMT-ASTFE IHMTTC 2019
Karthik. R , Ramesh Krishnan. L and Gangadhara Kiran Kumar.L	Computational study on the performance of personalized ventilation assisted with conventional air conditioning system applied to an office room environment	Second International conference on Sustainable Energy Resources, Materials and Technologies (ISERMAT-2019)	Proceedings of Second International conference on Sustainable Energy Resources, Materials and Technologies
Ijas Ahmed M, L.Gangadhara Kiran Kumar	An energy efficient building model for warm and humid climatic condition of India	International Conference on Recent Developments in Mechanical Engineering, (ICRDME 2019)	Proceedings of International Conference on Recent Developments in Mechanical Engineering
M. Ijas Ahmed, Gangadhara Kiran Kumar L	Dehumidification Performance of Liquid desiccant system with Aqueous-CaCl <sub>2</sub> solution in a Humid Climatic Condition	International Mechanical Engineering Congress (IMEC-2019), 29th November- 1st December 2019, NIT Tiruchirappalli, India.	Proceedings of International Mechanical Engineering Congress
Vignesh R, M Ijas ahmed, Gangadhara Kiran Kumar L	Computational analysis of spray type counter flow liquid desiccant dehumidifier	International Mechanical Engineering Congress (IMEC-2019), 29th November- 1st December 2019, NIT Tiruchirappalli, India.	Proceedings of International Mechanical Engineering Congress
AJ Mathews, S Rajan, Inbaoli, CSS Kumar, S Jayaraj	Optimization of the sintering parameters of a biporous copper-nickel composite wick for loop heat pipes	IMEC-NIT Trichy	2020

Feroskhan M, Saleel Ismail, Prashant Das and Prashant Dhar Dwivedi	Investigations on performance, emission and combustion characteristics of methane in dual fuel and HCCI engines	12th Asia Pacific Conference on Combustion - ASPACC 19, Combustion Institute	July 2019
Nihal Mishra, Shubham Mitra, Abhishek Thapliyal, Aniket Mahajan, Feroskhan M and Saleel Ismail	Investigations on a biogas fuelled HCCI engine with DEE pilot injection at various locations	11th International Exergy, Energy and Environment Symposium IEEEES'11, SRM Institute of Technology, Chennai	July 2019
Balu Jalindar Shinde, Karunamurthy Krishnasamy and Saleel Ismail	The first and second law analysis of gasoline fuelled Electronic Fuel Injection Digital Three Spark Ignition (EFI- DTSI) engine	2nd International Mechanical Engineering Congress (IMEC) 2019, NIT Trichy	November-December 2019
Jayakrishna S, Abhishek Krishna Swamy, Pradeep M, Aditya Goyal, Santhosh Krishna M, Karthik Jairam, Saleel Ismail and Feroskhan M	Effect of injection location and operating speed on performance and emissions of a methane fuelled HCCI engine	International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES – 2020) NIT Rourkela	February 2020

Prashant Dhar Dwivedi, Prashant Das, Hrushikesh V Bhalerao, Sumanth Samsani, Subham Balyan, Yasonandan Vadlamudi, Saleel Ismail and Feroskhan M	Effect of diesel-DEE blending on performance and emission characteristics of a biogas fuelled dual fuel engine	International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES – 2020) NIT Rourkela	February 2020
Arun, K. R., Vinay, C.N., James, A., Saleel, C.A., Badruddin, I.A., Srinivas, M., Jayaraj, S.	Experimental investigations on the performance of double-pass solar air heater with enhanced roughness	International Conference on Energy and Environment (ICEE2019), Hindusthan College of Engineering, Coimbatore	2019
Dileep, K., Dishnu, D., Arun, K.R., Srinivas, M., Jayaraj, S.	Numerical analysis of charging and discharging characteristics of a PCM integrated domestic solar water heater	International Conference on Energy and Environment (ICEE2019), Hindusthan College of Engineering, Coimbatore	2019

C.K. Sumesh and T.J.S. Jothi	Effect of Solid and Perforated Extension on Trailing Edge Noise of Airfoil	26 <sup>th</sup> International Congress on Sound and Vibration (ICSV 26), Montreal, Canada	7-11 July 2019.
S. S. Nair, A. P. Sudheer, and M. L. Joy	Design and fabrication of river cleaning robot,	ACM International Conference Proceeding Series	2019
A.N. Amudhan, P. Sakthivel, A. P. Sudheer, and T. K. Sunil Kumar	Design of controllers for omnidirectional robot based on the system identification technique for trajectory tracking	Journal of Physics: Conference Series	2019
Shifa Sulaiman, A P Sudheer	Kinematic and Dynamic analysis of a tree type Humanoid upperbody by using screw theory	4th Indian conference on Applied Mechanics (INCAM-IISc, Bangalore)	2019
Mervin Joe Thomas, Sooraj Sukumar K, Sudheer A.P, Joy M.L	Mathematical modelling of a novel 3 PPSS Parallel Manipulator	- 4th Indian conference on Applied Mechanics (INCAM 19), IISc, Bangalore	2019
Nihal Saji, Abhey Sujith, Dr. A P Sudheer,	Controlling a Robotic Manipulator Using an Augmented Reality Interface	4th Indian conference on Applied Mechanics (INCAM 19), IISc, Bangalore	2019
Gali Amoolya , KL Lavanya , Dr. A P Sudheer,	WiFi RSSI based optimal path planning and collision avoidance in a multi robot environment	IEEE International Conference on Intelligent Techniques in Control, Optimization and Signal Processing, Kalasalingam Academy of Research and Education, Tamil Nadu	2019
Rohith K.K., Navaneeth Varma, A.P. Sudheer, M.L. Joy	Mathematical modeling and comparative study of 12-DoF biped robot using Screw Theory and Denavit-Hartenberg convention	1st International Conference on Innovative Product Design and Intelligent Manufacturing System, NIT Rourkela	2019
Arunima B Krishna, Meghana Hari, Dr. A P Sudheer,	Word Based Text Extraction Algorithm Implementation In Wearable Assistive	1st International Conference on Innovative Product Design and Intelligent Manufacturing System, Kalasalingam Academy of Research	2019

	Device for the Blind,	and Education, Tamil Nadu	
Aarya Pandey, Akhil V.M. and U. B. Jayadeep	Artificial neural network-based load prediction using stress-stiffening effect	ICOEI 2020, SCAD College of Engineering and Technology, Tirunelveli, India.	2020
Aju Zachariah Mani and Jayadeep U. B.	Molecular dynamics simulation of indentation in Nanocoated surfaces: a comparison between spherical and cylindrical indenters	IndiaTrib-2019, IISc Bangalore	2019
Umar Farook N, Parthasarathy R, Murshid P K, Anikesh Kumar Rathod, Naveen Raghava Krishnan S B, Anoop Kumar Verma, K P Vineesh, Sreenath A M	A Novel Methodology to Optimize Design Parameters of an Asymmetric Gear	First International Conference on Mechanical Power Transmission (ICMPT 2019), IIT Madras	July 11-13, 2019
Adarsh Kumar Shah, K P Vineesh, M L Joy	Study of the lubricating properties of hybrid liquid paraffin with TiO <sub>2</sub> and CuO as nano-additives for engine oil application	First International Conference on Mechanical Power Transmission (ICMPT 2019), IIT Madras	July 11-13, 2019
Navaneeth Krishnan K, Anagha M G, Murali K P	Effect of BaSrCo <sub>2</sub> Fe <sub>12</sub> O <sub>22</sub> loading in PP matrix on the magnetic, dielectric and thermal properties	International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing (IMME-2019), NIT Trichy	December 27 – 28, 2019
V Sai Naga Kishore, K P Vineesh	Temperature evolution in disc brakes during braking of train using finite element analysis	International conference on advances in minerals, metals, materials, manufacturing and modelling NIT Warangal	September 25-27,2019

c. National Conference

Name of the Author	Title of Paper	Name of National conference	Vol, Year, p.p.
Alok Kumar Samanta, Varaprasad, G. and Ramakrushna Padhy	Design and Validation of Lean Six Sigma Integrated Service Delivery	13th Annual ISDSI Conference 2019 Managing Industry Transformation in	December 27-30, 2019

	Process for Healthcare Sector	Post-Digital Era, IIM Sambalpur	
Bakhirathan A, Gangadhara Kiran Kumar L	Computational analysis on Thermo-Hydrodynamic Characteristics of Y-Shaped Multi-Branched Micro Heat Pipe	46th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 9-11, 2019, PSG College of Technology, Coimbatore, India	Proceedings of the 46th National Conference on Fluid Mechanics and Fluid Power (FMFP)
Derick Abraham, and Biju T. Kuzhiveli	Optimization of Inertance tube for Pulse Tube Cryocooler	National Conference on Cryogenics for Space (NCCS 2019) , LPSC Thiruvananthapuram.	2019, 152-155.
Vishnu S B, and Biju T Kuzhiveli	Development of a numerical model to predict self-pressurization and thermal stratification in a cryogenic storage vessel	National Conference on Cryogenics for Space (NCCS 2019), LPSC Thiruvananthapuram.	2019
Ramesh Krishnan L, Gangadhara Kiran Kumar L	Computational Analysis of Indoor Air Distribution Assessment on Under-Floor Air Conditioning System	46th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 9-11, 2019, PSG College of Technology, Coimbatore, India	Proceedings of the 46th National Conference on Fluid Mechanics and Fluid Power (FMFP)

P.V. Manu S. Jayaraj Navaneeth Kishan T. R.	Thermodynamic Modeling and Experimental Investigation on a CI Engine Operated with Oxy-Hydrogen Gas as the Secondary Fuel	National Conference on Internal Combustion Engines and Combustion (NCICEC 2019) 1 <sup>st</sup> – 4 <sup>th</sup> November 2019 National Institute of Technology Kurukshetra	Book Chapter 23 pp. 978 – 981 2020
Muhammed Niyas M, A. Shaija, ,	Effect of repeated heating of Coconut oil, Sunflower oil, and Palm oil on property of biodiesel produced from it	3 <sup>rd</sup> National Symposium on Shaping the Energy Future: Challenges & Opportunities (SEFCO 2019), May 2019	May 2019
Chaitanya Ponnana, A. Shaija,	Design and fabrication of compact retro-fittable diesel exhaust after-treatment system for reduction of PM and NO <sub>x</sub> , 3 <sup>rd</sup>	3 <sup>rd</sup> National Symposium on Shaping the Energy Future: Challenges & Opportunities (SEFCO 2019),	May 2019
Arun M.G. and T.J. S. Jothi	Aerodynamic Noise Studies on the Flow around a Fixed Circular Cylinder	46 <sup>th</sup> National Conference on Fluid Mechanics and Fluid Power (FMFP-2019), PSG	Dec. 9-11, 2019.

		College of Technology, Coimbatore, India	
Rahul S Arackal and T J S Jothi	Role of Surface Roughness on Acoustic Emissions from Wall Jets	46 <sup>th</sup> National Conference on Fluid Mechanics and Fluid Power ( <b>FMFP-2019</b> ), PSG College of Technology, Coimbatore, India	Dec. 9-11, 2019.
Sumesh C. K. and T. J. S Jothi	Trailing Edge Noise Characterization of Airfoil with Perforated Trailing Edge Extensions	46 <sup>th</sup> National Conference on Fluid Mechanics and Fluid Power ( <b>FMFP-2019</b> ), PSG College of Technology, Coimbatore, India	Dec. 9-11, 2019.
Sundareswaran.S, Vineesh.K.P	The Effect of Creep, Quenching and Annealing time on the Residual Stress during Manufacturing of Railway Wagon Wheels	National Conference on Futuristic Trends in Materials, Manufacturing and Mechanical Engineering FTMMME at NIT Raipur.	28th,29th February 2020
Navaneeth M G, M L Joy , A P Sudheer	Investigation on ZMP variation of 12-DoF biped robot in Screw theory framework.	43 <sup>rd</sup> National Systems Conference (NSC-2019), IIT Rourkee	2019

d. Book chapters

Name of the Author(s)	Title of Paper	Name of Publisher	Vol. No., Year, p.p.
Joby George and V. Madhusudanan Pillai	Bullwhip Effect Performance of Supply Chains Under Statistical Process Control-based Policy	Leadership Strategies for Global Supply Chain Management in Emerging Markets. Editor: Ashish Dwivedi, IGI Global	2020, Chapter 9, Accepted for publication
M. J. Thomas, G. Mallick, A. P. Sudheer, and Joy. M.L	Modelling and Analysis of 3- PSS Parallel Kinematic Mechanism	Mechanism and Machine Science. Lecture Notes in Mechanical Engineering. Springer	Accepted for publication

e. Community Services

	Period of services	Description of the work
Dr. V. Madhusudanan Pillai	October 10, 2019	Chaired a session in the International Conference on “Emerging Trends in Mechanical & Industrial Engineering” (ICETMIE 2019, October 10 – 11, 2019, The NorthCap University, Gurugram, Haryana



	5 <sup>th</sup> March 2020	Chaired two sessions in the 4th International Conference on Materials, Mechanics and Management (IMMM 2020), 5 - 7 March 2020 at CET, Trivandrum.
	Since September 2016	Vice Chairman, Indian Institution of Industrial Engineering Kozhikode Chapter
	April 2019 – March 2020	Reviewer of reputed international journals like Soft Computing, Mathematical Problems in Engineering, Kybernetes, etc.
Dr. Biju T. Kuzhiveli:	Delivered various invited talks in Kerala Govt Engg colleges, IISc, IIT B, LPSC	
Dr. Ghulam Jilani	Engineering Graphics' remedial classes	
DR. Gangadhara Kiran Kumar L	Career guidance to first year students, Classes for weaker students	
Dr. Simon Peter	Coordinated arranging funds from NITC community in September 2019 towards medical treatment of Mr. Dhanurjaya Durga (COOPS Juice Centre employee)	
Dr. M. L. Joy	As President of the Faculty Association contributed to the charity activities and welfare measures during flood and Covid-19 period.	
Dr. Vineesh K P	Represented NIT Calicut in Disha programme, higher education expo organized by the Career Guidance and Adolescent Counselling cell of the Directorate of General Education, Higher secondary Wing, Government of Kerala, on 27 November– 1 December 2019 at Kanhangad, Kasaragod district, Kerala	

f. Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr. Jose Mathew	<ul style="list-style-type: none"> <li>HOD MED (from 22-07-2019 onwards)</li> <li>Faculty in Charge, CAD-CAM Centre, Advanced Manufacturing Centre, DST –FIST Centre for Precision Measurements and Nanomechanical Testing</li> <li>Programme Coordinator M.Tech (MMT) upto July 2020</li> </ul>
Dr. P.K. Rajendrakumar	<ul style="list-style-type: none"> <li>HOD, MED till July 2019</li> </ul>
Dr. R. Sridharan	<ul style="list-style-type: none"> <li>Chief Editor, MECHNEWS, Department Newsletter</li> <li>Chairman, Plantation Committee</li> </ul>
Dr. Ghulam Jilani	<ul style="list-style-type: none"> <li>Ph.D. Coordinator</li> </ul>
Dr. C. Muraleedharan	<ul style="list-style-type: none"> <li>Chairman, IQAC, NIT Calicut</li> </ul>
Dr. M. L. Joy	<ul style="list-style-type: none"> <li>Programme coordinator M Tech (Machine Design)</li> <li>Laboratory in charge, Tribology and vibration Lab</li> <li>Laboratory in charge, Robotics Lab.</li> </ul>
Dr. V. Madhusudanan Pillai	<ul style="list-style-type: none"> <li>Programme Coordinator, M.Tech. (Industrial Engineering &amp; Management), Department of Mechanical Engineering from November 2019 onwards</li> <li>Faculty-in-charge Industrial Engg. Lab &amp; Supply Chain and System Simulation Laboratory</li> </ul>

	<ul style="list-style-type: none"> <li>• Member - Campus Accommodation Allocation Committee</li> </ul>
Dr. Biju T. Kuzhiveli	<ul style="list-style-type: none"> <li>• PG Programme Co-ordinator (M.Tech Thermal Sciences ME62)</li> <li>• Projects handled: 2 UG, 2 innovative projects, 6 M.Tech, 1 MSc (Phy) and 3 PhD</li> <li>• Continuing with Project and consultancies: DRDO, BRNS, IISc, ISRO LPSC, ISRO Satellite Centre &amp; Nuclear science center, DRDO SSPL</li> </ul>
Dr. Arun P	<ul style="list-style-type: none"> <li>• Associate Dean (Research and Consultancy)</li> <li>• Convener, Department Purchase Committee</li> </ul>
Dr. T.J. Sarvoththama Jothi	<ul style="list-style-type: none"> <li>• PG Thermal Science Lab I/c.</li> <li>• Faculty Advisor</li> <li>• Time table committee member in MED</li> </ul>
Dr. Ratna Kumar K.	<ul style="list-style-type: none"> <li>• Faculty Advisor</li> <li>• Hostel Warden</li> <li>• MED Representative in Library Advisory Committee</li> <li>• M.Tech. and B.Tech. Project Evaluation Committee Member</li> <li>• MED Representative in PTA</li> </ul>
Dr. K. Sekar	<ul style="list-style-type: none"> <li>• External Examiner of Various University for M.Tech /Ph.D Thesis Evaluation &amp; Viva-Voce.</li> <li>• Chairman of III Year B.Tech Mechanical Engineering since 2017.</li> <li>• Co-Coordinator of M.Tech - Materials Science and Technology, 2016 to till date.</li> <li>• Project Evaluation Committee for M.Tech - Materials Science and Technology, 2007 to till date.</li> <li>• Faculty Advisor – since 2008</li> <li>• Faculty-in-charge, Materials Science Laboratory, MED, NITC, since 2010</li> <li>• Warden (A- Hostel) – since 2018.</li> <li>• Food inspection committee – NITC Hostels – 2019 onwards.</li> </ul>
Dr. Vinay V. Panicker	<ul style="list-style-type: none"> <li>• Convener of Internal Quality Assurance Cell, NIT Calicut (December 2018 onwards)</li> <li>• Member, NIRF Committee (June 2018 onwards)</li> <li>• Vice- Chairperson, Education Technology &amp; Library (June 2019 onwards)</li> <li>• Faculty in-charge, Industrial and Planning Forum (September 2015 onwards)</li> <li>• Member, Shyama Prasad Mukherji Rurban Mission (February 2016 onwards)</li> <li>• Chairperson, Semester III and IV Production Engineering Class Committee (July 2019 onwards)</li> <li>• Information Facilitation and Department Website in-charge (September 2017 onwards)</li> <li>• Member, B.Tech. and M.Tech. Project Evaluation Committee</li> </ul>
Dr. Rohinikumar B	<ul style="list-style-type: none"> <li>• Warden for Mega Hostel for Boys</li> <li>• Faculty Advisor for Sixth Semester B Tech Mechanical students</li> </ul>

	<ul style="list-style-type: none"> <li>• One of the in-charges of Heat Transfer Laboratory</li> <li>• One of the Faculty representatives for Placements from Department of Mechanical Engineering</li> </ul>
Dr. Gangadhara Kiran Kumar L	<ul style="list-style-type: none"> <li>• Lab- In- Charge, Fluid Mechanics and Machinery Laboratory.</li> <li>• Lab- In- Charge, Computational (CFD) Laboratory.</li> <li>• Member, M.Tech Project Evaluation Committee</li> <li>• Warden, NITC Hostels</li> <li>• Member, Industry Institute Interaction Cell (IIIC)</li> <li>• Faculty-In-Charge, Vehicle Section</li> <li>• Faculty Coordinator, Engineering Graphics</li> <li>• Faculty Advisor, 2<sup>nd</sup> year B batch (1-45)</li> <li>• First Year Department Coordinator</li> </ul>
Dr. P.V. Manu	<ul style="list-style-type: none"> <li>• Faculty Advisor (2019 admission)</li> <li>• Heat Engines Lab In-charge</li> <li>• B.Tech project evaluation committee</li> <li>• M.Tech project evaluation committee</li> </ul>
Dr. Sumer Bharat Dirbude	<ul style="list-style-type: none"> <li>• Faculty Advisor</li> <li>• Lab- in- Charge, Fluid Mechanics and Machinery Laboratory</li> </ul>
Dr. Saleel Ismail	<ul style="list-style-type: none"> <li>• Co-in charge of Heat Engines, Green Energy and Fuel Cell Laboratories and Centre for Advanced Studies in Cryogenics (CASC)</li> <li>• Faculty advisor for 50 students of 2<sup>nd</sup> year B.Tech Mechanical Engineering (B2 batch)</li> <li>• NBA accreditation – preparation of criteria files</li> </ul>
Dr. Simon Peter	<ul style="list-style-type: none"> <li>• Faculty Advisor,</li> <li>• Lab- in- Charge, Fluid Mechanics and Machinery Lab</li> <li>• Information Facilitation and Department Web in-charge</li> <li>• In-charge of Sports &amp; Fitness Club,</li> <li>• Dept. Sports Coordinator</li> </ul>
Dr Ashesh Saha	<ul style="list-style-type: none"> <li>• FA of 40 Mechanical students from 2018 – 19 batch</li> <li>• In charge of “Tribology and Vibration Lab”</li> <li>• Member of BTech major project evaluation committee</li> <li>• One of the PhD coordinators in MED</li> <li>• Member of MED time-table committee</li> <li>• Coordinator of Audio-Visual Club</li> </ul>
Dr. Jayadeep U.B.	<ul style="list-style-type: none"> <li>• Coordinator, B.Tech. Design stream project evaluation committee and member, MTech. Machine Design project evaluation committee.</li> <li>• Member of Ph.D. and Adhoc staff selection committees</li> </ul>
Dr. Vineesh K P	<ul style="list-style-type: none"> <li>• Lab-in- Charge, CAD/CAM Lab</li> <li>• Faculty advisor 2018 ME batch (ME B batch)</li> <li>• Member, B.Tech project evaluation committee</li> <li>• Conducting free training session of softwares in CAD Lab with Dr. Jose Mathew and Dr. Jayadeep U B</li> <li>• Member – Security committee in convocation ceremony, Discipline committee in sports day, space allocation in the department</li> </ul>
Dr K P Murali	<ul style="list-style-type: none"> <li>• FA of 2016 Mechanical B batch (37 students)</li> <li>• Lab in-charge – Central workshop and Materials Science</li> </ul>

	<ul style="list-style-type: none"> <li>• Member B.Tech and M.Tech project evaluation committee</li> <li>• Vice Chairman - PG admissions</li> </ul>
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g. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted

Sl.No	Title	Coordinators	Duration & Period
1	Fundamentals and Modelling of Micro/Nano Machining Processes (GIAN)	Prof. Jose Mathew Foreign faculty: Prof. M. Rahman, NUS, Singapore	6 days June 24-29, 2019
2	Precision Measurements and Nanomechanical Testing (National Workshop)	Prof. Jose Mathew & Dr. Deepak Lawrence K	6 days July 15-20, 2019
3	CAD / CAM training programs	Dr. Jose Mathew	3 months 5/7/2019 – 11/10/2019
4	CAD / CAM advanced training programs	Dr. Jose Mathew	2 months 1/1/2020 – 10/3/2020
5	International Faculty Development Programme and Training on "ROBOTICS, ARTIFICIAL INTELLIGENCE AND CONTROL" (RAIAC 2020)	Dr. Sudheer A.P & Dr. G. Varaprasad	February 3-8, 2020
6	TEQIP and KSCSTE Sponsored Faculty development program on “ Advances in Industrial Automation Fluid Power Control Technologies” Department of Mechanical Engineering, NIT Calicut during 1st -5th July 2019	Dr. K.Sekar Dr.Jagathesa	1st -5th July 2019
7	Workshop on Research in Academic Institutions	Dr. Arun P (On behalf of Office of Dean Research and Consultancy)	One day, 26/6/2019
8	Recent Advances in Solar Systems	Dr. Sujith Kumar C S Dr. Srinu Gangolu	July 8-12, 2019
9	FDP on “The Art of Teaching And Learning Engineering Graphics”	Dr. Simon Peter Dr. Saleel Ismail	NIT Calicut, December 30, 2019-January 3, 2020
10.	Recent Advances in Solar Systems	Dr. Srinu Gangolu Dr. Sujith Kumar C.S.	8th – 12th July 2019

h. Expert lecturers delivered in Conferences/Seminar/workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1.	Dr. Dhanish P B	Design of Experiments	22-26 July 2019	Govt. Engineering College Kozhikode
2.	Dr. R. Sridharan	Tools, Techniques, and Models for Scientific Research	22 July 2019	Viswajyothi College of Engineering and Technology, Vazhakulam, Kerala.
3.	Dr. R. Sridharan	Research Seminar	10 September 2019	Department of Industrial Engineering, Anna University, Chennai.
4.	Dr. R. Sridharan	One-day Workshop on Research Methodology	09 December 2019	Farook College Calicut
5.	Dr. K. Sekar	TEQIP and KSCSTE Sponsored FDP on Advances	1-5 July 2019	Department of Mechanical Engineering, NIT Calicut

		in Industrial Automation Fluid Power Control Technologies		
6.	Dr. K. Sekar	Recent Advances in composite materials	16-18 December 2019	Vidya Academy of Science and Technology-Technical Campus, Kilimanoor Thiruvananthapuram
7.	Dr. V. Madhusudanan Pillai	FDP on “Artificial Intelligence, Machine Learning and Block Chain Technology for Production and Supply Chain”.	25 <sup>th</sup> April – 30 <sup>th</sup> April, 2019	NIT Warangal
8.	Dr. V. Madhusudanan Pillai	FDP on “Teaching Approaches in Digital era / Effective Teaching a Laboratory Case”.	26 <sup>th</sup> June 2019	NSSCE, Palakkad
9.	Dr. Vinay V. Panicker	Invited talk on “Case Studies on Food Grain Logistics” during the One-day workshop on “Supply Chain Management: An Overview”	25 <sup>th</sup> September 2019	Vidya Academy of Science and Technology, Thrissur
10.	Dr. Arun P	Recent Advances in Solar Systems	July 8-12, 2019	NIT Calicut
11.	Dr. Arun P	Advances in Green Energy Technologies	December 16-21, 2019	Govt. Engineering College, Thrissur
12.	Dr. Arun P	Research Avenues in Bridging Climate Change Resilience with Engineering Knowledge	January 2, 2020	Govt. College of Engineering, Kannur
13.	Dr. Rohinikumar B	Recent Advances in Solar Systems	8-12 July 2019	NIT Calicut
14.	Dr. C. Muraleedharan	Biomass and utilization in FDP on Sustainable Energy Processes	16-18 January 2020	MDIT Ulliyeri, Kozhikode
15.	Dr. C. Muraleedharan	FDP on “The Art of Teaching and Learning Engineering Graphics”	December 30, 2019-January 3, 2020	NIT Calicut
16.	Dr. Ghulam Jilani	FDP on “The Art of Teaching and Learning Engineering Graphics”	December 30, 2019-January 3, 2020	NIT Calicut
17.	Dr. Ghulam Jilani	Workshop on “Fluid Mechanics And Numerical Approaches For Non-Linear Boundary Value Problems”	5-9 October 2019	NIT Calicut, Dept. of Mathematics
18.	Dr. Sujith Kumar C S	Recent Advances in Solar Systems	July 8-12, 2019	NIT Calicut
19.	Dr. Simon Peter	Workshop on “Fluid Mechanics And Numerical Approaches For Non-Linear Boundary Value Problems”	5-9 October 2019	NIT Calicut, Dept. of Mathematics
20.	Dr Sudheer.A.P	Editor –The robotics society-India	3years	The Robotics Society-India

21.	Dr Sudheer.A.P	Board of studies-Member	2 years	Sree Krishna Engg and Technology,Coimbatore
22.	Dr. Vineesh K P	Theoretical foundation and Hands-on training on ANSYS	19/02/2020	GEC Palakkad
23	Dr Rajendrakumar P.K.	10th International Conference on Industrial Tribology (IndiaTrib-2019)	1-4 December, 2019	Indian Institute of Science, Bangalore

i. Details of Faculty, who acquired Higher Qualification - NIL

j. Consultancy and testing

Sl. No	Nature of Service	Organization	Revenue earned (INR)	Status
1.	3D Printing	CIDAC	20,000	Completed
2.	3D Printing	MVR Cancer Centre	3,000	Ongoing
3.	3D Printing	Baby Memorial Hospital, Calicut	3,000	Ongoing
4.	Roughness and profile measurement	BARC Mysore,	6,000	Completed
5.	Roughness and profile measurement	Govt. Dental College Calicut	6,000	Completed
6	Roughness and profile measurement	MES Dental College	1,000	Completed
7	Roughness and profile measurement	KMCT Dental College	1,000	Completed
8	Roughness measurement	NIFFT	2,500	Completed
9	King Khalid University (KSA), Roughness and profile measurement	King Khalid University (KSA)	5,000	Completed
10	Corelaed Technologies, 3D printing	Corelaed Technologies	1,200	Completed
11	Roughness and profile measurement	Saintgits college of engineering Kottayam	1,000	Completed

k. Patents acquired and filed during the period

Sl. No	Name of Staff	Title	Year
1.	Dr. K. Sekar Dr. A P Sudheer	Dynamic head load redistributing wearable robot	2019
2.	(1) Safeer A A Ali (2) Dr. Krishnamurthy K (3) Dr. Arun C (4) Dr. Madhusudanan Pillai	Decision support tool for delay reduction in construction activities under unpredictable external conditions using platform independent stochastic	Filed in Dec. 2019

		models by implementing ideas of combined philosophy in construction flow	
3.	1.Biju T Kuzhiveli 2.Lity Alen Varghese 3.Sony Varghese 4.Rahul et al.	Multipurpose combo cooling heating vest for personal in frontier areas	Under correction/modification
4.	1.Biju T Kuzhiveli 2.Rijil Ramchand 3.Mohammed Sohail et al	Self-sustained advanced micro Stirling CHP for un-electrified rural homes	Under correction/modification
5.	1.Biju T Kuzhiveli 2.Jerin Saji (MS16180) Indian Institute of Science Education and Research (IISER), Mohali	Electrostatic thruster-Design of an electric thruster	Under correction/modification
6.	Biju T Kuzhiveli	A flexure bearing resonance system for improving the performance of linear compressor	Under correction/modification
7.	Biju T Kuzhiveli	Methods to develop low core loss and improvements in stator & mover design for the linear compressor	Under correction/modification
8.	Biju T. Kuzhiveli & Prof S. Kasthuriangan (CCT IISc Bangalore)	A novel computational heat transfer software package for combined heat transfer in an anti-Stokes all solid state optical cryocooler	Under correction/modification

i. Student achievements

Sl. No.	Name of the Students	Programme of Study	Description of Award
1	Rahul Y., Vipindas K., Kattari Muni Sekhar	M Tech., PhD.	Best Paper award at the 7th International and 28th All India Manufacturing Technology, Design and Research Conference 2018 (AIMTDR 2018), December 13–15, 2018, Chennai, India was bagged by Rahul Y., Vipindas K., Kattari Muni Sekhar, Jose Mathew, communication received during <b>April 2019</b>
2	Ms. Rhinithaa, Mr. P. Selvakumar, Mr. Nikhil Sudhakaran and Mr. Vysyaraju Anirudh (2017 B.Tech.).	B.Tech.	The Society of Aerospace Manufacturing Engineers (SAME) national Best Project Award - 2018 was bagged by Ms. Rhinithaa, Mr. P. Selvakumar, Mr. Nikhil Sudhakaran and Mr. Vysyaraju Anirudh (2017 B.Tech.). The award was presented by Dr. S. Somanath, VSSC Director on <b>26-04-2019</b> . The award carries a citation and cash prize of Rs 10,000/-. The project title is “Investigation into Improving Efficacy of Evaluation of Roundness: Approach Based on Computational Algorithm”. Based on the above work they have published a paper in the international journal of Precision Engineering.
3.	Praveen O V S, Dileep B, Gayatri S,	B.Tech	Best B.Tech Project in Manufacturing filed given by The Society of Aerospace Manufacturing Engineers (SAME)
4.	Prahlad and Team	B.Tech	Best project award-PTA
5.	Tejas Kokane	M.Tech	Published one paper in International Journal
6.	Sundareswaran S	M.Tech	Best Presentation award at National Conference on Futuristic Trends in Materials, Manufacturing and Mechanical Engineering FTMMME at NIT Raipur on 28th,29th February 2020
7.	Akshai B , Visakh R, Krishnanand J Kamath, Mohammed R Riyas and ML Joy	B. Tech (Production)	Published a journal paper from the project work "A novel approach in developing environment-friendly bio-lubricant from coconut oil, mustard oil and its methyl esters" Proc IMechE Part J:J Engineering Tribology 1–21! IMechE 2020, May 2020
8.	Shruthi C M	Ph. D.	The paper presented by Ms. Shruthi C. M., “Kinematic and static analysis of mobile dual arm robot traversing through a multi stranded wire” has been selected as the best paper in the international conference on “Control, Mechatronics and Automation (ICCMA 2017)” held in University of Alberta, Canada during October 11-13, 2017.

**DEPARTMENT OF PHYSICS**



a. Publications

i. Journal

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of Journal</b>	<b>Vol, Year, p.p.</b>
Nishaina Sahadev, Aji A Anappara	Photo-to-thermal conversion: effective utilization of futile solid-state Carbon Quantum Dots (CQDs) for energy harvesting applications	New J. Chem.	44, (2020), 10662-10670
Saju K. John, Aji A. Anappara	Broadband absorption and photothermal conversion in titanium diboride	AIP Conference Proceedings	2244 (2020), 070027
Abhijith Thazhathe Nair, Shamjid Palappra and V Reddy	Multi-positional silver nanostructures for high absorption enhancement in polymer solar cells	<i>Organic Electronics</i>	73, 311-316 (2019)
G. S. Amitha, M. Yoosuf Ameen, V. Sivaji Reddy, Suni Vasudevan	Synthesis of peripherally tetra substituted neutral azophenox zinc phthalocyanine and its application in bulk hetero junction solar cells	<i>Journal of Molecular Structure</i>	1185, 425-431 (2019)
P Shamjid, T Abhijith, Vivek, C S Joel, V S Reddy	Plasmonic effects of Ag nanoparticles for absorption enhancement in polymer solar cells with MoO <sub>3</sub> passivation layer	<i>Physica B: Condensed Matter</i>	560,174-184 (2019)
P Anjaneyulu, V Varadachari, C S Suchand Sangeetha and R Menon	Anomalous current–voltage and impedance behaviour in doped Poly 3-methylthiophene devices	Journal of Physics D Applied Physics	53, 295301 (2020)
J Francis, NP Vaisakh, C Suchand Sangeetha	Temperature dependent charge transport in polymer-carbon nanotube and polymer-reduced graphene oxide composites: comparison	AIP Conference Proceedings	2162, 020016 (2019)
A. P. Naseer and P. K. Madhavan Unnikrishnan	Effect of Potassium Thiocyanate on the Phase Diagram of Methyl Ethyl Ketone + secondary Butyl Alcohol + Water: Search for the Quadruple Critical Point	Journal of Molecular Liquids	Vol. 296, 2019, 111776
<b>Ram Ajor Maurya</b>	Magnetic and Velocity Field Topology in Active Regions of Descending Phase of the Solar Cycle 23	Solar Physics	Accepted
Cunjing LV, Subramanyan Namboodiri Varanakkottu, Steffen Hardt	Liquid Plug Formation from Heated Binary Mixtures in Capillary Tubes	Journal of Fluid Mechanics	889, 2020

Thamarasseril Vijayan Vinay, <b>Subramanyan Namboodiri Varanakkottu</b>	Separation of floating oil drop based on drop-liquid substrate interfacial tension	Langmuir	32, 10596-10600, 2019
Arul Mozhi Devan Padmanathan, Apoorva Sneha Ravi, Hema Choudhary, <b>Subramanyan Namboodiri Varanakkottu</b> , and Sameer Vishvanath Dal	Predictive Framework for the Spreading of Liquid Drops and the Formation of Liquid Marbles on Hydrophobic Particle Bed	Langmuir	35, 6657-6668, 2019
Anjali S and <b>Saurabh Gupta</b>	Faddeev-Jackiw Quantization of Christ-Lee Model	Modern Physics Letters A	35(2020) 10, 2050072
Ramesh Anishetty and <b>P Sreeraj</b>	Addition of SU(3) generators and its singlet Hilbert space J	Math. Phys	061701(2019)
<b>Sreeraj T P</b> , Ramesh Anishetty	Gauss law at a vertex in Lattice QCD and its gauge invariant Hilbert space	arxiv:1906	03893 (June 10,2019)
Manu Mathur, Atul Rathor, <b>T P Sreeraj</b>	Resolution of SU(3) outer multiplicity problem and the SU(3) x SU(3) invariant group SO(4,2)	arxiv: 1906	10410 (June 25, 2019)
Chethan Krishnan, Rohit Shekhar, <b>P.N. Bala Subramanian</b>	A Hairy Box in Three Dimensions	under review in Nuclear Physics B	preprint: arXiv/1905.11265
Sujay K. Ashok, <b>P.N. Bala Subramanian</b> , Aditya Bawane, Dharmesh Jain, Dileep P. Jatkar, Arkajyoti Manna	Exact WKB Analysis of CP <sup>1</sup> /Holomorphic Blocks	JHEP 10 (2019) 075	DOI: 10.1007/JHEP10(2019)075, preprint: arXiv/1907.05031
Madhusudhan Raman, <b>P.N. Bala Subramanian</b>	On Chebyshev Wells, Periods, Deformations, and Resurgence	to appear in Physical Review D	preprint: arXiv/2002.01794
H. Perveen, A. Dey, N. Nilavar, <b>G. K. Chandrasekhar S. S. Islam</b> , Chattopadhyay	Dietary CCPS from bitter gourd attenuates sodium arsenite induced female reproductive ailments cum infertility in Wistar rats: Anti-inflammatory and anti-apoptotic role	Food and Chemical Toxicology	131, 2019, 110545
K. Kundu, <b>G. K. Chandra</b> , S. Umapathy, J. Kiefer	Spectroscopic and computational insights into the ion-solvent interactions in hydrated aprotic and protic ionic liquids	Phys. Chem. Chem. Phys.	21 (37), 2019, 20791
<u>P. Selvarajan</u> , <u>G. Chandra</u> , <u>S. Bhattacharya</u> , <u>S.</u>	Potential of Raman spectroscopy towards understanding structures of	<u>Emergent Mater.</u>	2, 2019, 417

<u>Sil, A. Vinu, S. Umapathy</u>	carbon-based materials and perovskites		
G. Satpathy, G. K. Chandra, E. Manikandan, D. R. Mahapatra, S. Umapathy	Pathogenic Escherichia coli (E. coli) detection through tuned nanoparticles enhancement study	Biotechnol. Lett.	42, 2020, 853
S.Kumar, R. Gopinathan, G. K. Chandra, S. Umapathy, D. K. Saini	Rapid detection of bacterial infection and viability assessment with high specificity and sensitivity using Raman microspectroscopy	Anal. Bioanal. Chem.	412 (11), 2020, 2505

b. International Conference

Name of the Author	Title of Paper	Name of International conference	Vol, Year, p.p.
A. P. Naseer and P. K. Madhavan Unni	Investigation of special critical points in the multi-component liquid mixture Methyl Ethyl Ketone (MEK) + secondary Butyl Alcohol (sBA) + Water (W) + Potassium thiocyanate (KSCN)	Complex Dynamical Systems and Applications (CDSA 2020) Feb 21-23, 2020, held at Central University of Rajasthan Ajmer, India	–

c. Community Services

Participated in COVID19 prevention activities under UBA scheme - Dr Subramanyan Namboodiri Varanakkottu

d. Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr. P. K. Madhavan Unni	1) Associate Dean (Faculty Welfare) 2) Program Coordinator, B. Tech. (EP)
Dr Aswathi. G	1) First Year course coordinator (PH1001D-Physics) 2) Faculty Advisor (B-Tech 2018 Admissions)
Dr. Ram Ajour Maurya	1. Time-Table in-charge 2. Lab In-charge for the Computational Physics Lab 3. Programme Coordinator for the M.Sc. (Physics) 4. Alumni in-charge, Department of Physics (Alumni detail is used for NIRF ranking, FIST proposal, etc.) 5. Faculty Advisor, M.Sc.(Physics), for admission year 2019 6. Class committee chairman, BTech-EP-S4
Dr. Saurabh Gupta	1. First year B. Tech. Physics laboratory coordinator. 2. Class committee chairman B. Tech. (EP) S7 & S8, 2019-20. 3. Faculty in-charge Official Language Unit (OLU), NITC.

Dr. Goutam Kumar Chandra	1. First Year B. Tech. Co-coordinator, NITC. 2. Optics Lab In-Charge, Department of Physics, NITC. 3. Colloquium Coordinator, Department of Physics, NITC. 4. Member of Project Implementation Group (DST-FIST), Department of Mathematics, NITC. 5. Member of Project Monitoring Committee
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e. Conferences/Summer/Winter School/Short term Courses/ Workshops conducted

Sl.No	Title	Coordinators	Duration & Period
1	National Conference on Softmatter and Functional Materials	Subramanyan Namboodiri Varanakkottu	2-4 March 2020

f. Expert lecturers delivered in Conferences/Seminar/workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Dr. Ram Ajor Maurya	IRIS-10 workshop	6 December 2019	IIA Bangalore
2	Dr. Ram Ajor Maurya	IUCAA workshop	27 December 2019	IUCAA
3	Subramanyan Namboodiri Varanakkottu	Stimuli Responsive Microfluidics	21 May 2019	Christ University

### SCHOOL OF BIO TECHNOLOGY

a. Publications

i. Journal

Name of the Author	Title of Paper	Name of Journal	Vol, Year, p.p.
Adarsh V, Santhiagu A.	Identifying drug-like inhibitors of Mycobacterium tuberculosis H37Rv Seryl tRNA synthetase based on bioassay dataset: homology modelling, docking and molecular dynamics simulation.	International Journal of Computational Biology and Drug Design.	2019;12(4):373 - 402
Davis CK, Jain SA, Bae O-N, Majid A, Rajanikant GK	Hypoxia Mimetic Agents for Ischemic Stroke	Frontiers in Cell and Developmental Biology	2019;6(175)
Divya TT, Raghav D, Rathinasamy K, Chakkumkumarath L	Multifunctional fluorescent leucomalachite green derivatives for chemodosimetric detection of Fe <sup>3+</sup> , specific imaging of lipid droplets and intracellular pH monitoring	New Journal of Chemistry	2019;43(41):16349-58

Jaleel JA, Ashraf SM, Rathinasamy K, Pramod K	Carbon dot festooned and surface passivated graphene-reinforced chitosan construct for tumor-targeted delivery of TNF- $\alpha$ gene	International Journal of Biological Macromolecules	2019;127:628-36
Joji K, Santhiagu A, Salim N	Computational modeling of culture media for enhanced production of fibrinolytic enzyme from marine bacterium <i>Fictibacillus</i> sp. strain SKA2 and in vitro evaluation of fibrinolytic activity	3 Biotech	2019;9(9):323
Manjusha C, Santhiagu Soumiya S, Adarsh V, Jayaprakash S	Phyre 2 and I-Tasser web portal for Protein modeling, Prediction and Validation of gel Q and gel K genes from gellan gum producing bacterium strain <i>Sphingomonas paucimobilis</i> ATCC 31461	Research Journal of Pharmacy and Technology	2019;12(1):27-6
Nampoothiri SS, Rajanikant GK	miR-9 Upregulation Integrates Post-ischemic Neuronal Survival and Regeneration In Vitro	Cellular and Molecular Neurobiology	2019;39(2):223-40
Padmanaban SS	Luteal phase defects/insufficiency in the omics era: Challenges and opportunities ahead. Journal of Gynecology Obstetrics and Human Reproduction	Journal of Gynecology Obstetrics and Human Reproduction	2019;48(9):789
Raghav D, Mahanty S, Rathinasamy K	Biochemical and toxicological investigation of karanjin, a bio-pesticide isolated from <i>Pongamia</i> seed oil	Pesticide Biochemistry and Physiology	2019;157:108-21
Raghav D, Mahanty S, Rathinasamy K	Characterizing the interaction of the antipsychotic drug trifluoperazine with bovine serum albumin: Probing the drug-protein and drug-drug interactions using multi-spectroscopic approaches	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	2020;226:117584
Sabu C, Raghav D, Jijith US, Mufeedha P, Naseef PP, Rathinasamy K, et al	Bioinspired oral insulin delivery system using yeast microcapsules	Materials Science and Engineering: C	2019;103:109753
Salim N, Santhiagu A, Joji K	Process modeling and optimization of high yielding L-methioninase from a newly isolated <i>Trichoderma harzianum</i> using response surface methodology and artificial neural network coupled genetic algorithm	Biocatalysis and Agricultural Biotechnology	2019;17:299-308
Sebastian J, Rathinasamy K	Benserazide Perturbs Kif15-kinesin Binding Protein	Molecular Informatics	2019;n/a(n/a)

	Interaction with Prolonged Metaphase and Defects in Chromosomal Congression: A Study Based on in silico Modeling and Cell Culture		
Shetty A, Venkatesh T, Tsutsumi R, Suresh PS	Regulated expression of Gemin5, Xrn1, Cpeb and Sta in the uterus and ovaries after superovulation and the effect of exogenous estradiol and leptin in rodents	Molecular Biology Reports	2019;46(2):2533-40
Soumiya S, Santhiagu A Manjusha C, Adarsh V, Jayaprakash S	Homology Modeling and Structural Validation of Gel gene involved in the biosynthesis of Gellan from <i>Sphingomonas paucimobilis</i> ATCC 31461	Research Journal of Pharmacy and Technology	2019;12(3):1044-50
Aswani T, Suchithra T.	<b>Antidermatophytic lead compounds from <i>Streptomyces albidoflavus</i> STV1572a against <i>Tinea mentagrophytes</i></b>	Microbial Pathogenesis	2020 Feb 3; 142:104037
Benu George, Suchithra T.V.	Meta analysis on big data of bioactive compounds from mangrove ecosystem to treat neurodegenerative disease.	Scientometrics	8 Feb 2020, 22, pages1539-1561
Mubarak, A.Shaija, T.V.Suchithra	Evaluation of ferric chloride and electroflocculation of <i>Chlorella pyrenoidosa</i> and reuse of the culture medium in subsequent cultures	Journal of Environmental Chemical Engineering	Volume 8, Issue 1, February 2020, 103612
Mubarak, A.Shaija, T.V.Suchithra	Flocculation: An effective way to harvest microalgae for biodiesel production	Journal of Environmental Chemical Engineering	Volume 7, Issue 4, 18 June 2019 online. August 2019, 103221
Benu George, Suchithra T.V	Plant-derived bioadhesives for wound dressing and drug delivery system	Fitoterapia	Volume 137, 12 June 2019, 104241
Benu Geroge, Suchithra T.V	Nanocellulose as polymer composite In: Plant Nanobionics	Springer Science	2019 DOI: <a href="https://doi.org/10.1007/978-3-03016379-2_14">10.1007/978-3-03016379-2_14</a>
Awani T, Reshmi sasi, Suchithra T.V.	Actinomycetes: It's realm in nanotechnology In: Microbial Nanobionics	Springer Science	2019 DOI: <a href="https://doi.org/10.1007/978-3-03016383-9_5">10.1007/978-3-03016383-9_5</a>
Sareena C., Anju Suresh A., Swetha Sunil, Suchithra, T.V	Structural profiling of bioactive compounds with medicinal potential from traditional Indian medicinal plants. In: Ethnopharmacology and biodiversity of medicinal plants	Apple Academic Press, CRC Press, a Taylor & Francis Group	2019 Chapter 15 54 Pages

Ilshadsabhah, Suchithra T.V	Bacterial nanowires: an invigorating tale for future. In Microbial Nanobionics.	Springer Science	2019 pp 77-88
<u>Abhishek Shetty,</u> <u>Thejaswini Venkatesh,</u> <u>Rie Tsutsumi,</u> <u>Padmanaban S Suresh</u>	Gene Expression Changes and Promoter Methylation With the Combined Effects of Estradiol and Leptin in Uterine Tissue of the Ovariectomized Mice Model of Menopause	Mol Biol Rep	2020 Jan;47(1):151-168.
Padmanaban S Suresh	Emerging Roles of Salivary lncRNAome in Oral Cancer	Indian Journal of Clinical Biochemistry (Springer)	December 2019 <a href="https://doi.org/10.1007/s1291-019-00869-2">https://doi.org/10.1007/s1291-019-00869-2</a>

b. International Conference

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of International conference</b>	<b>Vol, Year, p.p.</b>
Sruthy S, Aswani T, Suchithra T.V.	Screening of wetland soil actinomycetes for natural pigment: screening and characterization studies	International Interdisciplinary Conference on Healthcare and Technical Research (ICHTR 2019), Mangalore. 29-31 October 2019	October 2019 Pp 17
Devika M, Fathima Ridha K, Sruthy S, Ankit Verma, Benu George, Suchithra T.V.	Isolation of antimicrobial peptides from mangrove soil	International Interdisciplinary Conference on Healthcare and Technical Research (ICHTR 2019), Mangalore. 29-31 October 2019	October 2019 Pp 19

c. National Conference

<b>Name of the Author</b>	<b>Title of Paper</b>	<b>Name of National conference</b>	<b>Vol, Year, p.p.</b>
Benu George, Sruthy S, Fathima Ridha K, Devika M, Ankit Verma, Suchithra T.V	Screening and Isolation of Antimicrobial Peptides from 12 Common Wild Plant Leaves	Kerala Science Congress (KSC 2020), Palakkad	25-27 January 2020, Pp 57
Fathima Ridha K, Devika M, Benu George, Suchithra T.V.	Value-added application of Banana peel based bioplast and its optimization	Kerala Science Congress (KSC 2020), Palakkad	25-27 January 2020, Pp 55
Pooja S, Dr. Suchithra TV*.	A Network perspective on green synthesis of nano particles	National conference on nano materials for energy, environment and healthcare (NEEHCON), organized by	27-28 december 2019 Pp 30

		School of materials science and engineering, NIT Calicut	
Serin Zachariah, Dr. Suchithra TV	Insilico prediction and synergistic antibacterial study of synthetic anticoumarin derivatives with different antibiotics against Methicillin-resistant staphylococcus aureus	32 <sup>nd</sup> Kerala Science congress, Yuvakshetra Institute of management Studies, Mundoor, Palakkad district.	25-27 January 2020, Pp 56,
Dr. Jomon Sebastian	Phenotypic heterogeneity as a driver of cancer progression	Indian Institute of Science, Bengaluru	5-6 <sup>th</sup> January, 2020

d. Expert lecturers delivered in Conferences/Seminar/workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1.	Dr Suresh PS	UGC-Human Resource Development Centre (HRDC), University of Calicut Refresher course	26/10/2019	University of Calicut

#### SCHOOL OF METERIALS SCIENCE AND ENGINEERING

- Publications

- i. Journal

Name of the Author	Title of Paper	Name of Journal	Vol, Year, p.p.
C. B. Sobhan, G. P. Peterson,	Investigations of Wire-Bonded Micro Heat Pipes	Heat and Mass Transfer,	13,5, 2019
Neeshma Radhakrishnan, Shijo Thomas, C. B. Sobhan,	Characterization of Thermophysical Properties of Nano- Enhanced Organic Phase Change Materials using T-History Method	Journal of Thermal Analysis and Calorimetry	Springer. 2019.1165b7
Saran Ramachandran, C. B. Sobhan, G. P. Peterson	Thernophoresis of Nanoparticles in Liquids,	Int. Journal of Heat and Mass Transfer	Elsevier, 2019.
Ajith Mohan Arjun, Vimal, M., N. Sandhyarani	A hybrid hydrogel separated biofuel cell with a novel enzymatic anode and glucose tolerant cathode,	International Journal of Hydrogen Energy	2019, 4, 27056-27066. DOI:10.1016/j.ijhydene.2019.08.131



Biyas Posha, Haritha K., N. <b>Sandhyarani</b> ,	1-Pyrene carboxylic acid functionalized carbon nanotube- gold nanoparticle nanocomposite for electrochemical sensing of dopamine and uric acid	Microchimica Acta	2019,186:672. DOI: 10.1007/s00604-019-3783-0
Thulasi Radhakrishnan, Aparna M.P., Raghu Chatanathodi, N. <b>Sandhyarani</b> ,	Amorphous Rhenium Disulfide Nanosheets: A Methanol-Tolerant Transition Metal Dichalcogenide Catalyst for Oxygen Reduction Reaction,	<i>ACS Applied Nano Materials</i>	2019, 2, 4480-4488 <a href="https://doi.org/10.1021/acsanm.9b00867">https://doi.org/10.1021/acsanm.9b00867</a>
Robin Augustine, Yogesh B Dalvi, VK Yadu Nath, Ruby Varghese, Varun Raghuvveeran, Anwarul Hasan, Sabu Thomas, N <b>Sandhyarani</b>	Yttrium oxide nanoparticle loaded scaffolds with enhanced cell adhesion and vascularization for tissue engineering applications	Materials Science & Engineering C	2019, 103, 109801
Mathew Joseph and V <b>Sajith</b> ,	Graphene enhanced paraffin nano composite based Hybrid cooling system for thermal management of Electronics	<i>Applied Thermal Engineering (Elsevier)</i> ,	163(2019)114342
O.Manaf, K.Anjana, R. Prashanth, C.R.Reshmi, K Jurajj, P Rajesh,Chingakham C , V. <b>Sajith</b> , A.Sujith,	ZnO Decorated Anti-bacterial Electrospun ABS Nanocomposite Membrane for Oil-Water Separation,	Materials Letters (Elsevier)	256 (2019), 126626
Chingakham Chinglenthomba , Manaf O, A. Sujith and V <b>Sajith</b>	Hydrophobic nano bamboo fiber reinforced acrylonitrile butadiene styrene electrospun membrane for the filtration of crude biodiesel,	Applied Nano Science,	(Springer) ,2019
Sreenidhi P, R, Sabarinath, S., <b>Subash, C. K.</b> , Valiyaneerilakkal, U., Parameswaran, P., & <b>Soney Varghese.</b>	$\alpha$ -& $\beta$ -crystalline phases in polyvinylidene fluoride as tribo-piezo active layer for nanoenergy harvester.	<i>High Performance Polymers</i>	2019, 0954008318796141.
Prasad, V., Sekar, K., <b>Soney Varghese.</b> , & Joseph, M. A	Enhancing Mode I and Mode II interlaminar fracture toughness of flax fibre reinforced epoxy composites with nano TiO2	Composites Part A: Applied Science and Manufacturing	2019, 105505
Bhanuprakash, L., Parasuram, S., & <b>Soney Varghese.</b>	Experimental investigation on graphene oxides coated carbon fibre/epoxy hybrid composites: Mechanical and electrical properties	Composites Science and Technology,	2019, 179, 134-144

James, J., Unni, A. B., Taleb, K., Chapel, J. P., Kalarikkal, N., <b>Soney Varghese.</b> & Grohens	Surface engineering of polystyrene–cerium oxide nanocomposite thin films for refractive index enhancement.	. Nano-Structures & Nano-Objects	2019,17, 34-42
Subash Cherumannil Karumuthil, Sreenidhi Prabha Rajeev, Uvais Valiyaneerilakkal, Sujith Athiyanathil, <b>Soney Varghese,</b>	Electrospun Poly (vinylidene fluoride-trifluoroethylene)-Based Polymer Nanocomposite Fibers for Piezoelectric Nanogenerators	ACS applied materials & interfaces	2019, 11, 43, 40180-40188
Subash Cherumannil Karumuthil, Sreenidhi Prabha Rajeev, and <b>Soney Varghese,</b>	“Poly(vinylidene fluoride-trifluoroethylene)-ZnO Nanoparticle Composites on a Flexible Poly(dimethylsiloxane) Substrate for Energy Harvesting”	ACS Applied Nano Materials	2019,2, 7 4350-4357
<i>Dilshad., A. Shebeer, and T. Hanas,</i>	Dilshad., A. Shebeer, and <b>T. Hanas,</b> Polyvinyl Alcohol/Magnesium Phosphate Composite Coated Mg-Ca Alloy for Biodegradable Orthopaedic Implant Applications	<i>Materials Research Express</i>	2019
Radhika Panickar, <b>C. B. Sobhan,</b> Sivaji Chakravorti	, Investigations of Tribological Properties of Non-catalytic CVD Synthesized Carbon Spheres in Lubricant,	Diamond and Related Materials	<i>Elsevier, 2020.</i>
Radhika Panickar, <b>C. B. Sobhan,</b> Sivaji Chakravorti	Chemical Vapor Deposition Synthesis of Carbon Spheres:	Effects of Temperature and Hydrogen, Vacuum	<i>Elsevier, 2020</i>
Manu Mohan, <b>Shijo Thomas, C. B. Sobhan,</b>	Convective Heat Transfer Studies in Dilute Alumina and Silica Nanofluids Flowing Through a Channel using Mach-Zehnder Interferometry,	Heat and Mass Transfer,	<i>Springer, 2020</i>

Biyas Posha, N. <b>Sandhyarani,</b>	Highly sensitive endotoxin detection using gold nanoparticle loaded layered molybdenum disulfide	poly acrylic acid nanocomposite, Analyst,	2020, 10.1039/D0AN00567C
Nubla K, <b>Sandhyarani N.</b>	Ag nanoparticles anchored Ag <sub>2</sub> WO <sub>4</sub> nanorods: An efficient methanol tolerant and durable Pt free electro-catalyst toward oxygen reduction reaction	Electrochimica Acta.	2020, 340, 135942
Thulasi Radhakrishnan, KN Nampoothiri, N. <b>Sandhyarani</b>	Enhanced electro-catalytic activity of palladium nanocoral structures with platinum incorporation,	Electrochimica Acta	2020, 340, 135840
Thekkathu, R., Ashok, D., Ramkollath, P.K., N, <b>Sandhyarani,</b> Kurishunkal, L.P., Yadav, M.P. and Kalarikkal, N	Magnetically recoverable Ir/IrO <sub>2</sub> @ Fe <sub>3</sub> O <sub>4</sub> core/SiO <sub>2</sub> shell catalyst for the reduction of organic pollutants in water	Chemical Physics Letters	2020, 742, 137147
Augustine, R., Hasan, A., Patan, N.K., Dalvi, Y.B., Varghese, R., Antony, A., Unni, R.N. N. <b>Sandhyarani,</b> and Moustafa	Cerium oxide Nanoparticle Incorporated Electrospun Poly (3-hydroxybutyrate-co-3-hydroxyvalerate) Membranes for Diabetic Wound Healing Applications	ACS Biomaterials Science & Engineering	2020, 6, 1, 58-70
Nimmy, J. V., Subash C. K, & <b>Soney Varghese</b>	Nano P (VDF-TrFE) doped polyimide alignment layers for twisted nematic liquid crystal devices.	Liquid Crystals	2020,47, 36–41
Sreenidhi P. R, Sivapriya, S., Subash C. K, & <b>Soney Varghese</b>	Prototype of energy harvesting door handles using polymer nanocomposite.	Applied Nanoscience	2020, 10,1-13

Sreenidhi Prabha Rajeev, Shajimon K John, Riboy Cherian, Subash Cherumannil Karumuthil, <b>Soney Varghese</b>	Next-generation rooftop tribo–piezo electric energy harvesting from rain power	Applied Nanoscience	2020, 10 (3), 679-6864.
Subash Cherumannil Karumuthil, Kulwant Singh, Uvais Valiyaneerilakkal, Jamil Akhtar, <b>Soney Varghese</b>	Sensors and Actuators	Physical 303	2020,111677
Chingakham C, Anu Das, <b>Sajith V;</b>	Enhanced biodiesel production from waste cooking palm oil with NaOH loaded calcined fishbone as the catalyst	Environmental Science and Pollution Research	Springer (2020)
V. Muthya Goud, V. Vaisakh, Mathew Joseph, <b>V. Sajith</b>	An experimental investigation on the evaporation of polystyrene encapsulated phase change composite material based nanofluids	Applied Thermal Engineering (Elsevier),	2020,168(2020)1 14862
V.Gautham, Chingakham C, Jaison John, <b>V.Sajith,</b>	Enhancement of Soot Combustion in Diesel Particulate Filters by Ceria Nano Fiber Coating	Applied Nano Science	.(Springer), 2020
R, Shishir, Shebeer and <b>T. Hanas</b>	Effect of grain refinement on biodegradation and biomineralization of low calcium containing Mg-Ca alloy	Materials Research Express (IOPscience)	2020 7 036501
Shebeer A Rahim, M A Joseph, <b>T. Hanas</b>	Tailoring biomineralization and biodegradation of Mg-Ca alloy by acetic acid pickling	Materials Research Express (IOPscience)	2020.

Albin Joseph, Sreehari Sreekumar, CS Sujith Kumar, <b>Shijo Thomas</b>	Optimisation of thermo-optical properties of SiO <sub>2</sub> /Ag–CuO nanofluid for direct absorption solar collectors	Journal of molecular liquids	249, 119378, 2020
S Sreekumar, A Joseph, CSS Kumar, <b>Shijo Thomas</b>	Investigation on influence of antimony tin oxide/silver nanofluid on direct absorption parabolic solar collector	Journal of cleaner production	249, 119378, 2020

ii. International Conference

Name of the Author	Title of Paper	Name of International conference	Vol, Year, p.p.
Radhika Panickar, <b>C. B. Sobhan, and Sivaji Chakravorti</b>	Substrate Temperature Optimization for Diamond Thin Film Synthesis using Hot- Filament Chemical Vapor Deposition	IEEE International conference, ICMSAO '19, Bahrain session	15 <sup>th</sup> -17 <sup>th</sup> April 2019
Chingakham Chinglenthoba, and <b>V Sajith</b>	Superhydrophobic Nano Bamboo Fiber Reinforced Acrylonitrile Butadiene Styrene (ABS) Membrane for the Filtration of Crude Biodiesel	10th International Conference on Materials for Advanced Technologies, , Marina Bay Sands, Singapore	23- 28th June 2019
Arjun Ajith Mohan, <b>N.Sandhyarani,</b>	A 3D Printed Enzymatic Biofuel Cell Based on Reduced Graphene Oxide Para Amino Benzoic Acid Modified Anode and Electrodeposited Reduced Graphene Oxide Cathode	ECEE 2019 Glasgow, Scotland	21 <sup>st</sup> to 26 <sup>th</sup> July, 2019
Neeshma Radhakrishnan, <b>C. B. Sobhan</b>	Investigations on the Thermophysical Properties of an Organic Eutectic Phase Change Material Dispersed with GNP-Ag Hybrid Nanoparticles,	16th UK Heat Transfer Conference, (UKHTC 2019) Nottingham, UK	8 <sup>th</sup> -10 <sup>th</sup> Sept. 2019
Mathew Joseph, Muhammad Jaseem, <b>V Sajith</b>	Thermal management of electronics using CNT loaded phase change materials based heat sinks	16 <sup>th</sup> UK Heat Transfer Conference (UKHTC 2019)	8 <sup>th</sup> -10 <sup>th</sup> Sept. 2019

iii. National Conference

Name of the Author	Title of Paper	Name of National conference	Vol, Year, p.p.

- Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
C. B. Sobhan	1.Member, Purchase Committee, SMSE
N. Sandhyarani	1.Exam in charge – SMSE 2.Time table in charge, SMSE 3.Member, Purchase Committee, SMSE
Sajith V.	1.Head of the department,SMSE 2. Faculty Advisor, SAE Collegiate Club, NITC 3. 4. Member, Purchase Committee, SMSE 5. Lab-in-Charge, Applied Nano Engineering Laboratory
Soney Varghese	1.SEM and SPM Manager 2. Lab-In-Charge -Nano Materials And Devices Research Laboratory 2.Member, Purchase Committee, SMSE
Hanas T.	1.Program Coordinator - M.Tech Nanotechnology 2.Lab-In-Charge - Nanomaterials Research Laboratory 3.Lab-In-Charge- PG Laboratory, SMSE 4.Faculty Advisor - School of Materials Science and Engineering Association 5.Member - Library Advisory Committee, SMSE Nominee 6.Secretary - DCC, SMSE 7.Member - TEQIP III Phase Purchase committee
Shijo Thomas	1.Faculty Advisor, SAE India Collegiate Club,NITC 2.Laboratory in Charge, Nanotechnology Research Laboratory 3.Member, Purchase Committee, SMSE

- Conferences/Summer/Winter School/Short term Courses/ Workshops conducted

Sl.No	Title	Coordinators	Duration & Period
1	National Conference on Nano Materials for Energy Environment and Health Care(NEECHON )2019	Dr Sajith.V ,Dr.N.Sandhyarani	27 <sup>th</sup> Dec-28 <sup>th</sup> Dec 2019
2	FDP-Experimental Physics	Dr.Soney Varghese	2 <sup>nd</sup> March - 5 <sup>th</sup> March 2020

- Expert lecturers delivered in Conferences/Seminar/workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Dr.N.Sandhyarani	Molecular Spectroscopic techniques for characterization of materials, Spectroscopy: Theory and Practice Two Day National Seminar	17 <sup>th</sup> and 18 <sup>th</sup> October 2019.	Government Arts and Science College Kozhikode
2	Dr.N.Sandhyarani	Nanostructured Electro-catalysts for energy generation, National Conference on Recent Advances in Chemical Sciences (RACS 2020)	7 <sup>th</sup> -8 <sup>th</sup> February 2020	Mahatma Gandhi University
3	Dr Soney Varghese	Nano composites - FDP on Nanotechnology to Nanotribology	6 <sup>th</sup> – 11 <sup>th</sup> January 2020	GEC Kozhikode
4	Dr Soney Varghese	Scanning probe microscopy for tribological applications - FDP on Nano Technology to Nano Tribology	6 <sup>th</sup> – 11 <sup>th</sup> January 2020	GEC Kozhikode
5	Dr.Hanas.T	Nanotechnology for Healthcare: Medical Materials' - FDP on Nano Technology to Nano Tribology	6 <sup>th</sup> – 11 <sup>th</sup> January 2020	GEC Kozhikode
6	Dr.Hanas.T	Nanomaterials for Health Care' – FDP on Hybrid Materials and Applications	14th Jan 2020	GEC Kozhikode
7	Dr Sajith V	Applications of Nano fluids - FDP on Nano Technology to Nano Tribology	6 <sup>th</sup> – 11 <sup>th</sup> January 2020	GEC Kozhikode
8	Dr.Shijo Thomas	Applications of nanomaterials in solar thermal systems - FDP on Nano Technology to Nano Tribology	6 <sup>th</sup> – 11 <sup>th</sup> January 2020	GEC Kozhikode

- Consultancy and testing: NIL

- Patents acquired and filed

Sl. No	Name of Staff	Title	Year
1	<b>Vandana Sajith</b> , Mohandoss Naveen roobadoss, <b>Shijo Thomas</b> , <b>C.B.Sobhan</b> , V Jayan, Somendra singh Parihar, Meenakshi Gupta, U. K. Arora	Encapsulated Composite Phase Change Material Based Nanofluids For Heat Transfer	2019

		National Thermal Power Corporation (NTPC) & NIT Calicut	
2	Dhanalkshmi Sathishkumar, <b>Sajith Vandana</b> , Sasikumar Krishnamoorthy, <b>Shijo Thomas</b> , U.Solomon, Kumaravelu Annamalai Balamurugan Venkatesan	A Lubricant composition and implementations thereof  CVRDE & NIT Calicut	2019

### SCHOOL OF MANAGEMENT STUDIES

- Publications

- i. Journal

S.N	Name of Faculty Member	Name of the Research Paper	Year of Publication	Name of the Journal
1	B. Jose, T. R. Ramanan, and S. D. M. Kumar	A BOCR decision model for telecom cloud strategy selection	2019	International Journal of Innovative Technology and Exploring Engineering, 2019 vol. 8, no. 6, pp. 1788-1796, 2019. ISSN: 2278-3075
2	Pratap Kumar S, Radha Ramanan T, Muhammad Shafi	The mediating role of quality management capability on the dynamic capability - new product development performance relationship: An empirical study among new product development units in the electronics sector	2020	Quality Management Journal. 2020, vol. 27, no2, pp. 80-94
3	Pratap Kumar S, Radha Ramanan T, Muhammad Shafi	Development of a composite dynamic capability index for benchmarking new product development performance: An empirical study among industries in the electronics sector	2020	International Journal of Process Management and Benchmarking (Accepted for Publication)
4	Pillai, S. P., Radharamanan, T., & Madhukumar, S. D.	An experiment to improve expert judgment software estimation through work breakdownstructure	2019	International Journal of Innovative Technology and Exploring Engineering, 2019, 8(7), 1914–1920



5	Pillai, S. P., Radharamanan, T., & Madhukumar, S. D	Feature Engineering in Software Effort Estimation for Enhanced Model Performance	2019	International Journal of Recent Technology and Engineering (IJRTE), 2019, 8(3),6053–6063.
6	Pillai, S. P., Radharamanan, T., & Madhukumar, S. D.	Evaluating Deep Learning Paradigms with TensorFlow and Keras for Software Effort Estimation	2020	International Journal of Scientific & Technology Research (IJSTR), 9(3) (Accepted for publication)
7	Shanujas V, Thiyagarajan Radha Ramanan,	Identification And Ranking Of Competencies That Positively Influence The Customer Services: A Case Study	2020	International Journal of Analytic Hierarchy Process 12(1), ISSN 1936-6744
8	Sreejith B J and T. Radha Ramanan	Modelling and comparison of three echelon production- inventory supply chain models for a deteriorating product with and without backlogging	2020	International Journal of Industrial and systems Engineering (Accepted for publication)

ii. International Conference

Name of the Author	Title of Paper	Name of International Conference	Vol, Year, p.
Rijas B M and T. Radha Ramanan	Capacitated Vehicle Routing Problem: A Case Study	National Systems Conference (NSC-2019),	
Pratap Kumar S, Radha Ramanan T, Muhammad Shafi	Striking the right balance between operational capabilities and dynamic capabilities for new product development excellence: An empirical study employing data envelopment analysis in the electronics sector	Annual International Conference of the Society of Operations Management (SOM 2019)	
Pratap Kumar S, Radha Ramanan T, Muhammad Shafi	Product Development Excellence in Uncertain Environment- Dynamic Capability View	Seventeenth AIMS International Conference on Management (AIMS-17)	
Jobin MV, T. Radha Ramanan, and R. Sridharan	Factors Affecting Organizational Performance of a Lean Firm	19th Global Conference on Flexible Systems Management (GLOGIFT- 19)	
Dr. Althaf S	Hospitals on Park Road	International Conference on Advances in Health Management Services	1, 2020, pp 49
Dr. Reju George Mathew	Dalit Aesthetic in Kabali and Kala	Caste, Gender and Race: A Politics of Hegemony	

iii. National Conference : NIL

- Community Services

Sl. No.	Title	Coordinators	Duration & Period
1	Tarang (Annual Management Fest)	Dr. Reju George Mathew	2-3 Nov 2019
2	Start-up Mentoring and Pitching event	Student Association	14-15 Sep 2019
3	NIPM Student Chapter	Dr. Sreejith S S	2 Nov 2019
4	workshop on Constitutional Democracy by Dr. Sandeep Pandey	Dr. Reju George Mathew	30 Oct 2019
5	Talk on Sustainable village model	SOMS to Society club	6 Mar 2020
	Expert talk on Ten Principles of Economics in the context of Management by Dr. A Ramanathan	Dr. T Radha Ramanan	13 Feb 2020
6.	Member, Screening Committee for UGC XII Plan Innovative Research Activities, Calicut University	Dr. Muhammad Shafi	Dec 2015 till date
7.	Member, Board of Studies, Department of Management Studies, Jamia Hamdard University	Dr. Muhammad Shafi	March 2014 till date
8	Member, Board of Studies, St. Teresa's College, Ernakulam (Autonomous)	Dr. Sunitha S	June 2015 till date
9	Member, Board of Studies, Department of Management Studies, Nandha College of Engineering, Erode, Tamil Nadu	Dr. Sreejith S S	Oct 2018 till date

- Other Academic and Administrative Services

Name of Staff	Academic and Administrative Services
Dr. Muhammad Shafi	Faculty-in-charge (Adventure Club), 2015 till date
Dr. Sunitha S	Faculty coordinator (Cultural Teams) - Jan 2018 till Jul 2019
Dr. Sunitha S	Faculty Coordinator, Students Guidance Cell (SGC) - Aug 2017 till Jul 2019
Dr. Sunitha S	Faculty-in-charge Intellectual Property Rights (IPR) Cell - Jun 2018 till Jul 2019

- Expert lectures delivered in Conferences/Seminar/Workshops

Sl. No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Dr. Nithya M	FDP on Statistics for Business Research and SPSS Applications	6 days; 20 January to 25 January 2020	School of Management, NIT Warrangal and association with E & ICT Academy

## 11.0 ANNEXURES

### 11.1 INSTITUTE'S SENATE

Dr. Sathi Devi P S	Deputy Director	Professor
Dr. Ashok S	Dean (R&C)	Professor
Dr. Jeevama Jacob	Dean (AA&IR)	Professor

Dr. M V L R Anjaneyulu	Dean (P&D)	Professor
Dr. Madhu Kumar S D	Dean (SW)	Professor
	Dean	
Dr. Saly George	(Academics)	Professor
Dr. T M Madhavan Pillai	Professor	Professor
Dr. Chandrakaran S	Professor (HAG)	Professor
Dr. Indira P V	Professor (HAG)	Professor
Dr. Santhosh G Thambi	Professor (HAG)	Professor
Dr. Unnikrishnan	Professor (HAG)	Professor
Dr. Lillykutty Jacob	Professor (HAG)	Professor
Dr. Paul Joseph K	Professor (HAG)	Professor
Dr. Jayaraj S	Professor (HAG)	Professor
Dr. Jose Mathew	Professor (HAG)	Professor
Dr. Muraleedharan C	Professor (HAG)	Professor
Dr. R Sridharan	Professor (HAG)	Professor
Dr. Predeep P	Professor (HAG)	Professor
Dr. C B Sobhan	Professor (HAG)	Professor
Dr. J.Sudha Kumar	Professor	Professor
Dr. Krishnamurthy K	Professor	Professor
Dr. Mohammed Ameen A M	Professor	Professor
Dr. Praveen Nagarajan	Professor	Professor
Dr. Sankar N	Professor	Professor
Dr. Shashikala A P	Professor	Professor
Dr. Lity Alen Varghese	Professor	Professor
Dr. Shiny Joseph	Professor	Professor
Dr. Sivasubramanian V	Professor	Professor
Dr. Abdul Nazeer K A	Professor	Professor
Dr. Priya Chandran	Professor	Professor
Dr. Vineeth Kumar P	Professor	Professor
Dr. Lakshmi C	Professor	Professor
Dr. Lisa Sreejith	Professor	Professor
Dr. Anil Kumar P P	Professor	Professor
Dr. Kasturba A K	Professor	Professor
Dr. Naseer M A	Professor	Professor
Dr. Ali C.K	Professor	Professor
Dr. Babu A V	Professor	Professor
Dr. Deepthi P P	Professor	Professor
Dr. P C Subramanian	Professor	Professor
Dr. Rijil Ramchand	Professor	Professor
Dr. Sreelekha G	Professor	Professor
Dr. Elizabeth P Cheriyan	Professor	Professor
Dr. Susy Thomas	Professor	Professor
Dr. Jacob M J	Professor	Professor
Dr. Jessy John C	Professor	Professor
Dr. M S Sunitha	Professor	Professor
Dr. Satyananda Panda	Professor	Professor

Dr. Sunil Jacob John	Professor	Professor
Dr. A Shaija	Professor	Professor
Dr. Biju T Kuzhiveli	Professor	Professor
Dr. Joseph M A	Professor	Professor
Dr. Joy M L	Professor	Professor
Dr. Madhusudanan Pillai V	Professor	Professor
Dr. Manu R	Professor	Professor
Dr. P K Rajendra Kumar	Professor	Professor
Dr. Chandrasekharan K	Dean (FW)	Professor
Dr. Raghu Chatanathodi	Professor	Professor
Dr. Ravi Varma Mundakkara Kovilakam	Professor	Professor
Dr. A Santhiagu	Professor	Professor
Dr. M D Anaul Kabir	Professor	Professor
Dr. Rajanikant G Krishnamurthy	Professor	Professor
Dr. N Sandhyarani	Professor	Professor
Dr. T K Suresh Babu	Professor	Professor
Dr. Sameer S M	Professor	Professor
Prof. Balaji R Jagirdar	IISc Bangalore	External Member
Prof. Nandita Dasgupta	IIT Madras	External Member
Prof. Rowena Robinson	IIT Bombay	External Member
Lt Col Pankajakshan.K (Retd)	Registrar	Secretary

## 11.2 BOARD OF GOVERNORS

Chairperson	<b>Director (Chairperson I/c)</b>
Ex. Officio Member	<b>Dr.Sivaji Chakravorti,</b> Director, National Institute of Technology, Calicut
Member	<b>Special Secretary or Additional Secretary or Joint Secretary</b> dealing with Technical Education, Department of Higher Education, Ministry of Human Resource Development
Member	<b>Financial Advisor, Department of Higher Education,</b> Ministry of Human Resource Development
Member	<b><i>NIT Council Nominee</i></b>
Member	<b><i>NIT Council Nominee</i></b>
Member	<b>Dr. P.P.Anil Kumar,</b>

	<p>Professor &amp; Head,  Department of Architecture &amp; Planning.  NIT Calicut  <i>Nominee of Senate</i></p>
Member	<p><b>Dr.Shijo Thomas,</b>  Assistant Professor ,  School of Material Science &amp; Engineering  NIT Calicut.  <i>Nominee of Senate</i></p>
Member	<p><b>Shri.Raveendran Kasturi,</b>  Group CEO,  Uralungal Labour Contract Co-Operative Society &amp; UL Cyber  Park &amp; UL Technology Solutions (ULTS), Madappalli  College.P.O., Vadakara, Kozhikode  <i>Nominee of Government of Kerala (from 29/10/2018)</i></p>
Member	<p><b>Shri.V.Naushad,</b>  Senior Vice President,  Confederation of Indian Footwear Industries &amp; MD, VKC,VKC  Group Calicut.  <i>Nominee of Government of Kerala (from 29/10/2018)</i></p>
Secretary	<p><b>Lt Col Pankajakshan.K, (Rtd)</b>  Registrar,  National Institute of Technology Calicut</p>

### 11.3 FINANCE, BUILDING AND WORKS AND OTHER COMMITTEES

#### Finance Committee:

Chairperson	<b>Director (Chairperson I/c)</b>
Ex. Officio Member	<b>Dr.Sivaji Chakravorti,</b> Director, National Institute of Technology, Calicut
Member	<b>Special Secretary or Additional Secretary or Joint Secretary</b> dealing with Technical Education, Department of Higher Education, Ministry of Human Resource Development
Member	<b>Financial Advisor, Department of Higher Education,</b> Ministry of Human Resource Development
Member	<b>Dr.Shijo Thomas,</b> Assistant Professor , School of Material Science & Engineering NIT Calicut. <i>Nominee of BoG</i>
Member Secretary	<b>Lt Col Pankajakshan.K,</b> Registrar, National Institute of Technology Calicut

#### Building & Works Committee:

<b>Ex. Officio Chairman</b>
<b>1. <a href="#">Dr. Sivaji Chakravorti,</a></b> Director, National Institute of Technology Calicut (Kerala)
<b>Members :</b>
<b>2 .</b> Nominated by the Central government not below the rank of Director /Deputy Secretary
<b>3. Dr. M.V.L.R.Anjaneyulu ,</b> Dean (Planning & Development)
<b>4 . Mr.A.Mohammed,</b> (Deputy Superintending Engineer, PWD Roads & Bridges, North Circle, Calicut

**5. Mr. Bose Jacob,**  
(Deputy Chief Engineer, KSEB, Electrical Circle, Calicut)

**6. Dr.P.P.Anil Kumar, Professor & Head**  
Department of Architecture & Planning,NIT Calicut  
(Representing Board of Governors)

**Secretary**

**7. Lt Col Pankajakshan K (Retd), Registrar,**  
National Institute of Technology Calicut

#### 11.4 PhD Programmes – Completed and Ongoing

DEPARTMENT OF ARCHITECTURE  
Ph. Ds completed under Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Dili A.S.	Dr. Naseer M.A.	Thermal Performance of Traditional Residential Buildings of Kerala	QIP
2	Josna Raphael P	Dr. Kasthurba A K	A model for urban interventions in culturally integrated historic urban cores: Case study of traditional Temple towns of Kerala	FT
3	Anjana Bhagyanathan	Dr. Kasthurba A K	Conservation of Sacred Groves and their impact on ground water levels in river basins of Malabar, Kerala	FT
4	Chithra K	Dr. Anil Kumar P.P.	A framework for the Residential Landuse Impact evaluation in Urban areas	PT
5	Bimal P.	Dr. Anil Kumar P.P.	An Algorithmic Framework for Surface Modeling of Population Concentration and Distribution	PT
6	Amritha P.K.	Dr. Anil Kumar P.P.	Productive Urban Landscapes- A sustainable solution for Organic waste Management for Indian urban areas	FT

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
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1	Mr.Pradeep	Dr. Anil Kumar P.P.	R-Built up space vs infrastructure capacity assessment: Building regulations	PT
2	Mrs. Shine George	Dr. Anil Kumar P.P.	Deliverance of community housing in the aftermath of natural disasters: Disaster management	PT
3	Mr. Binoy B V	Dr. Anil Kumar P.P. Dr. Naseer M.A.	Land value modelling in Kerala using Remote Sensing and GIS techniques: Land value	FT
4	Mr. Ajay Abey	Dr. Anil Kumar P.P.	Remodeling sustainable building concepts through analysis of traditional planning principles: Sustainability	PT
5	Mrs. Krishnaveni K S	Dr. Anil Kumar P.P.	Study of Urban sprawl in the state of Kerala: Urban sprawl	FT
6	Anju John	Dr. Anjana Bhagyanathan	Ecological Planning	PT
7	Rahul Sukumaran	Dr. Anjana Bhagyanathan	Ecological Planning	PT
8	Sheelu Jones	Dr. Anjana Bhagyanathan, Dr. Kasthurba A.K.	Environmental Conservation of Western Ghats	FT
9	Rohit ramakrishna nadkarni	Dr. Bimal P.	Urban Conservation	PT
10	Sunena abdul huq	Dr. Bimal P.	Urban Conservation	FT
11	Deepa p.	Dr. Bimal P.	Urban Modelling	PT
12	Shahana usman abdulla	Dr. Bimal P.	Urban Modelling	FT
13	Vishwalekshmi B.R	Dr. Deepthi Bendi	Topic: Construction and demolition waste minimization framework for India: Construction waste Management	FT
14	Mohammed Shebin	Dr. Deepthi Bendi	Topic: Energy efficiency and readiness of the built environment for the future crisis: Energy Management and Sustainable Built environment	PT



15	Kavitha VS	Dr. Mohammed Firoz C.	Urban Design	PT
16	Ashna John	Dr. Mohammed Firoz C.	Tourism Management	FT
17	Sruthi Krishnan	Dr. Mohammed Firoz C.	Environmental Planning	FT
18	Fathim Rashna Kallingal	Dr. Mohammed Firoz C.	Regional Planning	PT
19	Susan Cyriac	Dr. Mohammed Firoz C.	Regional Planning	FT
20	Fathima Zehba	Dr. Mohammed Firoz C.	Quality of Life	FT
21	Vidya P.	Dr. Shyni Anilkumar	Climate Change and Vulnerability	FT
22	Geetha A.	Dr. Shyni Anilkumar	Resilience of Tribal Community	FT
23	Alex Jose	Dr. Kasthurba A.K.	Masonry Blocks for Future- Modified Stabilized Earth Blocks using Natural Latex	FT
24	Jasna Bharghavan	Dr. Kasthurba A.K.	Infrastructure for water Security	FT
25	Rahmathulla Noufal	Dr. Kasthurba A.K.	Utilization of waste in replacement of fine aggregate for Concrete	PT
26	Supriya Mahesh Patil	Dr. Kasthurba A.K.	Weathering of Stone monuments: Weathering pattern of Basalt stone in monuments of Khandapur , Maharashtra	PT
27	Shahim Abdurahiman	Dr. Kasthurba A.K.	Urban Heritage Core – Planning	FT
28	Rajina Rahiman V.	Dr. Naseer M.A.	Methodology to assess Walkability to Public Transportation in Indian Urban Neighborhoods	PT
29	Vidya G. Mohan	Dr. Naseer M.A.	Model for Optimizing Container Transportation in Hinterland of Indian Ports	PT
30	Aromal V	Dr. Naseer M.A.	Development of Decision-making tool for Prioritizing Pedestrian Corridors for Improvement in Urban Areas	FT

31	Joshima V M	Dr. Naseer M.A.	Development of Cost Effective and Sustainable Thermal Retrofitting for RCC Roofs in warm Humid Climate	FT
32	Mrs. Nina Lazar	Dr. Chithra K.	Development of a decision tool to assess and enhance the sustainability of new residential buildings in the tropical climate: Sustainable Architecture	FT
33	Mr. Anurup P.	Dr. Chithra K.	Efficiency assessment of urban open spaces: Sustainable Land Use Planning	PT
34	Linas Fathima	Dr. Chithra K.	Development of a systemic model to identify architectural styles of builtforms: Sustainable Architecture	FT

#### Proposed Ph.D. Programmes

Sl. No.	Name	Research Area for Future PhD Programmes
1	Dr. Amritha P.K.	Productive urban landscapes- a sustainable solution for organic waste management for Indian urban areas, I would extend the availability and usefulness of this research and its advancement in developing landscaped spaces that cater to a larger user group thus connecting it with one of the main infrastructure of a city development that supports Landscape urbanism
2.	Dr. Bimal P.	Research in the field of AI and Machine Learning Applications in Urban Planning. Smart City GIS and Spatial Modelling
3	Deepthi Bendi	Prefabrication in the housing sector in India as part of the Faculty Research Grant. Further, in the coming academic year I would like to continue my explorations and research in the area's construction waste minimization and Sustainable built environment.
4	Dr. Naseer M A	Transportation Planning Thermal Studies in Buildings Remote Sensing and GIS applications in Urban Planning
5	Dr. Mohammed Firoz C.	Sustainable City Planning and Design Regional Development and Planning Ecological Planning
6	Dr. Anil Kumar P.P.	Smart City planning Planning Governance and Economy Smart for effective Pandemic management in Indian Cities Urban sprawl containment

DEPARTMENT OF CHEMICAL ENGINEERING

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Keerthi R	Dr. Lity Alen Varghese, Dr. N Selvaraju	An Experimental Investigation and Mathematical Modeling of Aerosols in Kozhikode District	Full Time
2	Sumisha A	Haribabu K	Performance of polypyrrole coated electrode for the removal of heavy metals using single chamber microbial fuel cell	Full Time
3	C.Vigneshwaran	Dr.V.Sivasubramanian	Biosurfactant/Bioremediation	Full Time
4	A.Surendar	Dr.V.Sivasubramanian	Heat Transfer/Drying	Full Time
5	Abdul Jaleel	Dr. Aparna K	Modeling and optimization	Full Time
6	Suchith Chellappan	Dr. Aparna K	Catalysts for biodiesel production	Full Time
7	Anju Sunny	Dr. Aparna K	Modeling and simulation	Full Time
8	Mohanraj N	Dr S Bhuvaneshwari	Electro adsorption of dyes using packed bed adsorption column	Full Time
9	Murugan P	Dr S Bhuvaneshwari	Pickering Emulsion liquid Membrane for wastewater treatment	Full Time

#### On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Nimmi C Sekhar	Dr. Lity Alen Varghese	Polymer Composites	Full Time
2	Nishan Ahammed V	Dr. Lity Alen Varghese	Waste Water Treatment	Full Time
3	Sruthi Gopal	Dr. Lity Alen Varghese & Dr Noel Jacob K	Membranes for Water Treatment	Full Time
4	Remya Balakrishnan	Dr. Lity Alen Varghese	Polymer Technology	Part Time
5	Habid	Dr. Lity Alen Varghese	Thermosetting polymers	Part Time

6	Surej Rajan C	Dr. Lity Alen Varghese, Dr. Shiny Joseph	Polymer Blends	Part Time
7	Aswathy Ashok	Haribabu K	Fabrication and characterization of dye sensitized solar cell	Full time
8	Vishnu Prasad	Haribabu K	Synthesis of graphene and its composites for enhanced heat transfer performance	Full time
9	Karthick S	Haribabu K	Synthesis of electrocatalyst and its performance in Microbial Fuel cell	Full time
10	Sindhu N	Dr. V.Sivasubramanian	Biofuel/Bio-oil	Part time
11	Ramyasankar M.S.	Dr. V.Sivasubramanian	Electrocoagulation	Full time
12	Sinu P	Dr. V.Sivasubramanian	Membrane separation	Full time
13	Khansa Rahman	Dr. V.Sivasubramanian	Advanced oxidation	Full time
14	Maya S Nair	Dr. V.Sivasubramanian	CO2 Sequestration	Full time
15	Aswani MT	Dr. Malladi V Pavan Kumar	Adsorption	Full Time
16	Anish Thomas	Dr. Malladi V Pavan Kumar	Process Control	Full Time
17	M Sathis Kumar	Dr. Malladi V Pavan Kumar	Process Control	Part Time
18	Sony George	Dr. Malladi V Pavan Kumar	Food Technology	Part Time
19	Abdul Samad Kamadod	Dr. Malladi V Pavan Kumar	Adsorption	Full Time
20	Rahul Krishna B	Dr. Dhanya Ram V	Modeling, Simulation and Process Control	Full time
21	Sreeja E S	Dr. Dhanya Ram V	Modeling, Simulation and Process Control	Full time
22	Janakan S Saral	Dr. Panneerselvm Ranganathan	Thermochemical conversion of biomass	Full Time
23	K.P. Dhaneesh	Dr. Panneerselvm Ranganathan	Process intensification in CO2 capture	Full Time
24	Dhanya A	Dr. Aparna K	Photocatalysis	Full time
25	Gazliya	Dr. Aparna K	Biofuels	Full Time
26	Kavya	Dr. Aparna K	Modeling and simulation	Full Time
27	Sreepriya	Dr. Aparna K	Modeling and simulation	Part Time

28	Vinila	Dr. Aparna K	Modeling and simulation	Part Time
29	Mohanraj P	Dr S Bhuvaneshwari	Removal and recovery of heavy metals using Electrochemical methods	Full Time
30	Eldho Abraham	Dr N.Selvaraju & Dr S Bhuvaneshwari	Microfluidics for extraction of citric acid	Full Time
31	Vidhyeswari D	Dr S Bhuvaneshwari	Microbial Fuel Cell for wastewater treatment and power generation	Full Time
32	Aravind S P	Dr S Bhuvaneshwari	Electro chemical sensors for detection of Heavy metals	Full Time
33	Haisel	Dr. Shiny Joseph	Water Treatment	Part Time
34	Mona Mary Varghese	Dr. Teja Reddy Vakamalla	CFD	Full Time
35	Jenny N	Dr. Noel Jacob	Membrane Separation	Full Time
36	Shalini V	Dr. Susmita Das	Nano Material, Environmental applications	Full Time
37	Aiswarya Sidharthan K	Dr. Shiny Joseph	Membranes	Full Time
38	Johsan R	Dr. Sudev Das	Pool boiling	Full Time
39	Akash M Chandran	Dr.Prasanna Kumar S Mural	Polymer Nano composite for Energy Harvesting	Full Time
40	Varun S	Dr.Prasanna Kumar S Mural	Piezoelectric Materials	Full Time
41	Aiswarya V	Dr Sudev Das	Solar Thermal Energy	Full Time
42	Vanisree G S	Dr Aparna K	Biofuels	Full Time
43	Niveditha Sankar	Dr Shiny Joesph	Membrane Technology	Full Time
44	Y Raju	Dr. Chandra Sekhar Besta	Process Control	Full Time
45	Sreeja P	Dr Vineesh Ravi	Carbon Nanotubes	Full Time

#### Proposed Ph.D. programmes

The department proposes to carry out research in the following areas/topics:

Development of energy from renewable energy sources and synthesis of nanoparticles for application in heat transfer and electrode preparation.

Extraction of commercially valuable pigments from Cyanobacteria (Phycocyanin)

Development of temperature resistant phenolic composites

Effluent treatment by layered double hydroxides

Tailoring the properties of immiscible ternary polymer blends

Development of various approaches, materials and cell designs to demonstrate cost effective electrochemical energy conversion and storage devices

Identification and Control of Multi Input Multi Output Systems for designing centralized or decentralized PID controllers.

Development of soft sensors for online monitoring and control of chemical systems

Development of intensified multiphase reactors

Studies on hydrocarbon biorefinery concept  
Water and Wastewater treatment, Separation science and technology, Electrochemical sensors,  
Renewable Energy

DEPARTMENT OF CIVIL ENGINEERING

Ph.Ds completed under existing scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/ Part Time/ Full Time)
1	M Sivakumar	Dr. M.V.L.R. Anjaneyulu	Transportation Engineering	Internal
2	Prasobh P. S,	Dr. A. P Shasikala & Dr. T. P. Somasundaram	Offshore Structures	Full time
3	Mrs. Akhila M	Dr. K. Ranga Swamy & Dr. N. Sankar	Geotechnical Engineering	Full time
4	Sandeep M S	Dr. A P Shashikala & Dr. Praveen Nagarajan	Structural Engineering	Full Time
5	Mandala Siva Priyanka Yadav	Dr. S. Mathavakumar (IITM) & Dr. George. K. Varghese	Environmental Engineering	Full Time
6	Mohammed Siddik A	Dr, George K. Varghese & Dr. Babu J Alappat (IITD)	Environmental Engineering	Full Time
7	Prakash C	Santosh G Thampi	Environmental Engineering	Part Time
8	Irshad Abdul Azeez P	Dr. N. Ganesan & Dr. P. V. Indira	Structural Engineering	Full Time
9	Himasree R. R	Dr. N. Ganesan & Dr. P. V. Indira	Structural Engineering	Full Time
10	Satheesh Kumar V	Dr. N. Ganesan & Dr. P. V. Indira	Structural Engineering	Full Time
11	Sabna V	Dr. Santosh. G. Thampi & Dr. S. Chandrakaran	Environmental Engineering	Part time
12	Mr. Anil Joseph	Dr. S. Chandrakaran & Dr. N. Sankar	Geotechnical Engineering	Part time
13	Femy M Makkar	Dr. N. Sankar & Dr. S. Chandrakaran	Geotechnical Engineering	Full time
14	Lila P C	Dr. M.V.L.R Anjaneyulu	Transportation Engineering	Part time

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/ Part Time/ Full time)
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1	B. Venkata Subbaiah	Dr. V. Mustafa, Dr. Santosh G Thampi	Offshore Structures	QIP-POLY
2	V. S. Sanjay Kumar	Dr. M V L R Anjaneyulu	Transportation Engg.	Part Time
3	Safeer Ali Abbas Ali	Dr. C. Arun (NICMAR), Dr. K. Krishnamurthy	Construction Management	Part Time
4	Shiji P	Dr. C. Arun (NICMAR), Dr. Kodi Rangaswamy	Construction Management	Part Time
5	Ansu. V.	Dr. M V L R Anjaneyulu	Transportation Engg.	QIP
6	Devika Babu	Dr. M V L R Anjaneyulu	Transportation Engg.	Full Time
7	Sivakumar. B.	Dr. K. Krishnamurthy	Transportation Engg.	Part Time
8	Muneera C. P.	Dr. K. Krishnamurthy	Transportation Engg.	Full Time
9	Drisya. J.	Dr. Sathish Kumar D	Water Resources Engg.	Full Time
10	Sabitha N M	Dr. Santosh G Thampi, Dr. Sathish Kumar D	Water Resources Engg.	Part Time
11	Arun Baby Zacharia	Dr. M. Harikrishna M., Dr. M V L R Anjaneyulu	Traffic Engineering	Full time
12	Sherin K S	Dr. S. Chandrakaran, Dr. N. Sankar	Geotechnical Engineering	Part Time
13	Neena M. Joseph	Dr. M V L R Anjaneyulu, Dr. M. Harikrishna	Traffic Engg.	Part Time
14	Ciby Jacob Cherian	Dr. T.M. Madhavan Pillai, Dr. Sajith A.S.	Structural Engineering	Full Time
15	Sathya Prakash. R.	Dr. K. Krishnamurthy	Transportation Engg.	Full Time
16	Sukanya J. Nair	Dr. K. Sasikumar	Water Resources Engg.	Full Time
17	Drisya M	Dr. K. Krishnamurthy	Transportation Engineering	Full time
18	Minu Ann Peter	Dr. Sajith A.S., Dr. Praveen Nagarajan	Structural Engineering	Full Time
19	Sangeetha M.	Dr. M V L R Anjaneyulu, Dr. M. Harikrishna	Traffic Engineering	Full time
20	K.T. Vipin	Dr. N. Ganesan, Dr. P. V. Indira	Structural Engineering	Part Time
21	Rinku Varghese	Dr. S. Chandrakaran, Dr. Kodi Rangaswamy	Geotechnical Engineering	Full time
22	Reji P Mohan	Dr. Kodi Rangaswamy	Geotechnical Engineering	Part Time
23	Poonam Mohan	Dr. A P Shashikala	Offshore Structures	Full Time
24	Unnikrishnan S	Dr. J Sudhakumar	Construction Management	Part Time
25	Jisha John	Dr. N.R. Chithra, Dr. Santosh G Thampi	Water Resources Engg.	Full Time
26	Lincy Christy. D.	Dr. T.M. Madhavan Pillai, Dr. Praveen Nagarajan	Structural Engineering	Full Time
27	Surya T V	Dr. Santosh G Thampi	Environmental Engg.	Full Time
28	Anand Raj	Dr. A P Shashikala, Dr. Praveen Nagarajan	Structural Engineering	Full Time
29	P. Kabbilawsh	Dr. Sathish Kumar. D., Dr. Chithra. N. R.	Water Resources Engg.	Part Time

30	Kannan C Bhanu	Dr. N. Ganesan, Dr. P. V .Indira	Structural Engineering	Full Time
31	Prem Mohan	Dr. George K. Varghese	Environmental Engineering	Part Time
32	Krishnachandran	Dr. J Sudhakumar	Construction Management	Part time
33	Saranya P	Dr. A P Shashikala, Dr. Praveen Nagarajan	Structural Engineering	Full Time
34	Akhil K S	Dr. S. Chandrakaran, Dr. N. Sankar	Geotechnical Engineering	Full Time
35	Geethu Thomas	Dr Kodi Rangaswamy	Geotechnical Engineering	Full Time
36	Sithara S	Dr. Pramada S K., Dr. Santosh G Thampi	Water Resources Engg.	Full Time
37	Ansa Thasneem	Dr. Santosh G Thampi, Dr. N.R. Chithra	Water Resources Engineering	Full Time
38	Mohammed Aslam	Dr. Mini Remanan, Dr. Praveen Nagarajan	Structural Engineering	Full Time
39	Lekshmi Ashok	Dr. Santosh G Thampi, Dr. George K Varghese	Environmental Engineering	Full Time
Sl. No	Name	Guide	Area of Specialization	Scheme (QIP/ Part Time/ Full time)
40	J. Chithra	Dr. Praveen Nagarajan, Dr. Sajith A.S.	Structural Engineering	Full Time
41	Ashwini S. K.	Dr. George K. Varghese	Environmental Engineering	Full Time
42	Amal Raj	Dr. M.V.L.R. Anjaneyulu	Transportation Engineering	Full Time
43	Ashima J Catherine	Dr. S. Chandrakaran, Dr. N. Sankar	Geotechnical Engineering	Full Time
44	Jincy Rose M. A.	Dr. N. R Chithra	Water Resources Engg.	Full Time
45	Abinaya S.	Dr. George K. Varghese, Dr. M. K. Ravi Varma	Environmental Engineering	Full Time
46	Jishnu V P	Dr. N. Sankar, Dr. S. Chandrakaran	Geotechnical Engineering	Full Time
47	B Satya Narayana Reddy	Dr. Pramada S K	Water Resources Engg.	Full Time
48	Gopika Mohan	Dr. N. Ganesan, Dr. P. V. Indira	Structural Engineering	Full Time
49	Sreedevi Lekshmi	Dr. J Sudhakumar	Concrete Technology	Full Time
50	Bindurani P	Dr. N.Ganesan, Dr. P. V. Indira	Structural Engineering	QIP
51	Rahlarabia M P	Dr. Sathish Kumar D	Water Resources Engg.	Full Time
52	Bennet A. Ipe	Dr. Sajith A.S.	Structural Engineering	Full Time
53	Trupti Amit Kinjawadekar	Dr. A P Shashikala, Dr. Praveen Nagarajan	Structural Engineering	Full Time



54	S. Smitha	Dr Kodi Rangaswamy	Geotechnical Engineering	Full Time
55	Lakshmi Priya	Dr. George K. Varghese	Environmental Engineering	Part Time
56	Abhiya Abbas Mundol	Dr. Sathish Kumar. D.	Water Resources Engg.	Part Time
57	Devi Priya V. P.	Dr. S. Chandrakaran, Dr Kodi Rangaswamy	Geotechnical Engineering	Full Time
58	Sethulekshmi V.S	Dr. K. Krishnamurthy	Transportation Engineering	Full time
59	Sachin Ramesh V V	Dr. Santosh G Thampi	Water Resources Engg.	Full Time
60	Rajindas K P	Dr. A P Shashikala	Coastal Engineering	Full Time
61	Babitha Benjamin	Dr. J Sudhakumar	Concrete Technology	Full Time
62	Prince Thanckachan	Dr. T.M. Madhavan Pillai	Structural Engineering	Full Time
63	Jiji Panicker	Dr. Praveen Nagarajan, Dr. Santosh G Thampi	Structural Engineering	Part Time
64	Nishanth H. A	Dr. J Sudhakumar	Construction Management	Full Time
65	Anjana Elsa Alexander	Dr. A P Shashikala	Structural Engineering	Full Time
66	Nayanathara O. S	Dr. Aswathy E. V	Environmental Engineering	Full Time
67	Jawahar Saud S.	Dr. George K. Varghese	Environmental Engineering	Part Time
68	Haritha P.C	Dr. M.V.L.R. Anjaneyulu	Transportation Engineering	Full Time
69	Vivek B	Dr. Santosh G Thampi, Dr. Sathish Kumar D	Water Resources Engg.	External
70	Shireen K	Dr. Renjitha Mary Varghese, Dr. N. Sankar	Geotechnical Engineering	Full Time
71	Apurva A.K	Dr. N. Sankar, Dr. S. Chandrakaran	Geotechnical Engineering	Full Time
72	Reshma Geordy	Dr. J Sudhakumar	Construction Management	Full Time
73	Anjana R Menon	Dr. Anjana Bhasi	Geotechnical Engineering	Full Time
74	Megha Mohan	Dr. Pramada S K	Environmental Engineering	Full Time
75	Athira T	Dr. Agilan V	Environmental Engineering	Full time
76	Jazeel. I. S.	Dr. Mini Remanan	Structural Engineering	Full Time
77	Chinnu Sabu	Dr. Robin Davis, Dr. Praveen Nagarajan	Structural Engineering	Full Time
78	Paul T Athikalam	Dr. K. V. Anand	Coastal Engineering	Full time
79	Geethu Elsa Thomas	Dr. Sajith A.S., Dr. P.V. Indira	Structural Engineering	Full Time
80	Arathy A. R.	Dr. Harikrishna M.	Traffic Engineering	Full time

81	Azeem M	Dr. Sajith A.S., Dr. P.V. Indira	Structural Engineering	Full Time
82	Bindu A. G.	Dr. George K. Varghese	Environmental Engineering	QIP
83	Hema. M.	Dr. Anjana Bhasi	Geotechnical Engineering	Full Time
84	Jasna R. S	Dr. Aswathy E. V	Environmental Engineering	Full Time
Sl. No	Name	Guide	Area of Specialization	Scheme (QIP/ Part Time/ Full time)
85	Josnia Jose	Dr. Mini Remanan, Dr. Praveen Nagarajan	Structural Engineering	Full Time
86	Poornima Kurup	Dr. J Sudhakumar	Construction Management	Full Time
87	Reshma, C.	Dr. R. Arunkumar	Water Resources Engg.	Full Time
88	Saravanan S	Dr. Robin Davis P	Structural Engineering	Full Time
89	Swapna Thomas	Dr. S. Chandrakaran, Dr. N. Sankar	Geotechnical Engineering	Full Time
90	Abhijith L	Dr Kodi Rangaswamy, Dr. Renjitha Mary Varghese	Geotechnical Engineering	Full time
91	Sai Krishnan. K.	Dr. K V Anand, Dr. Agilan V	Coastal Engineering	Full time
92	C. Prathapmohan Nair	Dr. J. Sudhakumar	Construction Management	Part Time
93	Aditya Harikumar	Dr. Santosh G Thampi	Water Resources Engg.	Full Time
94	Manu Mohan	Dr. Robin Davis, Dr. M. Ameen	Structural Engineering	Full Time

#### Proposed Ph.D Programmes

Electrochemical characterization and service life of galvanized steel rebars embedded in cementitious systems exposed to chlorides.

Electrochemical process for the treatment of industrial wastewater

Combined electrochemical process for the treatment of emerging pollutants

Impact of projected climate change on hydrologic processes

Hydroinformatics for watershed modelling and sustainable development

Hydro systems - risk and resilience assessment

Intensity-duration-frequency analysis of precipitation under climate change conditions

Application of geospatial techniques for flood and drought risk assessment

#### DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Ph. Ds completed under Existing Scheme

Sl.No	Name	Guide	Area of specialisation	Scheme (QIP/PT/FT)
	Mr.Gylson Thomas	Dr.V K Govindan	Image Processing	PT
	Mr. Dinesh Peter	Dr.V K Govindan	Image Registration	FT
	Mr.K Santle Camilus	Dr.V K Govindan	Image Processing	FT
	Mr. Prasad S M	Dr. V K Govindan , Dr. P S Sathi devi	Image Processing	QIP
	Ms. Jyothisha J. Nair	Dr. V K Govindan	Image Processing	FT
	Mr.A Shajin Nagarjun	Dr. M P Sebastian	Adhoc Network	PT
	Mr. Abdul Haleem P P	Dr. M P Sebastian, Dr. S D Madhu Kumar	Mobile Networks	FT
	Mr. Sajeev G P	Dr. M P Sebastian/ Dr.Murali Krishnan	Web Caching	PT
	Ms. Anitha V S	Dr. M P Sebastian, Dr. S D Madhu Kumar	Adhoc and Mobile Networks	QIP
	Mr. Abdul Nazeer K A	Dr. M P Sebastian,, Dr.S D Madhu Kumar	Bioinformatics	PT
	Mr. Vinodu George	Dr. M P Sebastian, Dr. K Murali Krishnan	Network Security	PT
	Mr. Manu J Pillai	Dr. M P Sebastian, Dr.S.D Madhu Kumar	Mobile Networks	PT
	Mr. Jereesh A S	Dr.V K Govindan	Image Processing	PT
	Ms. Saleena N	Dr. Vineeth K Paleri	Compilers	PT, Internal
	Mr. Saidalavi Kalady	Dr. V K Govindan	Intelligent agents	PT, Internal
	Mr. Jayaraj P B	Dr. K. Murali Krishnan, Dr. G. Gopakumar	High Performance Computing	PT, Internal
	Ms. Lijiya A	Dr. V.K Govindan	Image Processing	PT, Internal
	Ms. Anu Mary Chacko	Dr.S D Madhu Kumar	Network Security	PT, Internal
	Ms. Rekha R.	Dr. Vineeth K Paleri	Compilers	FT
	Ms. Pamela Vinita Eric	Dr. K. Murali Krishnan Dr. G. Gopakumar	DNA Compression	PT
	Ms. Shabeera T P	Dr. S D Madhu Kumar	Cloud Computing	FT
	Mr. Vinith R	Dr. V.K. Govindan Dr. K A Abdul Nazeer	Image Processing	FT
	Mr . Arun K S	Dr. V.K.Govindan, Dr. S.D. Madhu Kumar	Image Processing	FT

	Ms. Remya K Sasi	Dr. V.K Govindan Dr. K A Abdul Nazeer	Image Processing	FT
	Mr. Pamela Vinith Eric	Dr. Murali Krishnan, Dr. Gopakumar G.	Bioinformatics	PT
	Mr. Shyam P Joy	Dr. Priya Chandran	Information Security	PT
	Ms. Pournami P N	Dr. V.K. Govindan Dr. K Muralikrishnan	Image Processing	PT, Internal
	Ms. Sreejini K S	Dr. V.K.Govindan Dr. K A Abdul Nazeer	PT, Internal	PT
29	Jeethu V Devasia	Dr. Priya Chandran	Algorithms, Bioinformatics	PT
30	Visakh R	Dr. K. A. Abdul Nazeer	Bioinformatics	FT
31	Anita Brigit Mathew	Dr. S. D. Madhu Kumar	Cloud Data Storage	FT
32	Shamna P	Dr. V. K. Govindan, Dr. K Abdul Nazeer	Image Processing	FT
33	Gilesh M P	Dr. S. D. Madhu Kumar	Cloud Computing	PT
34	Nidheesh N	Dr. K. A. Abdul Nazeer, Dr. Ameer P M	Bioinformatics	PT
35	Sunil Kumar P V	Dr. G. Gopakumar	Bioinformatics	FT
36	Jithin R	Dr. Priya Chandran	Virtualization, Computer Security	PT

#### On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of specialisation	Scheme (QIP/PT/FT)
	Unnikrishnan P	Dr. V.K.Govindan Dr. S D Madhu Kumar	Pattern Recognition	PT
	Nishamol P H	Dr. G. Gopakumar	Bioinformatics	PT
	K Nagaraju	Dr.Sudeep K S	Algorithms & Graph Theory	FT
	Sameera Muhammed Salam	Dr. K Muralikrishnan	Graph Theory	FT
	Nandini J Warriar	Dr. K Muralikrishnan	Graph Theory	FT
	Daphna Chacko	Dr. K Muralikrishnan	Graph Theory	FT

	Sarang Sukumar A	Dr. G. Gopakumar	Bioinformatics	PT
	Mahija K C	Dr. K A Abdul Nazeer	Bioinformatics	FT
	Jeena Kleenankandy	Dr. K A Abdul Nazeer	Natural Language Processing	FT
	Manu Madhavan	Dr. G. Gopakumar	Bioinformatics	FT
	Rani M.R	Dr. Subhashini R	Design and analysis of Fixed parameter tractable algorithms	FT
	Sankaranarayanan P. N	Dr. K A Abdul Nazeer	Biological Data Mining	FT
	Saritha Murali	Dr. Saidalavi kalady	Image Processing and Computer Vision	FT
	Sithara Kanakaraj	Dr. Saidalavi kalady	Image Processing and Computer Vision	FT
	Athira K	Dr. G.Gopakumar	Bioinformatics	FT
	Hridya P R	Dr. Jimmy Jose	Cryptography and Security	FT
	Dhanyamol Antony	Dr. Subashini R	Parameterized Complexity	FT
	Reshma Raj R S	Dr. Saidalavi Kalady & Dr. Jayaraj P B	Chip multicore processors	FT
	Remi Raman	Dr. Subashini R & Dr. Subhasree M	Design and Analysis of fixed-parameter tractable algorithms for computational Geometry problems	FT
	Sruthi C J	Dr. Lijiya A	Image Processing	FT
	Neeta A Eapen	Dr. Subhasree M	Computational Geometry	FT
	Jasila E K	Dr. Saleena N & Dr. K A Abdul Nazeer	Bioinformatics	FT
	Mhatre Swapneel Chandrakant	Dr. Priya Chandran	Computer Architecture (Virtualisation)	FT
	Ajish Kumar K S	Dr. Sudeep K S	Graph Theory	FT
	Jaisooraj J	Dr. S D Madhu Kumar	Internet of Things	FT
	Merlin George	Dr. Anu Mary Chacko	Big Data Analytics	FT
	O K Reshma	Dr. Saleena N	Text Mining	FT
	Shahira K C	Dr. Lijiya A	Image Processing	FT
	Lubna A	Dr. Saidalavi kalady	Natural Language Processing	FT
	Jisna V A	Dr. Jayaraj P B	Bioinformatics	FT
	Anita John	Dr. Jimmy Jose	Cryptography and Security-Analysis	PT

			and Design of Stream Ciphers	
	Bijoy M B	Dr. Jayaraj P B	High Performance Computing	PT
	Ratheesh V V	Dr. Saidalavi kalady	Image Processing	PT
	Suneera C M	Dr. Jay Prakash	Data Mining	FT
	Sharon Sunny	Dr. Jayaraj P B	Bioinformatics	FT
	Remya Krishnan P	Dr. Arun Raj Kumar P	Security in VANETS	FT
	Reshma Roy	Dr. Vineeth Paleri	Compiler	FT
	Sahla Habeeba M A	Dr. Lijiya A & Dr. Anu Mary Chacko	Image Processing	FT
	Ambili K N	Dr. Jimmy Jose	IoT security	FT
	Pedda Nagyalla Maddaiah	Dr. Pournami P N	Image Processing	FT
	M Sreenivasan	Dr. Anu Mary Chacko	Health Informatics	FT
	Rema M.	Dr. Subhasree M. & Dr. R. Subashini	Computational Geometry	FT
	Archana S M	Dr. Jay Prakash	Text mining	FT
	Prajisha C	Dr. Vasudevan A R	Network Security	FT
	Krishnendhu S P	Dr M Prabu	Image Processing	FT
	Abinas V	Dr. Abdul Nazeer KA Dr. Saleena N	Bioinformatics	FT
	Shamla Beevi A	Dr. Saidalavi Kalady Dr. Pournami PN	Machine Learning	FT
	Annie Julie Joseph	Dr. Pournami PN	Image processing	FT
	Bijitha C V	Dr. Hiran V Nath	Cyber Security	FT
	Krishnendhu S P	Dr. M. Prabu	Image Processing	FT
	Ankur Sharma	Dr. Veni T	Cloud Computing	FT
	Sarath Babu	Dr. Arun Raj Kumar P	Vehicular Adhoc Network	FT
	Annie Julie Joseph	Dr. Pournami P. N.	Image Processing	FT
	Abinas V	Dr. K. A. Abdul Nazeer, Dr. Saleena N	Bioinformatics	FT (JRF)
	Archana S M	Dr. Jay Prakash	Text Mining	FT
	Shamla Beevi A	Dr. Saidalavi Kalady, Dr. Pournami P N	Medical Image Processing and Machine Learning	FT

61	Prajisha C	Dr. Vasudevan A R	Network security	FT (JRF)
62	Anjusha I T	Dr. Saleena N.	Bioinformatics	FT (JRF)
63	Sreekala S	Dr Vineeth Kumar Paleri	Code optimization	FT (JRF)
64	Lekshmy P Chandran	Dr. K. A. Abdul Nazeer, Dr. Saleena N	Bioinformatics	FT
65	Midhula K S	Dr. Arun Raj Kumar P	Networking	FT
66	Hridya Sobhanam	Dr. Jay Prakash	Machine Learning	FT
67	Aby abahai T	Dr. Subhasree M.	Computational Geometry	PT
68	Seenia Francis	Dr. Jayaraj P. B., Dr. Pournami P. N.	Medical informatics	FT
69	Jiffy Joseph	Dr. Pournami P. N., Dr. Jayaraj P. B	Medical Image Processing	FT (JRF)
70	AkhilaV H	Dr. Anu Mary Chacko	Machine Learning	FT
71	Limna Das p	Dr. Jayaraj P. B.	Health Informatics	PT
72	Haritha B R	Dr. Subhasree M.	Computational Geometry	FT
73	Vivek M R	Dr. Priya Chandran	Natural Language Processing	FT
74	Meenu Mathew	Dr. Jay Prakash	Machine learning	PT
75	Shruti Raghu	Dr. Vasudevan A R	Networks	FT
76	Athira A B	Dr. S D Madhu Kumar, Dr. Anu Mary Chacko	Social Network Data Analytics	FT
77	Renya Nath N	Dr. Hiran V Nath	Cyber Security	FT
78	Abhay Narayan	Dr. S D Madhu Kumar, Dr. Anu Mary Chacko	Data Analysis	FT
79	Ojus Thomas Lee	Dr. S. D. Madhu Kumar, Dr. Priya Chandran	Cloud Data Storage	PT

#### DEPARTMENT OF ELECTRICAL ENGINEERING

Ph. Ds completed under existing scheme:

Sl. No.	Name	Guide	Title	Scheme & Month (QIP/PT/ FT)
	G. VIVEK	Dr. Mukti Barai	Design Space Exploration of Optimized Hybrid SVPWM Techniques for Two and Three level VSIs	FT, July 2019
	SHALU GEORGE K-P100029EE	Dr. K. S. Sivanandan and Dr. K. P. Mohandas	On the Characterization and Modelling of Biosignals for the	QIP 17.07.2019

			Development of an Elbow Assistive Device	
	SREEKANTH M. (P110005EE)	Dr. Abraham T Mathew (EED) & Prof. R. Vijayakumar (MED)(Retd)	New approaches for characterization and sensor-Less control of Shape Memory Alloy(SMA) Helical Spring Actuator for Robotic Applications	FT 18-7-2017
	SURESH K. DAMODARAN (P120003EE)	Dr. T. K. Sunil Kumar	Heuristic Approach for Economic and Emission Generation Scheduling of Thermal-Hydro-Wind Power Systems	QIP 22.07.2019,
	ABHILASH T VIJAYAN (P130003EE)	Dr. S Ashok	Supervisory Approach in Visual Servoing for a 6-DOF Industrial Robot	QIP 23-07-2019
	HASEENA K. A(P130081EE)	Dr. Jeevamma Jacob & Dr. Abraham T Mathew	Robust fractional order controllers for dynamic stability enhancement of power systems	FT 23.08.2019
	SMITHA B.(P160030EE)	Dr. Paul Joseph K	Automation of Ultrasonic Image Interpretation for Characterization of Atherosclerotic Plaques	QIP, 16.09.2019
	AHAMMED MUNEER K. V(P140112EE)	Dr. Paul Joseph K	Automatic Detection and Categorization of Brain Tumor Types and Grades from MRI Images	QIP, 16.09.2019
	PARVATHY P (P130079EE)	Dr. Jeevamma Jacob & Dr. M. P. Nandakumar	A generalized methodology for the inverse optimal control of a class of input-affine nonlinear systems	FT, 16.09.2019
	Retheep Raj (Roll No. P140036EE)	Dr. K. S. Sivanandan and Dr. T. K. Sunil Kumar	Design and Development of Electromyography Driven Prosthetic Limb.	QIP 17.09.2019,
	Suraj Damodaran (Roll No. P130074EE)	Dr. T. K. Sunil Kumar and Dr. A. P. Sudheer	Generalised methods for rational approximation and controller design for fractional order	FT, 18.10.2019



			systems with application to wheeled mobile robot.	
	ROHIT K. MATHEW(P130069EE)	Dr. S. Ashok & Dr. S. Kumaravel	Development of Optimal Framework for Resilience Enhancement of Power Systems	FT, 06.12.2019
	JAYA C K (P130072EE )	Dr. Sunitha R & Dr. Abraham T Mathew	Assessment and Prediction of Power System Security Level using Markov Model and k-NN Classifier Technique	FT, 12.12.2019
	RINU ALICE KOSHY (P100043EE)	Dr. Susy Thomas	Reaching law based Sliding Mode Controller Design for Enhanced Performance of Discrete Time Systems	PT, 18-12-2019
	DEEPTHI S. NAIR(P130029EE)	Dr. Jagadanand G Dr. Saly George	Modified Switching Schemes for Direct Torque Controlled BLDC Motor Drives	FT 22-12-2019
	NISHA P V	Dr Sindhu T K	Analysis of Electromagnetic Interference in Power Electronic Based Systems and their Mitigation Methods	PT, 9.01.2020
	NIMMY JOHN T (P140004EE)	Dr. Subha D P	Time and Time-Frequency Domain Analysis of EEG Signals of Mild Cognitive Impairment-Alzheimer's Disease (MCI-AD)	FT 22.01.2020

Ongoing Ph. Ds under existing scheme:

Sl. No.	Name & Reg. No.	Guide	Area of Specialization	Scheme (QIP/PT/FT)
1	MINI V	Dr. T. K. Sunil Kumar	Power Systems	QIP
	P120004EE			
2	PRIYA.N	Dr. T. K. Sunil Kumar	Control Systems	FT
	P120016EE			

3	SUJO. P. GEORGE	Dr. Ashok S	Adaptive Relaying for Microgrid Protection	FT
	P120030EE			
4	BIJU K	Dr. Rijil Ramchand	Grid interfacing of renewable energy sources using multilevel inverters	PT
	P120049EE			
5	SHINGARE DEVDATTA Y	Dr. T. K. Sunil Kumar	Power Systems	QIP (Poly)
	P120078EE			
6	RAJASHREE RAGHAVAN	Dr. Susy Thomas	Control Systems	PT
	P130005EE			
7	M J LALY	Dr. Elizabeth P Cheriyan & Dr. Abraham T Mathew	Control applications in power system	QIP
	P130006EE			
8	JINO M PATTERY	Dr. Elizabeth P. Cheriyan & Dr. Rijil Ramchand	Power Systems	PT
	P130060EE			
9	SANDEEP J	Dr. Rijil Ramchand & Dr. S Ashok	Matrix converter topology for VF Drives	FT
	P130070EE			
10	SIGI C JOSEPH	Dr. Ashok S.	V2G and V2H applications in Smart grids	EXTERNAL
	P140003EE			
11	AKHIL VINAYAK B	Dr. Jagadanand G	Fault detection in Induction Motor Drives.	FT
	P140006EE			
12	JINEETH JOSEPH	Dr. Sindhu T K	Condition monitoring of underground cables	PT
	P140020EE			
13	ANJANA K G	Dr. Mukti Barai	Power Electronics	FT
	P140029EE			
14	JOSEPH P VARGHESE	Dr. Ashok S. & Dr. Kumaravel S.	Transmission Line Congestion Management	PT
	P140049EE			
15	ROHIKAA MICKY R	Dr. Sunitha R & Dr. Ashok. S	Power Systems	FT
	P140062EE			
16	ANJALI ANAND K	Dr. Saly George & Dr. Jagadanand G	Fault Detection of Machines & Drives	FT
	P140064EE			

17	M ASWINI KUMAR	Dr. Mukti Barai	Power Electronics	FT
	P140071EE			
18	JAYAKRISHNAN S R	Dr. Elizabeth P Cheriyan & Dr. Sindhu T K	Power Systems	FT
	P140089EE			
19	AVINASH NELSON. A	Dr. Preetha P & Dr. Sunitha K	Nanodielectrics	FT
	P140090EE			
20	ATHIRA RAJU	Dr. Elizabeth P Cheriyan & Dr. Rijil Ramchand	Power System	FT
	P150026EE			
21	SUBHASH K M	Dr. Paul Joseph K	Biomedical Signal Processing	INTERNAL
	P150056EE			
22	BINU KRISHNAN U	Dr. Mija S. J. & Dr. Elizabeth P. Cheriyan	Power System Control	FT
	P150062EE			
23	RAVISHANKAR A N	Dr. Ashok S. & Dr. Kumaravel S	Electric Vehicle Management	FT
	P150073EE			
24	GOWRISHANKAR S	Dr. Sunitha K	High Voltage Engineering	FT
	P150089EE			
25	NIDYA M V	Dr. Jeevamma Jacob & Dr. Mija S J	Modelling and Control of 3 dof Helicopter	FT
	P150090EE			
26	GRACE SADHANA S	Dr. Ashok S. & Dr. Kumaravel S	Micro grid stability Analysis	FT
	P150099EE			
27	MOHAMMED SHAFI K P	Dr. Rijil Ramachand	Power Electronics	FT
	P160004EE			
28	MEGHA G KRISHNAN	Dr. Ashok S	Industrial Automation	FT
	P160007EE			
29	HEMA RANI P	Dr. Saly George & Dr. Ashok S	Power Electronics	INTERNAL
	P160017EE			
31	LEKSHMI MOHAN			QIP

	P160032EE	Dr. Sunitha K & Dr. Sindhu T K	High Voltage Engineering	
32	VIDYA.M.S	Dr. Sunitha K & Dr. Ashok S	High Voltage Engineering	PT
	P160045EE			
33	JANESH N. M	Dr. Ashok S & Dr. Kumaravel S	Wind Energy Engineering	PT
	P160065EE			
34	SUBIN KOSHY	Dr. Sunitha R	Wide Area Measurement based Security Assessment for Smart Grid	FT
	P160069EE			
35	HARITHA G	Dr. Ashok S & Dr. Kumaravel S	Renewable Energy Integration	FT
	P160070EE			
36	PRAVIKA M	Dr. Paul Joseph K & Dr. Jeevamma Jacob	Control Applications in Biomedical Engineering	FT
	P160071EE			
37	EMMANUEL BABU P	Dr. Kumaravel S	Performance Enhancement of Electric Motors	PT
	P160084EE			
38	PRIYALAKSHMI S	Dr. Subha D P	Bio Signal Processing	FT
	P160085EE			
39	BISWAJIT DEBNATH	Dr. Mija S J	Enhanced BELBIC for MIMO System	FT
	P160086EE			
40	SAUGATO DEY	Dr. Sunil Kumar T K & Dr. Ashok S	3 Axis Platform stabilizer with target detection & Tracking	INTERNAL
	P160087EE			
41	JOYCE JACOB	Dr. Preetha P & Dr. Sindhu T K	Liquid Nano Dielectrics	FT
	P160098EE			
42	RAHUL S	Dr. Sunitha R	Power System	FT
	P170050EE			
43	SURYA D	Dr. Subha D P	Biomedical engineering	FT
	P170056EE			
44	JACOB P VARGHESE	Dr. Preetha P & Dr. Sunitha R	Electric Field Stress Reduction in Gas Insulated Systems	FT
	P170071EE			
45	EMIL NINAN SKARIAH	Dr. Sindhu T. K	Air pollution control using electric discharge	FT

	P170078EE			
46	RINSHA V	Dr. G. Jagadanand	Power Electronics	FT
	P170098EE			
47	T S BHEEMRAJ	Dr. V. Karthikeyan & Dr. Kumaravel S	Power Electronics applications to Renewable Energy Systems	FT
	P180006EE			
48	PRIYANKA C P	Dr. Jagadanand G	Power Electronics	FT
	P180050EE			
49	LAKSHMI THARAMAL	Dr. Preetha P & Dr. Sindhu T K	High Voltage Engineering	FT
	P180063EE			
50	NAJDA V M	Dr. Gopakumar P & Dr. Sunitha R,	Power Systems	FT
	P180064EE			
51	ANJITHA V	Dr. Sunitha K	Computational Electromagnetics	FT
	P180070EE			
52	RENUKA V. S.	Dr. Nikhil S	Power Electronics and Control	FT
	P180073EE			
53	NITHIN S. NAIR	Dr. Mukti Barai	Power Electronics	FT
	P180077EE			
54	REEMA. N	Dr. Jagadanand G & Dr. Nikhil Sasidharan	Power Electronics	FT
	P180079EE			
55	SANILA P	Dr. Rijil Ramchand & Dr. Jeevamma Jacob	Formation control of Multi-agent Systems	FT
	P180098EE			
56	MUTHUKUMARI S	Dr. S. Kanagalakshmi & Dr.T.K.Sunil Kumar	Power Systems	FT
	P180112EE			
57	DILKUMAR T R	Dr.Mija S J	Hybrid Controllers	FT
	P190008EE			
58	SHEETAL CYRIAC	Dr. Rijil Ramchand & Dr.Tarakanath K	Control of power electronic converters	FT
	P190014EE			
59	SHIFA H RAHMAN			FT

	P190021EE	Dr.Jagadanand G & Dr.Shreelakshmi M P	Power Electronic applications in Electric Vehicle	
60	R AKHIL RAJ	Dr.Saly George	Power Electronics	FT
	P190025EE			
61	MUHAMMAD JISHAD T K	Dr. Sanjay M	Biomedical Instrumentation and Signal Prcessing	FT
	P190039EE			
62	V SESHAGIRI RAO	Dr. Kumaravel S	Power Electronics	FT
	P190069EE			
63	B KRISHNA	Dr. Karthikeyan V	Power Electronics	FT
	P190075EE			
64	RESMI R	Dr. Mija S J & Dr. Jeevamma Jacob	Consensus Control of Multi Agent System	QIP
	P190039EE			
65	SONY M G	Dr. Abraham T Mathew	Power System & Control	QIP
	P190035EE			
66	T P VISHNU	Dr. Gopakumar P & Dr. Sunitha R,	Power Systems	FT
	P190094EE			
67	DEEPU E KOSHY	Dr. Sindhu T K	High Voltage Engineering	FT
	P190133EE			
68	KANNAN S A	Dr. Jagadanand G & Dr. Nikhil Sasidharan	Power Electronics	FT
	P190143EE			
69	NOORUL HAQUE M	Dr. Sunitha K	High Voltage Engineering	FT
	P190101EE			
70	GURU KUMAR G	Dr. S. Kumaravel	Power Electronics	FT
	P160093EE			
71	VINU THOMAS	Dr. S. Kumaravel & Dr. S. Ashok	Power Electronics	FT
	P140005EE			
72	DHEERAJ K	Dr. Jeevamma Jacob & Dr. M.P .Nanda Kumar	Control Systems	FT
	P120055EE			

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING.

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Susan Dominic	Dr. Lillykutty Jacob	Device to device networks	Full time
2	Gilesh M P	Dr. Lillykutty Jacob	Virtual data center networks	QIP
3	Shahnas K V	Dr.C.K.Ali	OFDM/SDMA	QIP
4	Finto Raphel	Dr. Sameer S. M.	Wireless Communications	Full-time
5	Upama Rajan M.N.	Dr. A V Babu	Wireless Networks	QIP
6	Amit Satish Unde	Dr. Deepthi P.P.	Lightweight Source Coding	Full Time
7	Lakshmi V.S.	Dr. Deepthi P.P.	Secure Data Processing in Distributed Storage Systems	Full Time
8	Meena V	Dr. G Abhilash	Signal Theory / Processing	Part-Time
9	Gayatri Parthasarathy	Dr. G Abhilash	Signal Theory / Processing	Full-Time
10	Hari C. V.	Dr. Praveen Sankaran	Data Classification	Full time
11	Deepa Nair	Dr. Praveen Sankaran	Image Processing	Full time
12	Rashmi M.	Dr. Praveen Sankaran	Data Classification	Full time
13	Baburaj M	Dr. Sudhish N George	Computer Vision	Part Time
14	Sameera V Mohd Sagheer	Dr. Sudhish N George	Medical Image Processing	Full Time
15	Abdu Rahiman V	Dr. Sudhish N George	Computer Vision	Part Time
16	Anju Jose Tom	Dr. Sudhish N George	Computer Vision	Full Time
17	Krishnapriya S	Dr. Suja K J	MEMS	Full Time
18	Ranjith R	Dr. Suja K J	Device Modelling	Full Time
19	Amir A	Dr. Elizabeth Elias & Dr. Bindiya T.S.	Multirate signal Processing	Full Time
20	Nidheesh N	Ameer P M and Abdul Nazeer (CSED)	Bioinformatics	QIP

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Emy Mariam George	Dr. Lillykutty Jacob	Wireless body area networks	Full time

2	Jihash Khan	Dr. Lillykutty Jacob	5G URLLC networks	Part time
3	Rinas T Nazeer	Dr. Lillykutty Jacob	5G m-MTC networks	Full time
4	Nisha K L	Dr. Sathidevi P S, Dr. Sreelekha G	Fully Automated Systems to Aid in Retinopathy of Prematurity (ROP) Screening and Diagnosis	Full Time
5	Arunsankar M. S.	Dr. Sathidevi P S	Scalable Speech Coding	Full Time
6	Athulya M. S.	Dr. Sathidevi P S	Speaker Recognition For Forensic Applications	Full Time
7	Nithin G	Dr. Sathidevi P S, Dr. Ameer P M	Stereo EEG Analysis	Full Time
8	Steffy Maria Joseph	Dr. Sathidevi P S	DNA Microarray Image Segmentation And Compression	Full Time
9	Jemshi K M	Dr. Sathidevi P S, Dr. Sreelekha G	Retinal Image Analysis	Full Time
10	Syam Chandran	Dr.C.K.Ali	5G communications	Full Time
11	Sanoop Kumar P. S.	Dr. Sameer S. M.	Wireless Communications	Part-time
12	Najlah C. P.	Dr. Sameer S. M.	Wireless Communications	Visweswarayya Scheme (Full-time)
13	Deepak Jose	Dr. Sameer S. M.	Wireless Communications	Full-time
14	Muraleekrishna A. G.	Dr. Sameer S. M.	Wireless Communications	Full-time
15	Poornima S	Dr. A V Babu	Wireless Networks	Full-Time
16	Sangeetha U	Dr. A V Babu	Wireless Networks	QIP
17	Aswathi V	Dr. A V Babu	Wireless Networks	Full-Time
18	Nandakumar R	Dr. Deepthi P.P., Dr. Sameer S.M.	Design and Hardware Implementation of Cryptographic Systems for Low Complexity	Part Time
19	Aneesh M. Koya	Dr. Deepthi P.P.	Secure Implementations for Body Area Networks	Full Time
20	Sona Alex	Dr. Deepthi P.P. Dr. Dhanaraj K.J.	Coding and Cryptosystem Implementation to meet 5G Challenges	Full Time
21	Jesy P	Dr. Deepthi P.P.	Secure and efficient communication in V2X networks	QIP
22	Sreelakshmi P	Dr. Deepthi P.P.	Secure and efficient communication in V2X networks	Full Time
23	Arun Varghese	Dr. Sreelekha G.	Traffic Video Analytics	QIP
24	Supriya Unnikrishnan	Dr. Sreelekha G.	Efficient Architectures for DSP	Full Time
25	Veena Narayanan	Dr. G Abhilash	Signal Theory / Processing	Full-Time



26	Kalpana George	Dr. Praveen Sankaran, Dr. Paul Joseph	Medical imaging	Full time
27	Shameer F.	Dr. Praveen Sankaran	Data Classification	Full time
28	Subhasree A. V.	Dr. Praveen Sankaran, Dr. Raghu C. V.	Robotics and computer vision	Full time
29	Nithin Thomas Abraham	Dr. Dhanaraj K. J.	Power Management IC Design	Full Time
30	Mr. Sasi Kiran Suddarsi	Dr. Gopi Krishna Saramekala & Dr. Dhanaraj K. J.	Low power devices and circuits	Full Time
31	Remya Jayachandran	Dr. Dhanaraj K. J.	VLSI	Part Time
32	Baiju P S	Dr. Sudhish N George	Computer Vision	QIP
33	Jobin Francis	Dr. Sudhish N George	Computer Vision	Full Time
34	Subodh Raj M S	Dr. Sudhish N George	Computer Vision	Full Time(JRF)
35	Nishanth Augustine	Dr. Sudhish N George	Computer Vision	Part Time
36	Joseph Mathew	Dr. Sudhish N George	Computer Vision	Part Time
37	Ms. Parvathi A. K	Dr. V. Sakthivel	Signal Processing	Full Time
38	Ms. Sushmitha Sajeevu	Dr. V. Sakthivel	Signal Processing	Full Time
39	Ms Lekshmi M S	Dr. Suja K J	NEMS	Full Time
40	Mr Nisanth A	Dr. Suja K J	MEMS	Full Time
41	Ms Akshaya M V	Dr. Suja K J	NEMS	Full Time
42	Sudhi Sudharman	Dr. Bindiya T S	Multirate Signal Processing	Full time
43	Hareesh	Dr. Bindiya T S	Multirate Signal Processing	Full time
44	Sreelekha K. R.	Dr. Bindiya T S	Multirate Signal Processing	Full time
45	Treasa Joseph	Dr. Bindiya T S	VLSI Signal Processing	Full time
46	Reena Roy	Dr. Ameer P M	Biomedical Signal Processing	QIP
47	Roy Thankachan	Dr. Ameer P M	Signal Processing	Part time
48	Deepak S	Dr. Ameer P M	Biomedical Signal Processing	Part time
49	Nimitha	Dr. Ameer P M	Signal Processing	Full time
50	Arathi Sankar P	Dr. Jayakumar E.P.	Digital Signal Processing	Full time
51	Sukanya Ghosh	Dr.Lintu Rajan	Gas Sensors	Full time
52	Arjun Hari	Dr. Lintu Rajan	Tactile sensors	Full time
53	James Raja	Dr. Lintu Rajan and Dr. Venu Anand	Semiconductor devices	Full time
54	Anjana J G	Dr. Venu Anand	Thinfilm Transistor	Full time
55	Harikishan R	Dr. Sudeep P V	Machine Learning	Full time

56	Nabeel Koya A	Dr. Waquar Ahmad, Dr. Sudeep P V	Digital Forensics	Part time
57	Sandeep Moparthy	Dr. Gopi Krishna Saramakala	Semiconductor Devices	Full Time
58	Shinimol Salim	Dr. Waquar Ahmad	Speech Processing	Full Time
59	Kopperundevis	Dr. M. Surya Prakash	VLSI Architectures for Video Codecs	Full time

#### DEPARTMENT OF MECHANICAL ENGINEERING

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time (PT)/Full time (FT))
1	Ladeesh V G	Dr. R. Manu	Manufacturing Technology	FT
2	Sabarinath S	Dr. P. K. Rajendrakumar Dr. K. Prabhakaran Nair	Machine Design	FT
3	Nidhi M B	Dr. V. Madhusudanan Pillai	Industrial Engineering & Management	PT
4	K. Pratheesh	Dr. K. Allesu Dr. M. A. Joseph Dr. M. Ravi (Ext.)	Material Science & Technology	PT
5	Monikandan V.V.	Dr. M. A. Joseph Dr. P. K. Rajendrakumar	Material Science & Technology	FT→ PT
6	Gurrala Srinivasa Rao	Dr. A. Shaija	Thermal Sciences	PT
7	Joel George	Dr. Arun P. Dr. C. Maraleedharan	Thermal Sciences	QIP
8	Rajesh T N	Dr. Tjs Jothi	Thermal Sciences	FT→ PT
9	Jabir E.	Dr. R. Sridharan Dr. Vinay V. Panicker	Industrial Engineering & Management	FT
10	Deepak G Dilip	Dr. Jose Mathew Dr. Satyananda Panda	Manufacturing Technology	FT
11	Shruthi C M	Dr. M.L. Joy Dr. A.P. Sudheer	Machine Design	FT
12	Vipindas K	Dr. Jose Mathew	Manufacturing Technology	FT

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time (PT)/Full time (FT))
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1	Umarali K	Dr. T. Radharamanan Dr. R. Sridharan	Industrial Engineering & Management	FT→ PT
2	Eby David	Dr. R. Manu	Manufacturing Technology	FT→ PT
3	Remil George Thomas	Dr. R. Manu Dr. Deepak Lawrence K	Manufacturing Technology	PT
4	Shaiju M.R.	Dr. Arun P Dr. S. Jayaraj	Thermal Sciences	PT
5	Rony Johnson	Dr. S. Jayaraj Dr. Arun P	Thermal Sciences	PT
6	Eldose. K. K	Dr. R. Sridharan Dr. Ratnakumar K.	Industrial Engineering & Management	PT
7	Ajith Kuriakose Mani	Dr. M.D. Narayanan	Machine Design	FT→ PT
8	Sreejith B J	Dr. T. Radharamanan	Industrial Engineering & Management	PT
9	Solomon Joseph	Dr. R. Sridharan	Industrial Engineering & Management	FT→ PT
10	Dileep K	Dr. S. Jayaraj Dr. M. Srinivas	Thermal Sciences	PT
11	O.M. Vinod	Dr. P.B. Dhanish	Manufacturing Technology	QIP→ PT
12	Kiran Mohan	Dr. V. Madhusudanan Pillai Dr. Arun C. (NICMAR, Goa)	Industrial Engineering & Management	FT→ PT
13	Rajesh Kana S	Dr. A. Shaija	Thermal Sciences	FT→ PT
14	Lokesh Paradeshi	Dr. S. Jayaraj Dr. M. Srinivas	Thermal Sciences	FT→ PT
15	Ajyuk J Raj	Dr. R. Sridharan Dr. Vinay V. Panicker	Industrial Engineering & Management	FT→ PT
16	Ambika P S (F)	Dr. P. K. Rajendrakumar Dr. Rijil Ramchand	Machine Design	FT
17	Nimmy J S (F)	Dr. V. Madhusudanan Pillai	Industrial Engineering & Management	FT→ PT
18	Derick Abraham	Dr. Biju T. Kuzhiveli	Thermal Sciences	FT
19	Arun P Raj	Dr. P. B. Dhanish	Manufacturing Technology	FT→ PT
20	Sajeeb A.M.	Dr. P. K. Rajendrakumar	Machine Design	PT
21	Anilkumar E.N	Dr. R. Sridharan	Industrial Engineering & Management	QIP→ PT
22	Vishnu C .R	Dr. R. Sridharan	Industrial Engineering & Management	FT
23	Renju Mohan	Dr. R. Manu Dr. U. B. Jayadeep	Manufacturing Technology	FT→ PT
24	Arun K Raj	Dr. S. Jayaraj Dr. M. Srinivas	Thermal Sciences	FT
25	Akhil V.M	Dr. P. K. Rajendrakumar Dr. K. S. Sivanandan	Machine Design	FT
26	Vishnu S.B	Dr. Biju T. Kuzhiveli	Thermal Sciences	FT

27	Rahul S .Arackal	Dr. TJS Jothi	Thermal Sciences	FT
28	Jees George	Dr. R. Manu Dr. Jose Mathew	Manufacturing Technology	FT
29	Vishnu Prasad	Dr. M. A. Joseph Dr. K. Sekar	Material Science & Technology	FT
30	Aju Zachariah Mani	Dr. U. B. Jayadeep	Machine Design	FT
31	Anand Krishnan N	Dr. Jose Mathew	Manufacturing Technology	FT
32	Jiju V Elias	Dr. Jose Mathew	Manufacturing Technology	FT
33	Nithin Raj P	Dr. M. A. Joseph Dr. K. Sekar	Material Science & Technology	FT
34	Rakesh Erappa Jinaga	Dr. Jagadeesha T	Machine Design	FT
35	Sumesh C K	Dr. TJS Jothi	Thermal Sciences	QIP
36	Arun M G	Dr. TJS Jothi	Thermal Sciences	FT
37	Ganesh M R	Dr. T. Radharamanan	Industrial Engineering & Management	FT
38	M Ijas Ahmed	Dr. G. Kiran Kumar L	Thermal Sciences	FT
39	Francis J Emmatty	Dr. Vinay V. Panicker	Industrial Engineering & Management	QIP
40	T R Sreesastha Ram	Dr. U.B. Jayadeep	Machine Design	FT
41	JithinVelayudhan	Dr. MD Narayanan Dr. Ashesh Saha	Machine Design	FT
42	Vikas V K	Dr. C. Muraleedharan	Thermal Sciences	QIP
43	Ashik Suresh	Dr. P.B. Dhanish	Manufacturing Technology	FT
44	Dony S Kurian	Dr. V. Madhusudanan Pillai	Industrial Engineering & Management	FT
45	Subramani N	Dr. Biju T. Kuzhiveli	Thermal Sciences	FT
46	Amudhan A N	Dr. A.P. Sudheer	Machine Design	FT
47	Mervin Joe Thomas	Dr. M.L. Joy Dr. A.P. Sudheer	Machine Design	FT
48	L Ramesh Krishnan	Dr. G. Kiran Kumar L	Thermal Sciences	FT
49	Muhammed Niyas M	Dr. A. Shaija	Thermal Sciences	FT
50	Vasanthakumar P	Dr. K. Sekar	Material Science & Technology	FT
51	Shebeer A Rahim	Dr. M. A. Joseph Dr. Hanas T.	Material Science & Technology	FT
52	Jacob	Dr. K. P. Murali	Material Science & Technology	FT
53	Bakhirathan A	Dr. G. Kiran Kumar L	Thermal Sciences	FT
54	Gowthaman S	Dr. Jagadeesha T	Manufacturing Technology	FT

55	Alok Kumar Samanta	Dr. G. Varaprasad	Industrial Engineering & Management	FT
56	Navaneeth M G	Dr. M.L. Joy Dr. A.P. Sudheer	Machine Design	FT
57	Shifa Sulaiman (F)	Dr. A.P. Sudheer	Machine Design	FT
58	Bijesh R	Dr. Arun P Dr. C. Muraleedharan	Thermal Sciences	QIP
59	Azhagarsamy P	Dr. K. Sekar Dr. K. P. Murali	Material Science & Technology	FT
60	Milan Kumpikottu John	Dr. C. Muraleedharan Dr. B. Rohinikumar	Thermal Sciences	FT
61	Anoop A Pillai	Dr. U.B. Jayadeep Dr. Vineesh K.P.	Machine Design	FT
62	Sharath Babu	Dr. G. Srinu Dr. M. A. Joseph	Material Science & Technology	FT
63	Vishnu Lal	Dr. G. Varaprasad	Industrial Engineering & Management	FT
64	Ajith Kurian Baby	Dr. Deepak Lawrence K Dr. P. K. Rajendrakumar	Manufacturing Technology	FT
65	Inbaoli A	Dr. Sujith Kumar C S Dr. S. Jayaraj	Thermal Sciences	FT
66	Amit Malgol	Dr. Ashesh Saha Dr. Vineesh KP	Machine Design	FT
67	Justin Sunny	Dr. V. Madhusudanan Pillai	Industrial Engineering & Management	FT
68	Alosh James	Dr. M. Srinivas	Thermal Sciences	FT
69	Unnikrishnan K S	Dr. B Rohinikumar	Thermal Sciences	FT
70	Kalaiselvan P	Dr. Jagadeesha T	Material Science & Technology	FT
71	Javed SikandarShaikh	Dr. Saleel Ismail	Thermal Sciences	FT
72	Nidheesh Narayan	Dr. TJS Jothi	Thermal Sciences	FT
73	Muhammed Hunize C V	Dr. K. P. Murali Dr. M. A. Joseph	Material Science & Technology	FT
74	Prakash T	Dr. MD Narayanan Dr. Ashesh Saha	Machine Design	FT
75	Ashish Chandran K	Dr. Sujith Kumar C S	Thermal Sciences	FT
76	Arun Prabhakar	Dr. U.B. Jayadeep	Machine Design	FT
77	Giridhar M P	Dr. Vinay V. Panicker	Industrial Engineering & Management	FT
78	Ranjit B Nair	Dr. K. Ratnakumar Dr. R. Sridharan	Industrial Engineering & Management	FT
79	Alex Bernard	Dr. G. Varaprasad	Industrial Engineering & Management	PT
80	Meby Mathew	Dr. A.P. Sudheer	Machine Design	QIP

81	B. Sathyaraj	Dr. K. Sekar	Material Science & Technology	FT
82	Suraj P	Dr. Arun P Dr. C. Muraleedharan	Thermal Sciences	FT
83	Sreesankar K K	Dr. Simon Peter	Thermal Sciences	FT
84	Abi Varghese	Dr. Vinay V. Panicker	Industrial Engineering & Management	PT
85	Vineesh Vishnu	Dr. Vineesh K.P.	Machine Design	FT
86	Ariranjjan K A	Dr. Deepak Lawrence K Dr. R. manu	Manufacturing Technology	FT
87	Navin Mathew	Dr. G. Varaprasad	Industrial Engineering & Management	FT
88	Bibin K Tharian	Dr. R. Manu Dr. P.B. Dhanish	Manufacturing Technology	FT
89	Allan George	Dr. P.B. Dhanish Dr. Jose Mathew	Manufacturing Technology	FT
90	Pramod A	Dr. Deepak Lawrence K Dr. Jose Mathew	Manufacturing Technology	FT
91	Mukul Joseph	Dr. TJS Jothi Dr. Saleel Ismail	Thermal Sciences	FT
92	Nithin P S	Dr. Ashesh Saha	Machine Design	FT
93	Vijay S	Dr. V. Madhusudanan Pillai	Industrial Engineering & Management	FT

FT→ PT: Converted from full time to part time

QIP→ PT: Converted from QIP to part time

#### Proposed Ph.D. programmes

Dr. Jose Mathew - Using the acquired sophisticated facilities, continue the Research in the areas of Modeling, Simulation and Experimental Investigation of Tool Wear, Cutting Force and Surface Characteristics during Micromachining of difficult to cut materials such as Inconel 718 and Ti-6Al-4V. Also consultancy services will be taken up with full vigor with neighbouring institutes/medical colleges and industries. Joint national workshops are planned in the areas of additive manufacturing and medical 3D printing.

Create a research environment so that all our sophisticated machines will be accessible to other departments and outside the department as well with effective utilization of teaching assistance service of research scholars. All FIST equipment have been successfully installed and commissioned. Details of all equipment of the Department have been uploaded to I-STEM portal of MHRD.

Dr. R. Sridharan –

It is proposed to development decision models for dual supply chains.

It is proposed to develop prediction models based on machine learning for the academic performance of students.

Dr. M L Joy – Continue research in the field of tribology and robotics.

Dr. M A Joseph – Metal casting and metal matrix composites

Dr. V. Madhusudanan Pillai –

Currently the focus of the research is on the application of machine learning and block chain technologies in supply chain management. It is proposed to develop artificial intelligence and machine learning based assistance in decision making in the supply chain role play based operation simulation as well as use block chain technology for supply chain collaboration. A block chain oriented supply chain operation simulator is in the final stage of development. Research on informed decision making (data driven decision making) is also in progress. It is proposed to apply the concepts developed through research and domain knowledge for the development of products especially useful for enhancing teaching and to provide solutions for the practical problems.

Dr. Biju T. Kuzhiveli: Heat transfer problems in cryogenic, semi cryogenic engines and optimum design of coolant channels, ISRO; Design and development of ultra-small miniature linear motor with moving magnet technology for the use of Stirling and pulse tube cryocooler, ISRO satellite Centre Bangalore; Dual purpose Stirling devices for power and cooling application in remote un-electrified rural homes, PCRA; Design and development of miniature crank driven cryocooler for cooling imaging sensors in missile and field vehicles, DRDO; Design and development of a 100 W rectilinear drive for the use of atomic energy devices, DOAE; “Advanced auxiliary airborne cooling system in instrumentation room for unmanned combat aircraft Khatak” Collaborators: HAL Nasik, Aeronautical development agency Bangalore, Cosmic refrigeration, Emerson innovation. Prof S. Kasthuriangan (CCT IISc Bangalore), Prof. Prakash Maiya (IIT Madras).

Dr. R. Manu –

Develop a “Centre of excellence in non-traditional machining”  
Develop an inter-disciplinary research group on “Industry 4.0”

Dr. M D Narayanan – Design of nonlinear dynamic systems: Refine and improve a methodology and algorithm developed earlier for better optimization and design of nonlinear dynamic systems.

Dr. Sudheer. A.P – Development of various types robotic systems for societal needs for common people.

Dr. Arun P. - Mathematical modeling and optimal thermal design of various energy systems, Energy management in thermal systems, Renewable energy utilization

Dr. M. Srinivas - External funded projects, Two more PhD students, GIAN course (proposal submitted)

Dr. U B Jayadeep –

Computational studies on wear resistance of nano-coated surfaces and adhesion are being carried out. Collaborative research is ongoing with Dr. R. Ramaseshan, IGCAR, Kalpakkam and faculty members in SMSE at NIT Calicut itself. Application for funding from VSSC for Finite Element Modeling of Adhesion is being processed and other opportunities are being explored. A Computational Mechanics lab, with the aim of conducting the computational studies across the scales, is proposed to be set up in MED once fund become available. Studies are ongoing for computational modeling of residual stresses in welding and developing an experimental setup for demonstrating stress-stiffening effect.

Dr. Jagadeesha T. - To do research on advanced manufacturing processes such as AJM, USM, EDM. ECM

Dr. K P Murali – Electronic Materials: Ceramics and composite materials for electronic applications

Dr. Vinay V. Panicker - Proposed Plan for Research in the area of Ergonomics - With an aim to promote the application of Ergonomics, the following plan is proposed: Development of an Ergonomics Research Laboratory at NIT Calicut, providing opportunities for researchers and academicians towards the Assessment of Ergonomic risks in workspace and design appropriate technological interventions for human well-being in workspace.

Dr. Saleel Ismail: Short term plan: A solar heated desalination test rig is being set up using Faculty Research Grant. This will be used by Mr. Shaikh Javed for his doctoral research. Mr. Mukul Joseph's research will require external funding, for which a project proposal is being drafted. Long term plan: To develop a well-equipped engine testing facility in the Heat Engines laboratory to carry out advanced research. Possibility of collaborating with experts in other reputed institutes and industries will be explored. Thermodynamic analyses of IC engines and other thermal systems will continue to be a part of the future research plan.

Dr. Rohinikumar B: Continue the research related to the problems of two Ph D scholars who are currently working

Dr. Gangadhara Kiran Kumar L: To conduct research work in the area of Energy efficient buildings and developing Knowledge in the area multiphase flow in micro and nano devices. Publishing good number of papers in SCI journals and submit the project proposal for funding.

Dr. P. V. Manu: Modernization of Heat Engines lab

Dr. Sujith Kumar C S: Incorporating experimental, theoretical and visualization techniques to unravel the physical mechanism behind the two phase heat transfer in pool and flow boiling. Experimental investigation of patterned interfacial evaporation coupled desalination system, with optimization of patterns for improved efficiency and evaporation rate, to address major issue of freshwater scarcity.

Dr. Ratna Kumar K. –

Theme #1: Dual Channel Supply chain

Guiding Research Questions: What is the relevance of a dual channel supply chain? What are the enablers and barriers to implementation of such a structure? Can a real-time case be implemented in this work?

The rapid growth of e-commerce over the past decade has resulted in several manufacturers selling their products online to stay competitive and increase access to their products worldwide. In this present work, we want to explore the characteristics of the different channel structures, namely the traditional retail channel and dual channel structure, consisting of both retailer store(s) as well as the online store. We would also like to explore other possible channels. Finally, we wish to analyze which type of channel will be suitable for each product. Some students are working on this topic and we are preparing a proposal to submit to the relevant funding agencies.

Theme # 2: Safe kitchen design for disabled people

Objectives:



Identification of the constraints on the activities of daily living (ADL) for the majority of paraplegics

Study of the mechanics behind optimizing the ergonomics of the movements made by paraplegic people

Design a safe, efficient and affordable kitchen layout with full consideration given to potential and actual limitations on the activity of a paraplegic.

Develop a prototype of a modular kitchen with flexible design.

Provide training to paraplegic users

Develop the actual model and implement

A few students are working in this area and I have submitted a project proposal to SERB, which has been accepted for evaluation. I intend to guide Ph.D students in work in this area in the near future.

Theme # 3: Sustainable practices in higher educational institutions.

Guiding Research Questions:

What percentage of students take more than the minimum stipulated time to complete their programs and what are the reasons?

What are the methods that can be adopted to bring these students back into the mainstream?

Framing a real-time action plan to carry out this work?

The government funds a number of higher educational institutions in India with the aim of developing highly skilled engineers and scientists who will promote the development of the country. In spite of the huge investment made by the government, it is observed that the number of students who exceed the minimum stipulated time to complete their respective programs is very high over the years. The purpose of the current work is to find ways to reduce this percentage. A few students are working in this area, and I am planning to submit a proposal to a funding agency to forward research in this area.

Summary:

My aim in focusing on the above themes is to find a real-time problem with economic and social relevance, identify possible and feasible solutions, and also submit the final reports to the agencies who can take action to implement such solutions.

Dr. Deepak Lawrence K. – 3D Model-Based Engineering for the Automation of Manufacturing Functions of Cyber Manufacturing Systems (proposed research plan to Ministry of Heavy Machinery).

Dr. Ashesh Saha –

Synchronization in Coupled Nonlinear Oscillators

Analysis and Control of Instabilities in Jeffcott Rotor

Multi-Scale Modelling of Friction

Magnetorheological (MR) Damper

Mr. Sreenath – Post impact fatigue behaviour of Carbon Fiber Reinforced Polymer(CFRP) composites.

Dr. Srinu Gangolu –

Initially, grain refinement techniques in various Mg alloys will be referred from the literature. Mg-Ca alloy will be taken as material for this research work. Later, investigating the structure-property correlation will be done after the processing the Mg-Ca alloy by severe plastic deformation technique.

Dr. Vineesh K P –

Gauge widening and condemning of wagon wheels in Indian railways

Development of online gauge monitoring system

Disc brake failures in LHB coaches in Indian railways

Finite element modeling of additive manufacturing

Dr. Sumer Bharat Dirbude - The proposed research plan is in the directions of development of finite volume method based solvers to solve variety of problems such as, evaporation, compressible flows, etc. and studies of performance of energy systems, such as, sub-systems of solar energy, combustion systems or energy from alternative fuels.

Dr. Sandip Rudha Budhe –

Design and Fabrication of fully bio-based material face shield equipment to control spreading of Covid-19 virus.

Improvement of Mechanical, Thermal and Electrical properties of natural fiber composite material by adding carbon nanotube filler to replace the synthetic composite material.

DEPARTMENT OF MATHEMATICS

Ph. Ds completed under Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
	Aswin V S	Dr. Ashish Awasthi	Computational Methods	Full Time (FT)
	Kiran Kumar Patra	Dr. Satyananda Panda	Free surface Dynamics of Differential Type Fluids	FT
	Naveen P	Dr. Chithra A V	Structural and Spectral Properties of Addition Cayley Graphs	FT
	Shija G	Dr. M J Jacob	Insurance Risk and Ruin	Part Time (PT)
	Ratheesh KP	Dr. Sunil Jacob John	Soft sets and Category theory	FT
	Shinto K G	Dr. Sushama C M	Target Setting in DEA Models	PT
	Abdushukoor K M	Dr. Sushama C M	Travel Demand Modelling in Fuzzy Environment	PT
	Sameeha Rehmani	Dr. Sunitha M S	On Different types of Geodesic numbers in in fuzzy graphs	FT
	Lisna P C	Dr. Sunitha M S	On b – Coloring of Corona and Mycielskian of Some Special Classes of Graphs	FT
	Aswathy R K	Dr. Sunil Mathew	Fractal Geometry	FT

	Dhanyamol M V	Dr. Sunil Mathew	Graph Theory	FT
	Anjali N	Dr. Sunil Mathew	Graph Theory	FT
	Darshan Lal M Nair	Dr. Sunil Mathew	Graph Theory	FT
	Binu M	Dr. Sunil Mathew	Fuzzy Graph Theory	FT

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/ Full time)
	Riyasudheen T K	Dr. Ashish Awasthi	Computational Finance	FT
	Rabeeb Ali V P	Dr. Ashish Awasthi	Moving Boundary and NSFD	FT
	Sreelakshmi A	Dr. Ashish Awasthi	Numerical Methods for Singular Perturbation	FT
	Shyaman V P	Dr. Ashish Awasthi	Geometric Singular Perturbation	FT
	Neena A S	Dr. Ashish Awasthi	Spline Techniques for Singular Perturbation	FT
	Sangeetha C	Dr. Ashish Awasthi	Two Parameters Problems	PT
	Sherin Jose T	Dr. Satyananda Panda	Thin Liquid Film	PT
	Deepak P Nair	Dr. Satyananda Panda	Composite Materials	PT
	Suresh Reddy	Dr. Satyananda Panda	Natural Convection Flow	FT
	Abraham Sam Varghese	Dr. Satyananda Panda	Stability Analysis of Thin Liquid Film	FT
	Mahesh T	Dr. Satyananda Panda	Fluid Mechanics	FT

	Najiya V K	Dr. Chithra A V	Graph Theory	FT
	Haritha T	Dr. Chithra A V	Graph Theory	FT
	Jahfar TK	Dr. Chithra A V	Spectral Graph Theory	PT
	Jamsheena P	Dr. Chithra A V	Algebraic Graph Theory	PT
	Dibu A S	Dr. M J Jacob	Insurance Risk and Ruin	FT
	Rasmi K	Dr. M J Jacob	Queuing Theory	FT
	Mithun A T	Dr. Lineesh M C	Wavelets Theory	PT
	Sameer Poongadan	Dr. Lineesh M C	Time Series Analysis	PT
	Pallavi K	Dr. Lineesh M C	Wavelets Theory	FT
	Athira N	Dr. Lineesh M C	Wavelets Theory	FT
	Ashlyn Maria Mathai	Dr. Mahesh Kumar	Acceptance Sampling Plans	FT
	Sruthi K	Dr. Mahesh Kumar	Fuzzy Reliability	FT
	Julia Thomas	Dr. Mahesh Kumar	Reliability of Supply Chain Managements	FT
	Aswathi K P	Dr Mahesh Kumar	Reliability Estimation	FT
	A V Prajeesh	Dr. Krishnan Paramasivam	Graph Theory	FT
	Muhammed Sabeel K	Dr. Krishnan Paramasivam	Graph Theory and Commutative Algebra	FT
	Dhanya Varma V	Dr. Suresh Kumar Nadupuri	Numerical Analysis	FT

	Sobin Thomas	Dr. Suresh Kumar Nadupuri	Numerical Analysis	FT
	Bibin mathew	Dr. Sunil Jacob John	Rough Sets	FT
	Athira TM	Dr. Sunil Jacob John	Soft Sets	FT
	Fathima Perveen	Dr. Sunil Jacob John	Soft Sets	FT
	Aparna Sivadas	Dr. Sunil Jacob John	Q rung orthopair sets	FT
	Salsabeela V	Dr. Sunil Jacob John	Topsis Methods	FT
	Suma P	Dr. Sunil Jacob John	Generalized Set Theory	PT
	Rajish Kumar	Dr. Sunil Jacob John	Multi Set Theory	PT
	Aysha Hadya	Dr. Sushama C M	Data Envelopment Analysis	F T
	Bhanupriya C K	Dr. Sunitha M S	Graph Theory	FT
	Swathy V V	Dr. Sunitha M S	Graph Theory	FT
	Kavya	Dr. Sunitha M S	Fuzzy Graph Theory	FT
	Saleena A J	Dr. Jessy John C	Time Series Modelling and Applications to Inventory Management	FT
	Chithralekha K	Dr. Jessy John C	Multivariate time series modelling	PT
	Shanookha Ali,	Dr. Sunil Mathew	Fuzzy Graph Theory	FT
	Nitha Niralda	Dr. Sunil Mathew	Fractal geometry	FT
	Soorya T E	Dr. Sunil Mathew	Graph Theory	FT
	Praveen N	Dr. Sunil Mathew	Fractal geometry	FT

	Arya S	Dr. Sunil Mathew	Fuzzy graph Theory	FT
	Jose Mathew	Dr. Sunil Mathew	Fractal geometry	FT
	Gayathri G	Dr. Sunil Mathew	Fuzzy Graph Theory	FT
	Anntresa Josy	Dr. Sunil Mathew	Fuzzy graph Theory	FT
	Yasser K T	Dr. Sanjay P K	Harmonic Analysis	FT

#### DEPARTMENT OF CHEMISTRY

Ph. Ds completed under Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Nishad K.V.	Dr. G. Unnikrishnan	Polymer Chemistry	PT
2	Vintu M.	Dr. G. Unnikrishnan	Polymer Chemistry	FT
3	Manaf O.	Dr. A. Sujith	Polymer nanocomposite antimicrobial membranes	FT
4	Sunitha K.	Dr. G. Unnikrishnan	Polymer Chemistry	PT
5	Suja P. Sundaran	Dr. A. Sujith	Polymer nanofibers for water filtration	FT
6	Anitha S.	Dr. G. Unnikrishnan	Polymer Chemistry	PT
7	Lashmi P. G.	Dr. G. Unnikrishnan	Polymer Chemistry	PT
8	Satheesh Kumar B.	Dr. G. Unnikrishnan	Polymer Chemistry	PT

Ongoing Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Diana Mathew	Dr. P. Parameswaran	Bio-Inorganic Chemistry	FT
2	Anjana George	Dr. P. Parameswaran	Theoretical & Computational Chemistry	PT
3	Muhasina P. V.	Dr. P. Parameswaran	Theoretical & Computational Chemistry	FT

4	Sneha P.	Dr. P. Parameswaran	Theoretical And Computational Chemistry	FT
5	Parvathy P.	Dr. P. Parameswaran	Theoretical & Computational Chemistry	FT
6	Rinsha C. H.	Dr. P. Parameswaran	Theoretical & Computational Chemistry	FT
7	Shahila Muhammed	Dr. P. Parameswaran	Theoretical & Computational Chemistry	FT
8	Jishnu Sai G.	Dr. P. Parameswaran	Theoretical & Computational Chemistry	FT
9	Rarima R.	Dr. G .Unnikrishnan	Polymer Chemistry	FT
10	Jasmin Joseph	Dr. G .Unnikrishnan	Polymer Chemistry	PT
11	Monisha M.	Dr. G. Unnikrishnan	Bio-Inorgnaic Chemistry	FT
12	Shafeeq V. H.	Dr. G. Unnikrishnan	Polymer Chemistry	FT
13	Noorudheen	Dr. G .Unnikrishnan	Polymer Chemistry	FT
14	Aswathi E.	Dr. Lisa Sreejith	Soft Materials	FT
15	Muhammed Adnan P. K	Dr. Lisa Sreejith	Hydrogel Application	FT
16	Sreelaya V.	Dr. Lakshmi C.	Bio-Organic Chemistry	FT
17	Sehra ShurooqueKanneth	Dr. Lakshmi C.	Bio-Inorganic Chemistry	FT
18	Jithinraj T.K.	Dr. Lakshmi C.	Bio-Inorganic Chemistry	FT
19	Divya T.T.	Dr. Lakshmi C.	Bio-Organic Chemistry	FT
20	Vidhya C. V.	Dr. SuniVasudevan	Bio-Sensors	FT
21	Amritha B.	Dr. SuniVasudevan	Bio-inorganic Chemistry	FT
22	Juraj K.	Dr. A. Sujith & Dr. SuniVasudevan	Polymer nano fibers for oil/water separation	FT
23	Smitha M.	Dr. A .Sujith	Polymer membranes	PT
24	Saharuba P. M.	Dr. A. Sujith	Modification of biopolymers	EXTERNAL
25	Manoj M.	Dr.A .Sujith	Polymer bio composites	PT
26	Tesi Thomas	Dr. A. Sujith	Bio-Polymers for food packaging	PT
27	Saeed P. A.	Dr. A .Sujith	Conducting polymers	PT
28	Sagitha P.	Dr. A. Sujith	Polymer nano fibers for drug delivery	FT
29	Anjali P.D	Dr. A. Sujith	Polymer nanofibers for sensing applications	FT
30	Anjana Rajeev K.	Dr. M. Sankaralingam	Bio-Inorganic Chemistry	FT
31	Athulyadas	Dr. M. Sankaralingam	Bio-Inorganic Chemistry	FT
32	Fabitha K.	Dr.Janardhan Banothu	Organic Chemistry	FT
33	Arya C.G.	Dr.Janardhan Banothu	Heterocyclic Synthesis	FT
34	Rasha Rahman	Dr. Mini Mol M.	Material Science	FT
35	Subin K. C.	Dr. Mini Mol M.	Material Science	FT
36	Divya Reji Philip	Dr. Mini Mol M	Material Science	FT

37	Amala Shaliya Joseph	Dr. Suni Vasudevan	Inorganic Materials	FT
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DEPARTMENT OF PHYSICS

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
	Jalaja	Dr. P. Predeep	Material Science	Part Time
	Kulkarni Prabhanjan	Dr. P. Predeep	Material Science	Part Time
	Shiju E	Dr. Chandrasekharan	Nonlinear Optics	Full Time
	Vijisha M.V	Dr. Chandrasekharan	Nonlinear Optics (Photonic Crystals)	Full Time
	Lakshmikanth K. G	Dr. Raghu Chathanathodi	Computational Material Science	Full Time
	Daughty John	Dr. Raghu Chathanathodi	Computational Material Science- 2D Materials	Part Time
	Shamjid P	Dr. Vari Sivaji Reddy	Plasmonic Polymer Solar Cells	Full Time

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
	Jayan Manuvel	Dr. P. Predeep	Organic solar cells	Full Time
	Rosemary Davis	Dr. P. Predeep	Organic solar cells	Full Time
	Pratheek Mekkat	Dr. P. Predeep	Organic electronics	Full Time
	Saranya Babu	Dr. P Predeep	Organic electronics	Part Time
	Vasudevan	Dr. Chandrasekharan	Nonlinear Optics	Part Time
	Nikhil P. P	Dr. Chandrasekharan	Nonlinear Optics (Photonic Crystals)	Full Time
	Amarnath K. P	Dr. Chandrasekharan	Nonlinear Optics	Part Time
	Arun R	Dr. M. K. Ravi Varma	Instrumentation for Air Quality Monitoring	Full Time
	Aiswarya	Dr. M.K. Ravi Varma	Spectroscopic Instrumentation for Optical Sensing	Full Time
	Anoop P	Dr. M. K. Ravi Varma	Spectroscopic Study of Trace Gases and Aerosols	Full Time
	Suhail K	Dr. M. K. Ravi Varma		Full Time



	Bijoy N	Dr. Raghu Chatanathodi	Computational Material Science- Organic Spintronic	Full Time
	Aparna M	Dr. Raghu Chatanathodi	Computational Material Science	Full Time
	MUHAMMED FASIL	Dr. Raghu Chatanathodi	Computational Material Science	Full Time
	Saju K. John	Dr. Aji A. Anappara	Two-dimensional Materials	Full Time
	Nishaina Sahadev	Dr. Aji A. Anappara	Photothermal Studies in Nano-systems	Full Time
	Swathi V.M (UGC)	Dr. Aji A. Anappara	Two-dimensional Materials	Full Time
	Anupama M	Dr. Aji A. Anappara	Carbon Nano-systems	Part Time
	Santhi Krishna	Dr. Madhavan Unni	Critical Point Phenomena and Phase Transition	Part Time
	Naseer A. P	Dr. Madhavan Unni	Critical Point Phenomena and Phase Transition	Full Time
	Abhijith T	Dr. Vari Sivaji Reddy	Organic Electronics and Photovoltaics	Full Time
	Anoop C S	Dr. Vari Sivaji Reddy	Polymer Solar Cells	Full Time
	Bassam S. A	Dr. Suchand Sangeeth		Part Time
	Jaismon Francis	Dr. Suchand Sangeeth	Organic Semiconductors	Full Time
	Safna Banu K	Dr. Ram Ajor Maurya	Solar Astrophysics	Full Time
	Jain Jacob P. T	Dr. Ram Ajor Maurya	Solar Astrophysics	Full Time
	Manjusha E	Dr. Maneesh Chandran	Diamond	Full Time
	Abhinav T	Dr. Goutam Kumar Chandra	Condensed Matter Physics	Full Time
	Ms. Harsha Haridas E. S.	Dr. Goutam Kumar Chandra	Detection of Biomolecules by Spectroscopic Method	Full Time
	Anjali S	Dr. Saurabh Gupta	Quantum Field Theory	Full Time
	Nabeel N. A	Dr. Aswathi. G	Material Science and Nanotechnology	Full Time
	Lekshmi B. S	Dr. Subramanyan Namboodiri Varanakkottu	Interface Science	Full Time

DEPARTMENT OF MANAGEMENT STUDIES

Ph. Ds completed under Existing Scheme : NIL

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Pratap Kumar S	Dr. K Muhammad Shafi & Dr. T Radharamanan	Strategic Management	Part Time
2	Lisbeth Mary John	Dr. K Muhammad Shafi	Human Resources Management	Full Time
3	Biju Mathew	Dr. Sunitha S	Economics	FIP (Part-Time)
4	Sreekumar P Pillai	Dr. T Radha Ramanan and Dr. Madhu Kumar S D	Systems	Part Time
5	Binesh Jose	Dr. T Radha Ramanan and Dr. Madhu Kumar S D	Strategic Management	Part Time
6	Preethi M	Dr. T Radha Ramanan	Technology Transfer	Part Time
7	Shanujas V	Dr. T Radha Ramanan	Human Resources Management	Full Time
8	Minimol	Dr. Preeti Navaneeth	English Studies	Full Time
9	Bibin Thomas	Dr. Reju George Mathew	English Studies	Full Time
10	Elizabeth Antony	Dr. Reju George Mathew	English Studies	Part Time
11	Tejoswini Patra	Dr. Sreejith S S	Human Resource Management	Full Time
12	Muneera	Dr. Althaf S	Economics	Full Time
13	Rona Reesa	Dr. Preeti Navaneeth	English Studies	Full Time
14	Chithira James	Dr. Reju George Mathew	English Studies	Full Time
15	Monica	Dr. Althaf	Economics	Full Time
16	Neethi Lisa Rojan	Dr. Nithya M	Marketing Management	Full Time
17	Joseph Clement Madathil	Dr. Nithya M	Marketing Management	Full Time
18	Sivakumar P	Dr. Sreejith S S	Human Resource Management	Part Time

DEPARTMENT OF BIOTECHNOLOGY

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Ms. Sareena.C	Dr. Suchithra T.V	Microbiology	FT
2	Lakshmi Mohan	Dr. Rathinasamy K	Cancer Biology	FT

b. On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Mr. Uday Prakash	Dr. Md. Anaul Kabir	Molecular Biology & Genetic Engineering	FT
2	Ms. Ankita Dube	Dr. Md. Anaul Kabir	Molecular genetics in Yeast	FT
3	Ms. Soumiya S	Dr. Santhiagu A	Bioprocess Engineering	FT
4	Mr. Jobin Ravi	Dr. Santhiagu A	Drug Research & Development	FT
5	Ms. Jyotirekha Das	Dr. Rajanikant. G.K	Neuroscience	FT
6	Mr. Neelakandan	Dr. Rajanikant. G.K	Network Biology	FT
7	Mr. Gokul .S	Dr. Rajanikant G K	Computational Drug design & Neuroscience	FT
8	Ms. Navami krishna	Dr. Rajanikant G K	Network Biology	FT
9	Mr. Jomon Sebastian	Dr. Rathinasamy	Cancer Research	FT
10	Mr. Sushobhan mahanty	Dr. Rathinasamy	Cancer biology	FT
11	Ms. Shabeeba M Ashraf	Dr. Rathinasamy	Cancer biology	FT
12	Ms. Sharmila Raj. T	Dr. Aswati Nair	Plant Biotechnology	FT
13	Ms. Reshmi sasi	Dr. Suchithra T.V	Environmental Microbiology	FT
14	Mr. Benu George	Dr. Suchithra T.V	Microbiology & Bioprospecting	FT
15	Ms. Remya Raveendran	Dr. Suchithra T.V	Microbiology & Bioprospecting	PT
16	Mr. Ilshad Sabah	Dr. Suchithra T.V	Microbiology & Bioprospecting	PT
17	Ms. Aswani T	Dr. Suchithra T.V	Microbiology & Bioprospecting	FT
18	Ms. Serin zachariah	Dr. Suchithra T.V	Microbiology & Bioprospecting	FT
19	Ms. Pooja S	Dr. Suchithra T.V	Microbiology & Bioprospecting	FT
20	Mr. Akash K	Dr. Baiju G nair	Bioengineering	FT
21	Mr. Abey Joseph	Dr. Baiju G nair	Bio engineering	FT
22	Mr. Sijo joy	Dr. Baiju G nair	Bio engineering	PT
23	Mr. Sanu Thankachan	Dr. Suresh P. S	Cancer Biology	FT
24	Ms. Boddapti Kalyani Bhardwaj	Dr. Suresh P. S	Cancer Biology	FT

c. Proposed Ph.D. programmes

Research is planned in the following areas

1. Gene Regulation
2. Molecular Genetics

3. Protein Folding
4. Protein Engineering
5. Genetic Engineering
6. Bio modeling and Drug Design
7. Plant Molecular Biology
8. Neurobiology
9. Immuno Technology
10. Enzyme Technology
11. Cell Biology
12. Cancer Research
13. Biofuel Research
14. Bioprospecting
15. Bio-nanotechnology
16. Tissue engineering
17. Stem cell technology

#### DEPARTMENT OF METATERIALS SCIENCE & TECHNOLOGY

Ph. Ds completed under Existing Scheme during the period

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	Sreenidhi P.R	Dr.Soney Varghese	Energy harvesting devices	Full time

On-going Ph. Ds under the Existing Scheme

Sl. No.	Name	Guide	Area of Specialization	Scheme (QIP/Part Time/Full time)
1	ArjunAjith Mohan	N. Sandhyarani	Development of efficient bio fuel cell	Full Time
2	Manu mohan	C. B. Sobhan	Heat transfer studies using Interferometry	Part Time
3	Anish R Nath	N. Sandhyarani	Nanomaterial based energy storage devices	Full Time
4	Vinay T V	Soney Varghese	Nanofluidics	Full time
5	Preseetha K P	Soney Varghese	Nonlinear optics	Full time
6	BiyasPosha	N. Sandhyarani	Development of sensitive biosensors using nanomaterials	Full Time
7	PanchalBhargav	Soney Varghese	MEMS	Full time

8	Radhika panicker	C. B. Sobhan	Synthesis of carbon based material for electronics application	Full time
9	Neeshma.R	C. B. Sobhan	Nano Enhanced Phase Change Materials.	Full time
10	Sreenidhi .P.R	Soney Varghese	Energy harvesting devices.	Full time
11	Chinglenthomba John Chingakham	Sajith V.	Heterogeneous Catalyst for the transesterification of biodiesel	Full time
12	Nubla.k	N. Sandhyarani	Electrocatalyst development for direct methanol fuel cell application	Full time
13	Farzeena C	Subramanyan Namboodiri V and N. Sandhyarani	Optical switching using nanostructured materials	Full time
14	Mathew Joseph	Sajith V.	Nano phase change materials for heat transfer applications	Full time
15	Geo Sebastian	Shijo Thomas	Design of solar desalination system with enhanced productivity .	Full Time
16	Albin Joseph	Shijo Thomas	Investigation on concentrated parabolic solar collector using Nano fluids.	Full Time
17	Antony Joseph	Sajith V	Development of wear and corrosion resistant coatings	Full Time
18	Muhammed Shafeeque Rahman	Hanas T	Neuromodulation	Full Time
19	Aruna Vijayan	N.Sandhyarani	Photocatalysis	Full Time
20	Muhammad Rabeeh vp	Hanas T	Corrosion	Full Time
21	Merin Joseph	Dr.Hanas.T	Nanocluster synthesis and cancer therapy	Full time
22	Anagha Yatheendran	Dr.N.Sandhyarani	Development of electrocatalyst and catalyst support for energy application	Full time

23	Sumanth S	Dr.Shijo Thomas	Thermal Management in PCB's	Full time
24	Shijina	Dr.Sajith.V	Battery thermal management in electric vehicles	Full time
25	Anoop A.V	Dr.Soney Varghese	Nano sensors and Device	Full time
26	Preseetha Paul	Soney Varghese	Pyroelectric energy harvesting devices	Part Time
27	Jamsheed K	Soney Varghese	Design and Development of Curcumin Nanoparticles and Nanoconjugates to Enhance Bio-availability	Part Time
28	Arun Kumar V	Sarith P Sathian and Sajith V	Computational Studies On the Evaporation of Nanodroplets	Part Time
29	Varun R	N. Sandhyarani	Targetted drug delivery of cisplatin	External
30	Divya D.	Shijo Thomas	CO2 adsorption in nanofluids	Part Time
31	JaisonJhon	Sajith.V	Corona discharge particulate filter	Part Time
32	Vibin Antony	Sajith.V	Convective heat transfer studies in Corona discharge systems	Part Time
33	Madhu	C. B. Sobhan	Multiscale modeling of convection in nanofluids	Part Time
34	Laiju Lukose	Dr.Hanas.T		Part time

## DETAILS OF PH.D.S DONE SO FAR

### DEPARTMENT OF ARCHITECTURE

Sl. No	Department	No. of Ph. D Completed	Scheme		
			QIP	FT	PT
1.	Architecture and Planning	6	1	3	2

### DEPARTMENT OF CIVIL ENGINEERING

Department	No. of Ph. D Completed	Scheme		
		QIP	FT	PT
Civil Engineering	64	19	24	21

DEPARTMENT OF CHEMICAL ENGINEERING

Department	No. of Ph. D Completed	Scheme		
		QIP	FT	PT
Chemical Engineering	34	-	31	3

DEPARTMENT OF CHEMISTRY

Sl. No	Department	No. of Ph. D Completed	Scheme		
			QIP	FT	PT
1	CHEMISTRY	52	2	39	11

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Sl. No	Department	No. of Ph.D Completed	Scheme		
			QIP	FT	PT
1	CSED	36	2	14	20

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Department	No. of Ph. D Completed	Scheme		
		QIP	FT	PT
ECED	71	21	36	14

DEPARTMENT OF ELECTRICAL ENGINEERING

Sl. No	Department	No. of Ph.D Completed	Scheme		
			QIP	FT	PT
1	EED	125	24	39	62

DEPARTMENT OF MATHEMATICS

Sl. No	Name of Guide	No. of Ph.D Completed	Scheme		
			QIP	FT	PT
	Dr. Satyananda Panda	2	0	2	0

	Dr. Mahesh Kumar	3	0	3	0
	Dr. Sunil Jacob John	11	0	5	6
	Dr. Sushama CM	2	0	0	2
	Dr. Jessy John C.	3	0	2	1
	Dr. Sunil Mathew	10	0	10	0
	Dr. M J Jacob	2	0	0	2
	Dr. Sunitha M S	11	1	6	4
	Dr. Chithra A V	1	0	1	0
10.	Dr. Ashish Awasthi	3	0	3	0
11.	Dr. Krishnan Paramasivam	0	0	0	0
12.	Dr. Suresh Kumar Nadupuri	0	0	0	0
13.	Dr. Lineesh M C	0	0	0	0
14.	Dr. Sanjay P K	0	0	0	0
15.	Dr. Tamal Pramanick	0	0	0	0

#### DEPARTMENT OF MECHANICAL ENGINEERING

Department	Number of Ph. D Completed	Scheme		
		QIP	FT	PT
Mechanical Engineering	89	14	44	31

#### DEPARTMENT OF PHYSICS

Department	No. of Ph. D Completed	Scheme



		QIP	FT	PT
Physics	7		4	3

#### SCHOOL OF BIOTECHNOLOGY

Department	No. of Ph. D Completed	Scheme		
		QIP	FT	PT
School of Biotechnology	2	0	2	0

#### SCHOOL OF METERIALS SCIENCE AND ENGINEERING

Department	No. of Ph. D Completed	Scheme		
		QIP	FT	PT
SMSE	22		21	1

#### SCHOOL OF MANAGEMENT STUDIES

Sl. No	Department	No. of Ph.D Completed	Scheme		
			QIP	FT	PT
1	SOMS	5		5	0

### 11.5 RESEARCH PROJECTS AND CONSULTATION JOBS

#### DEPARTMENT OF ARCHITECTURE AND PLANNING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	Developing appropriate house design for tribal communities in Wayanad, Kerala	Dr. Shyni.Anilkumar, Dr. Chithra K, Dr. Deepthi Bendi	UNDP	2019	4 lakhs	Completed
2	Attitudes towards the environment: study in Kerala, post 2018 floods	Dr.Anjana Bhagyanathan	ICSSR-MHRD	2019	6 Lakhs	Ongoing
3	Capacity building in Geospatial Technologies	Dr. Naseer M.A., Dr. Bimal P.	NRDMS-DST	2019 - 20	10 Lakhs	Completed

4	“Sociotop” Mapping as a Planning Tool in an Urban Cultural Landscape	Dr. Bimal P., Dr. Chithra K.	ICSSR	2019	8 lakhs	Ongoing
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#### DEPARTMENT OF CIVIL ENGINEERING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount ( lakhs)	Status
1	Behaviour of Steel Fibre Reinforced Rubberized Concrete Deep Beams	Dr. Praveen Nagarajan (PI) Dr. A.P. Shashikala (Co-PI)	KSCSTE	2020	5.90	Ongoing
2	Design and development of an expert system for updating rainfall Intensity-Duration-Frequency curves under climate change and non-stationarity	Dr. Agilan V	SERB, DST, GoI	2019	18.623	On-going
3	Investigation of shoreline stability along the Kerala coast using geospatial technologies for sustainable coastal protection measures	Dr. Anand K V (PI) Dr. Agilan V ( Co-PI)	Directorate of Environment & Climate Change, Government of Kerala	NA	13,20	Sanctioned
4	Studies on the occurrence, distribution and composition of microplastics along the Kerala coast with emphasis on its manifestation in food chain of nearshore communities	Dr. Ranjeet, CUFOS (PI) Dr. George K. Varghese (Co-PI)	SERB	2018	39.80	Ongoing
5	Design and development of a real-time optical sensor for selected VOCs in air and its application for field measurements	George K. Varghese (PI) M. K. Ravi Varma (Co-PI) Abinaya S. (Co- PI)	KSCSTE	2019	4.55	Ongoing
6	Image Based Smart Parking Management for Intelligent Transportation System	Dr. Harikrishna M. & Dr. Dhanaraj K.J., ECED, NIT Calicut	KSCSTE	2019	9.45	Ongoing
7	Flood Forecasting using Hybrid Wavelet-ANN and Wavelet-SVM Models	Dr. Chithra. N. R. (PI) Dr. Santosh. G. Thampi (Co-PI)	KSCSTE	2018	5.90	Ongoing
8	Performance evaluation of stone column supported embankments	Dr .Anjana Bhasi	SERB (DST)	2017	39.00	Ongoing
9	Capacity Building in Dam Safety Related Areas	Dr. Santosh G Thampi (Principal Co-ordinator) Dr. Sathish Kumar. D.	CWC, Ministry of Jal Shakthi (under DRIP)	2017	250.00	Ongoing

		(Co-PC)				
10	Centre for Transportation Research (CTR), a Centre of Excellence established by MHRD, Govt. of India, under the scheme 'Establishment of Centres of Excellence in Frontier Areas of Science and Technology'	Dr. MVLR Anjaneyulu Dr. K. Krishnamurthy Dr. M. Harikrishna Dr. M. Sivakumar	MHRD	2013	Rs. 1 crore per year	Ongoing
11	Integrated electro-oxidation, electro-reduction and electrocoagulation process for the degradation of ammoniacal nitrogen in the presence and absence of carbon based pollutants	Dr. Anantha Singh T S	SERB (Early Career Research Award (EC Engineering Sciences))	2019	31.559	Ongoing (Process started for the transfer of project to NITC)

### DEPARTMENT OF CHEMICAL ENGINEERING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	Microbial recovery of biogenic methane from coal rejects with CO2 sequestration using novel hybrid geo photobioreactor and reclamation of the site	Prof. V. Sivasubramanian	DST (Clean Coal Research and Development)	2019	17.63 Lakhs	Ongoing
2	A highly flexible Piezotribo nanogenerator based on electrospun PVDF nanofibers containing the modified and decorated carbonaceous nanoparticles for capturing human kinematics	Dr. Prasanna Kumar and S Mural	DST – SERB	2018	2289500	Ongoing
3	Microbial Recovery of Biogenic Methane from Coal Washery Rejects with CO2 Sequestration using Novel Hybrid Geo-Photo Bioreactor and Reclamation of the Site	Dr. V. Sivasubramanian	DST	2019	17,63,600	Ongoing
4	Development of hydrothermal liquefaction of	Dr. Panneerselvam Ranganathan	DST	2015	35,00,000	Ongoing

	microalgae for bio-oil production (2015-20)					
5	Process Intensification of Post-Combustion CO <sub>2</sub> capture using Rotating Packed Bed Reactor Concept (2019-22)	Dr. Panneerselvam Ranganathan	DST-SERB Early Career Research	2019	30,55,800	Ongoing
6	CFD Model CFBC boiler furnace	Dr. Panneerselvam Ranganathan	M/s ISGES Heavy Engineering Ltd, Noida	2020	2,00,000	Ongoing
7	Developing Soft sensors for Copolymerization Monitoring and Control based on Reaction Calorimetry	Dhanya Ram V	SERB	2018	37,79,600	Ongoing
8	Study and development of highly efficient multichannel photocatalytic micro/milli reactor for textile waste water treatment exploiting hollow spherical zinc based metal oxide composite	Dr. Susmita Das	SERB	2020	20.68L	Ongoing
9	Microfluidic photocatalytic degradation of dyes exploiting ZnO based nanocomposite	Dr. Susmita Das	Faculty Research Grant	2019	5 L	Ongoing
10	Development of Electrospun Membranes with Graded Hydrophobicity for Membrane Distillation	Dr Noel Jacob Kaleekkal (Lead PI)	Start-up Research Grant, SERB	2019	26.4 Lakhs INR	Ongoing
11	Integrated hydrodynamic cavitation - membrane distillation technology for enhanced water recovery from industrial effluent	Dr Noel Jacob Kaleekkal (Lead PI)	DST Technology Mission Division	2020	21 Lakhs INR	Ongoing
12	Tuning the Performance of Thin-Film Composite Membranes on Electrospun Support for Engineered	Dr Noel Jacob Kaleekkal (PI), Dr Prasanna S Mural, Dr Lity Alen Varghese (Co PI)	MHRD-SPARC	2019	44 Lakhs INR	Ongoing

	Osmosis in water remediation					
13	Development of Forward Osmosis Membranes for Desalination and Wastewater treatment	Dr Noel Jacob Kaleekkal	FRG NIT Calicut	2019	5 Lakhs INR	Ongoing
14	Development of Bio-modified carbon paste electrode for the detection and removal of heavy metals from wastewater	Dr. S. Bhuvaneshwari	DST-SERB	2019	42.64 Lakhs	Ongoing
15	Design modifications of TATA-JK dense medium Cyclone for the efficient separation of middling coal	Dr. Teja Reddy Vakamalla	R&D TATA Steel	2019	9,20,400	Ongoing

#### DEPARTMENT OF CHEMISTRY

SI No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	Design, synthesis, and evaluation of solid-emissive far-red- near IR fluorophores	Dr. Lakshmi C	DST-SERB	2017	40 Lakhs	Ongoing
2	Synthesis and Reactivity Studies of Rare Mononuclear High-Spin Manganese(V)-oxo (S = 1) Complexes	Dr. M Sankaralingam	DST-Inspire Faculty Award	2018	35 Lakhs	Ongoing
3	One-Step Selective Hydroxylation of Benzene to Phenol with Hydrogen Peroxide Catalyzed by Nickel(II) Complexes of Pentadentate Ligands	Dr. M Sankaralingam	Faculty Research Grant, NIT Calicut	2019	5 Lakhs	Ongoing
4	NANOMATERIAL-POLYMER COMPOSITES FOR PRINTABLE ELECTRONICS, SENSORS AND ALSO FOR ENERGY RELATED APPLICATIONS	Dr. Mini Mol M.	DST-INSPIRE FACULTY PROGRAM	2016	35 Lakhs	Ongoing
5	DEVELOPMENT OF NANOMATERIAL COMPOSITES FOR THE DETECTION OF NEUROTRANSMITTERS	Dr. Mini Mol M.	FACULTY RESEARCH SEED GRANT (FRG)	2019	5 Lakhs	Ongoing
6	Two-Dimensionally Tailored Conductive Polymer Networks for Multi-Functional Applications	Dr. Mini Mol M.	SERB, Department of Science and technology	2019	34 Lakhs	Ongoing
7	Dissemination activities of the project Development of nanocomposites from ethylene vinyl acetate, chitin and fibres	Dr. Unnikrishnan G.	UKIERI, British Council	2018	6.2 lakhs	Ongoing

8	Naked Carbon as a Bridging Ligand in Bimetallic Ruthenium Complexes - A Theoretical Study on the Formation, Stability, Bonding and Reactivity	Dr. Parameswaran P.	SERB	2017	34.25 lakhs	On going
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#### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1.	CARTRAC: Collaborative Trusted Anonymous Communication in Vehicular Networks	Principal Investigator (PI) Dr. P. Arun Raj Kumar	Department of Science & Technology - Core Research Grant (DST-CRG), Govt. of INDIA.	October 2017	Rs.44.76 Lakhs	On-Going
2.	A long term solution: Fuzzy logic based Image-acoustic Classification to detect the Elephant Movement patterns	Principal Investigator (PI) Dr. M. Prabu	Department of Science and Technology- Science and Engineering Research Board (DST-SERB)	June 2018	Rs.35.02 Lakhs	On-Going
3	Critical Infrastructure Threat Detection & Forensics Analysis	Dr. Hiran V Nath	Institute FRG	May 2019	₹5,00,000/	Ongoing

#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	An intelligent system for Retinopathy of Prematurity (ROP) Screening and Diagnosis	Dr.Sreelekha G Dr. Sathidevi P S Dr. Subashini R, CSED Dr. Subhasree M, CSED	DST - SERB	2019	30.9 L	Ongoing
2	Augmentation of Post Graduate Teaching & Research Facilities of ECE Department	Dr. Sameer S. M. (PI), Dr. P. S. Sathidevi, Dr. Babu A. V. Dr. Dhanaraj K. J.	DST-FIST	2018	216 L	On-going
3	VLSI implementation of Low Density Parity Check (LDPC) Encoder/Decoder	Dr. Deepthi P.P. Dr. Sameer S.M. Dr. Dhanaraj K.J.	ISRO	2019	30.12 L	Ongoing
4	Special Manpower Development Programme – Chip to System Design (SMDP-C2SD)	Dr. Dhanaraj K. J. & Mr. Bhuvan B.	MeitY	2015	100 L	Ongoing

5	Image based Smart Parking Management for Intelligent Transportation Systems	Dr. Harikrishna M. & Dr. Dhanaraj K. J.	KSCSTE	2018	9.45L	Ongoing
6	Design and Implementation of Breath analyser for diabetes detection	Dr. Suja K J	DST SERB	2019	51.65L	Ongoing
7	“Development of point of care prognosis based exhaled breath analyzer for cardiovascular diseases (CVD)”	Dr. Suja K J (Scientist Mentor)	DST WOS -B	2019	26.33L	Ongoing
8	Development of an indigenous tool for the enhancement of medical images using deep neural networks	Dr. Sudeep P V	SERB	2019	Rs.29.35L	Ongoing

### DEPARTMENT OF ELECTRICAL ENGINEERING

#### (a) Sponsored R & D Projects

Sl. No.	Title Of The Project	Investigators	Sponsoring Agency	Year Of Starting	Amount (Rs)	Status
1.	Development of an alternative fluid to transform mineral oil	Dr. Preetha P, Dr. Sindhu T.K	KSCSTE	2018	5,70,000	On going
2.	Stator Fault Diagnosis Through Wavelet based MCSA of Inverter fed Induction Motor	Dr.Rijil Ramchand Dr. Jagadanand G	KSCSTE	2019	8.87 Lakhs	On going
3.	A Resilient DC Community Grid for the Provision of Ancillary Services to Local Grid	Dr Nikhil Sasidharan Prof. Asok S. Prof. Saifur Rahman Dr. Manisa Pipattanasompor n	SPARC, MHRD	2019	64,79,841	Ongoing
4	Development of Smart Controller for Switched Reluctance Motor	Dr Ashok S	KSCSTE	2016	15 lakhs	ongoing
5	A clean and sustainable campus transport system	Dr. Shreelakshmi M P	DST	2019	35,00,000	Ongoing
6	Experimental Investigation on Fault	Dr. Tarakanath Kobaku	DST	2019	35,00,000	Ongoing

	tolerant control of energy storage systems					
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**(b)Institute Funded FRG/FRP:**

**List of Patents/Software Copyrights obtained and Filed**

Sl. No	Name of Technology Licenced/Transferred/Commercialized/Title of consultancy work	Technology Type:	Type of Transfer:	Patents, only if filed and not granted details- Name of the inventor, title of the patent , date of submission of patent(during 2019-20)	(If patent is granted)Patent/Licence Holder
1	A system for remote real time condition monitoring of multilevel inverters	IP/Patent Technology	One time transfer/ Licensing	Dr Jagadanand G., Ms. Rinsha V. A system for remote real time condition monitoring of multilevel inverters 31-10-2019	Patent Filed

**DEPARTMENT OF MATHEMATICS**

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	Modeling and simulation of fluid motion on the surface profile generation in Micro-EDM	Dr. Satyananda Panda	DST, Govt. of India	2019	6,60,000/-	On-going
2	Design of Optimal Reliability Acceptance Sampling Plans Based on Multi-stage process, Inliers, and Accelerated Tests” –SERB (DST), Govt. of India. Duration 2018-19 to 2021-22	Dr. Mahesh Kumar	DST-SERB	2018	7,42,500/-	On going
3	A Study of Riesz Transforms Associated to the Grushin Operator	Dr. Sanjay P K	MATRICES Scheme of SERB	2017	6,60,000/-	On going

**DEPARTMENT OF MECHANICAL ENGINEERING**



Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1.	DST- FIST Centre for Precision Measurements and Nanomechanical Testing	Dr Jose Mathew	DST-FIST	2016	2,51,00,000	All equipment installed and commissioned, (duration 2016-2021)
2.	Development of Design Innovation Centre	Dr. P.K. Rajendrakumar and Dr. U.B. Jayadeep	MHRD	2015	75 Lakhs	Ongoing
3.	Numerical modeling, simulations and experimental investigations to improve the surface tribological properties of Ti-6Al4V through developing wire electrical discharge alloying	Dr. Jose Mathew (NIT Calicut) Dr. Basil Kuriachen (NIT Mizoram)	DST-SERB	2017	22,94,600	On going (2017-2020)
4.	Experimental Investigations and ElectroThermal Modeling of Electrode Wear Compensation in Micro Electric Discharge Machining ( $\mu$ EDM) of Shaped Holes on Super Alloys for Improving the Dimensional Accuracy and Functional Performance of Cooling Holes on Turbine Blades and Vanes	Dr. Basil Kuriachen, Dr. Jose Mathew	ARDB-SERB	Approved.	17,77,000	Not yet started (2020-2023)
5.	Development of safe kitchen design for paraplegic persons	Dr. Ratna Kumar Kondareddy	DST-SERB	2019	26,75,120	On-going
6.	Investigations in to 3d the influence of 3-d surface topographic Parameters and cross hatch angle of cylinder liner surface on the Friction and wear of piston ring-cylinder liner assembly	Deepak Lawrence K	SETB	2017	41,09,500	Ongoing
7.	Development of a Decision Support System for Multimodal Freight Transportation Planning with a special Application for FCI Kerala Region	Sri. Anoop K.P. and Dr. Vinay V. Panicker	KSCSTE	2019	3,00,000	Ongoing
8.	Assessment of Occupational Hazards for Worker Well-Being under Clean India Initiative (IMPRESS P-81)	Dr. Vinay V. Panicker and Sri. Francis J. Emmatty	ICSSR-MHRD	2019	7,35,000	Ongoing

9.	Development of desalination system using selectively patterned solar absorber	Dr. Sujith Kumar C S Dr. S. Jayaraj	DoECC (Kerala)	2019	13,75,000	Approved
10.	Analysis of Instabilities in Jeffcott Rotor	Dr. Ashesh Saha	Faculty Research Seed Grant NIT Calicut	2018	5,00,000/-	Ongoing
11.	Control of Instabilities in Jeffcott Rotor	Dr. Ashesh Saha	Start-up Research Grant (SRG), DST-SERB sponsored	2019	23,43,387/-	Ongoing
12.	Wheel gauge widening failures of wagon wheels in Indian railways	Dr. Vineesh K P	Faculty Research Seed Grant NIT Calicut	2019	5,00,000/-	Ongoing
13.	High dielectric flexible microwave substrate for Microwave circuit applications	Dr. Murali K P	Faculty Research Seed Grant NIT Calicut	2019	5,00,000/-	On going

#### DEPARTMENT OF PHYSICS

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1	Optofluidic platform for controlled droplet manipulation	Dr. Subramanyan Namboodiri Varanakkottu	SERB	2016	47 Lakhs	Ongoing
2	Stimuli Responsive Microfluidics	Dr. Subramanyan Namboodiri Varanakkottu	DST	2018	35 Lakhs	Ongoing

#### SCHOOL OF BIOTECHNOLOGY

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
1.	Exploration of the diagnostic/therapeutic potential of noncoding RNAs-Phosphatase-HER2-UPAR cross talk in breast cancer	Dr Suresh PS	DBT , Govt of India	2018	56lakhs	Active

#### SCHOOL OF METERIALS SCIENCE & ENGINEERING

Sl. No	Title of the Project	Investigators	Sponsoring agency	Year of starting	Amount (Rs)	Status
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1	Risk assessment of nanoparticle accumulation in soils: Effects of engineered metal oxide nanoparticles on soil bacterial communities, soil microbial processes and evaluation of phytotoxicity using genomic approaches.	Dr.Sajith V (in collaboration with ICAR-Indian Institute of Spices Research, Kozhikode, Kerala, India)	National Agricultural Science Fund (NASF)	2020 - 2023	Rs. 75.41 Lakhs	<b>Sanctioned</b>
2	Rational design and development of non precious mixed transition metal oxides for oxygen reduction reaction	Dr N.Sandhyarani	Science and Engineering Research Board, Department of Science and Technology	2020-2023	Rs.41.48 Lakhs	<b>ongoing</b>
3	Develop & Characterization of Biodegradable magnesium based alloys for degradable metallic implants	Dr. Hanas T	ICMR Indian Council of Medical Research	2019-2022	Rs 42 Lakhs	<b>ongoing</b>
4	Design and Development of a low cost, rapid and sensitive sensor for the on-site detection of Endotoxin	Dr N.Sandhyarani	Department of Science and Technology, Nanomission	2019-2022	Rs.43.84 Lakhs	<b>ongoing</b>
5	Precise synthesis and purification of platinum nano cluster as anti-cancer agent-A new approach for cancer diagnosis and treatment	Dr Lakshmi V Nair	Department of Science and Technology (Inspire Faculty)	2018-2023	Rs.35 Lakhs	<b>ongoing</b>
6	Development of stable nanofluids for heat exchanger for improved cooling in thermal power plants	Dr.SajithV, Dr.Shijo Thomas, Dr.C.B.Sobhan	NTPC Energy Technology Research Alliance (NETRA)	2016-2019	56.6 lakhs	Completed

7	Development of nano lubricants for diesel engines”,	Dr.SajithV, Dr. Shijo Thomas,	Combat Vehicles Research and Development Establishment (CVRDE), DRDO	2016-2019	42.42 lakhs	Completed
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### 11.6 Faculty Position (as on 31-03-2020)

	<i>Professor</i>	<i>Asso. Professor</i>	<i>Asst.Professor</i>	<i>Total</i>
<b>Architecture</b>				
Sanctioned				23
In Position	3	0	8	11
Vacant				12
<b>Chemical</b>				
Sanctioned				27
In Position	3	1	14	18
Vacant				9
<b>Civil</b>				
Sanctioned				64
In Position	11	4	21	36
Vacant				28
<b>Computer</b>				
Sanctioned				58
In Position	4	7	18	29
Vacant				29
<b>Electrical Engineering</b>				
Sanctioned				62
In Position	7	9	15	31
Vacant				31
<b>Electronics &amp; Communication</b>				
Sanctioned				60
In Position	7	4	20	31
Vacant				29

Mathematics

Sanctioned				25
In Position	5	2	8	15
Vacant				10

Mechanical

Sanctioned				81
In Position	11	3	24	38
Vacant				43

Physics & Chemistry

Sanctioned				42
In Position	7	3	18	28
Vacant				14

School of Bio Technology

Sanctioned				16
In Position	3	2	3	8
Vacant				8

School of Management Studies

Sanctioned				16
In Position	1	2	6	9
Vacant				7

School of Nano Science and Technology

Sanctioned				6
In Position	2	2	2	6
Vacant				0

Physical Education

Sanctioned				3
In Position	0	0	1	1
Vacant				2

Total

Sanctioned	69	138	276	483
In Position	64	39	158	261
Vacant	5	99	118	222

## 11.7 ADMINISTRATIVE AND OTHER STAFF

### ADMINISTRATIVE STAFF-OFFICERS

Sl. No.	Designation	Name
<b>INSTITUTE OFFICE</b>		
1	Registrar	Lt. Col. Pankajakshan K (Retd) 17.10.2016 to till date
2	Dy Registrar (Estt.)	Sri. Bharat Singh Rawat, from 08.02.2017 to 11.01.2019
3	Dy Registrar (Finance)	Sri.Gejo. C V from 28.03.2017 to 31.07.2019
4	Officer on Special Duty (S & P)	Sri. K M Muralikrishnan from 01.04.2017 to till date
5	Dy Registrar (Academic)	Dr. Raghunadhan T – 11.01.2016 to 31.07.2019
6	Officer on Special Duty (Audit)	Sri. E K Cyril 06.11.2017 to till date
7	Asst. Registrar	Sri. Ashok Kumar Dev (Finance) 21.08.2017 to till date Dr. Asha Gopalan (Stores & Purchase) 16.08.2017. to till date Sri. Saravanan S (Administration) 16.08.2017 to till date Smt. Sreedha S (Estt.) 18.08.2017 to till date
8	Financial Assistant	Vacant
9	Senior Superintendent	Vacant
10	Senior Superintendent	Smt. Rugmini.C.P
<b>LIBRARY</b>		
11	Librarian	Vacant
12	Librarian (Gr.II)	Vacant
<b>HOSPITAL</b>		
13	Lady Medical Officer	Vacant
14	Resident Medical Officer	Dr. (Smt.) A.A. Celine

<b>ENGINEERING UNIT</b>		
15	Asst. Exe. Engineer	Vacant
	Divisional Accountant	Prasad M V
<b>HOSTEL OFFICE</b>		
16	Hostel Manager	Reejish Kumar M (in-charge) 01.04.2017 to till date
TPL		

### NON TEACHING STAFF STRENGTH

Sl. No	Designation	Sanctioned
<b>COLLEGE &amp; DEPARTMENTAL OFFICES</b>		
1	Junior Superintendent	3
2	P.A. to Director	vacant
3	U.D. Clerk	20
4	L.D. Clerk	19
5	Fair Copy Superintendent	1
6	Typist/Data Entry Operator	5
7	Confidential Assistant	9
8	Duplicating Machine Operator	1
9	Store Keeper	4
10	Duffedar	1
11	Peon	18
<b>ENGINEERING UNIT</b>		
1	Assistant Executive Engineer	Vacant
2	Assistant Engineer (Electrical)	1
3	Assistant Engineer (Civil)	2
4	Overseer Gr.I /Sr. Mechanic	2
5	Draftsman Gr. I.	1
6	Overseer Grade III	2
7	Mechanic (Water supply), Plumber/ Mason Trade	6
8	Mechanic (EMU)	5
9	Senior Mechanic (Engg. Unit)	9
10	Senior Mechanic (EMU)	5
<b>i. LIBRARY</b>		
1	Librarian Gr. III	1
2	Librarian Gr. IV	9
3	Attender, Library	6
4	Bookbinder	1
5	Graphic Artist	1
6	Offset Machine Operator	1
7	Digital Library Technician	1
<b>ii. HOSPITAL</b>		
1	Staff nurse	2
2	Pharmacist	1
3	Attender Hospital	1
<b>iii. HOSTEL</b>		
1	Stewards	5

2	Matron-Ladies Hostel	1
<b>iv. GUEST HOUSE</b>		
1	Guest House Manager	1
2	Cook-cum-butler	1
3	Bearers-cum-Room boy	2
<b>v. COLLEGE VEHICLES SECTION</b>		
1	Driver	4
2	Vehicle Cleaner	2
<b>vi. WATCH AND WARD STAFF</b>		
1	Sergeant	1
2	Watchmen	6
3	Watchman-cum-Gardener	16
4	Gardener	1
<b>vii. SANITATION</b>		
1	Sanitation Worker	16
2	Sweeper-cum-Sanitation worker	6
3	Part-time Sweeper	25

#### 11.8 STAFF MEMBERS DEPUTED/SPONSORED FOR TRAINING, LEARNING

Sl No.	Name of Staff	Title of the Programme	Duration and Period	Organization
1	Ashok Kumar Dev Assistant Registrar (Finance)	Workshop on GST	17 <sup>th</sup> – 18 <sup>th</sup> October 2019	Institute of secretariat Training & management (ISTM),Delhi
2	Rajagopalan A. System Analyst, (CSED)	Professional development programme "Cloud Computing Service using AWS"	27 <sup>th</sup> – 29 <sup>th</sup> November 2019	Engg. Staff College of India Hyderabad
3	V.R.Ajayachandran, Computer Operator,(CSED)	Electrical Safety	6 <sup>th</sup> – 10 <sup>th</sup> January 2020	National Skill Training Institute Kanpur
4	Beljith. P, Senior Mechanic, (CSED)			
5	Asoka Kumar P T Senior Mechanic,(EED)			
6	Nanda Kumar.K, Senior Mechanic,(EED)			
7	Santhosh Kumar M V Senior Mechanic,(EMU)			
8	Prajith P, Senior Mechanic,(EMU)			



9	Praveen H Babu Senior Mechanic, (EED)			
10	Suresh Kumar G Senior Mechanic (Sl.Gr.) (EED)			
11	Pradeep Kumar K.K Instructor,(MED)			
12	Anil Kumar P Supervisor,(MED)			
13	Pradeep Kumar E Supervisor,(MED)			
14	Sethumadhavan Mecheri UDC Accounts Section	Accounts and Administration	05 <sup>th</sup> – 07 <sup>th</sup> March 2020	Integrated Training Policy Research Training Division Lal Ratan Building West Patel Nagar, New Delhi
15	Muraleedharan P Junior Superintendent (Hostel office)			
16	Sasi kumar K T UDC Dean(R&C)			
17	Purushothaman Pillai. K N UDC Store & Purchase			

## 11.9 SCHOLARSHIPS AND AWARDS

### CREC Silver Jubilee Endowment Trust Scholarships

CREC Silver Jubilee Endowment Trust (SJET) of the Institute, a registered body with the Director as Chairman, Deans & Heads of Departments as ex-officio and other nominated members as Trustees, currently awarded 93 scholarships worth Rs. 5000 to 10000/- each per annum to the students. The number and the value of the scholarships for a year will vary depending on the availability of funds and the sponsors. The SJET invites applications from the students and Heads of the departments/ a sub-committee will scrutinize the applications, and verifies the data with the students and others. The scholarships are awarded to the deserving students based on their academic merits, economic backwardness and other performance parameters. The SJET scholarships include.

Sl.No.	SCHOLARSHIPS
1.	Prof. A. O. Kunjipaulo Endowment Scholarship
2.	Class of 1992 Computer Engineering Alumni Scholarship
3.	RECCAA, Singapore Scholarship
4.	RECCAA, USA Scholarship
5.	RECCAA, Bahrain Scholarship
6.	REC 1 <sup>st</sup> Batch Scholarship

7.	RECCAA, Mumbai Scholarships (2 Nos.)
8.	CSAI (Class of 2000) Scholarships (4 Nos.)
9.	REC 76 – 81 Batch Scholarships (2 Nos.)
10.	10 years of XXXII <sup>nd</sup> Batch (CREC 96) Scholarship
11.	REC Calicut 1982 Batch Scholarship
12.	NITC (REC) 1983 Batch Scholarship
13.	REC Calicut, Class of '84 Trust Scholarship
14.	CREC 80-85 Batch Scholarship
15.	Padmanabhan Scholarship in Memory of All Departed Souls of 77 Batch, CREC
16.	Capt. Mohammed Memorial Endowment Scholarship
17.	Nitin Sharma Memorial Scholarship
18.	1997 – 2001 CSE B. Tech. Batch Scholarship
19.	Josephus M T, John Sebastian & Luthufi K T Memorial Scholarship 2004-08 Batch
20.	Mariveetil Raghunath Memorial Endowment Scholarship
21.	1984-88 Batch of REC/NITC Scholarship

#### 11.10 THE PARENT TEACHER ASSOCIATION

CREC Parent –Teacher Association had originated as a charitable society keeping the objective of developing the educational, cultural, and training activities of students of CREC (presently NIT Calicut (NITC)) on a no-profit no-loss basis. Dr. Saly George, Dean (Academic) and Professor, Department of Electrical Engineering, Dr. Shiny Joseph, Professor, Department of Chemical Engineering and Dr. Dhanya Ram V, Assistant Professor, Department of Chemical Engineering are taken over the positions of President, Secretary, and Joint Secretary cum Treasurer, of CREC-PTA, respectively in July 2020.. The major activities and expenditures of PTA during the year 2019-2020 are listed below.

1. Cash awards of Rs. 2, 00,000/- were given to the branch toppers (Rs.5,000/- each) during the Convocation held on 21 September 2019.
2. Scholarships of Rs. 1, 05,000 were given to financially needy students under SJET Trust scholarship scheme.
3. Travel fellowships of Rs.35, 000/- were given to students for presenting papers in international conferences held in India.
4. PTA assisted the student volunteers of the Central Library on duty in the study room by paying a honorarium of Rs.99, 030/-
5. Financial assistance to needy students. - Rs.1, 06,000/-
6. Cash awards to the best B. Tech/ B. Arch projects. - Rs. 9,000/- (Rs. 1000/- each)

7. Other expenditures include , PTA audits Rs.8, 000/-, salary to PTA Office Assistant Rs 1,08,000/-, office stationary Rs. 900/-,and Annual General Body meeting Rs.31,937/-
8. The Annual General Body meeting held on 9<sup>th</sup> February 2020 was well attended and served as a platform for useful discussion between parents and the faculty members. Department level meetings were also conducted on the same day in the respective Departments. Departments received many constructive suggestions and feedback from the parents.

### **11.11 NATIONAL SERVICE SCHEME**

- The National Service Scheme (NSS) Cell of National Institute of Technology Calicut (NITC) provided abundant opportunities for its volunteers to participate in the various events and activities for the greater good of the community. Through its drives and fundraisers, NSS Cell has provided for the needy, while through its events, NSS has fostered creativity and fun for school Children, be it through cultural activities or promoting knowledge.
- A bed donation camp was organized by the NSS cell of NIT Calicut on May 2, 2019 to give away used beds that were collected from college hostels. Many volunteered to help gather, orchestrate and move the beds to the destination. Precisely, 276 beds were donated to the inmates of Navabharatha charitable trust, Jeevajyothi charitable trust-pain and palliative care and Sandwanam.
- The Institute of Palliative Medicine conducted a camp (IPMTOT) for 3 days, from 15th to 17th July, 2019. The camp aimed at training the student volunteers for community palliative care and long term care. The camp was organised in accordance with the guidelines laid out by the World Health Organisation. Around 30 NSS volunteers turned up for the event. The volunteers were awarded a WHO certificate after the successful completion of the workshop.
- The Save Earth Bike Ride conducted by the Biking Community of India, along with the Forest Department of Karnataka and in association with the NSS NITC Unit culminated in about 50 saplings being planted across the campus of NITC on the 4th of August, following which there was a talk on the importance of preserving the environment.
- The flood relief operations were financed by voluntary donations from the students and the Alumni of NIT Calicut. It was the combined effort of all the students of the institution, under the guidance of the interim Student Affairs Council that marked the success of this endeavor. The relief work included collecting non-perishables, medicines and other necessary supplies; packing food kits and delivering them. Apart from all that, a number of students ardently took part in cleaning houses that were affected by floods.
- The NSS volunteers, along with the members of the music club of NITC paid a visit to "SANTHWANAM", a nearby old age home. The volunteers gained valuable life lessons by spending a day with the elderly .They took active participation in cooking lunch for the inmates, entertaining them and cleaning the surroundings of the old age home.
- A Blood Donation Drive was organized by the NSS cell of NIT Calicut on September 16, 2019, in association with the government women and children hospital and the government General hospital, Calicut under the sponsorship of HDFC bank. A total of 150 members took part in this drive out of which 103 successfully donated blood. All the blood collected was packed carefully and sent to the hospitals.
- A Handmade craft stall was set up for exhibition by the NSS cell of NIT Calicut on August 29, 2019 at Creative Zone from 5:00 p.m. to 7:00 p.m., along with Carpe Diem. A variety of

handmade objects such as Paper pens, Pen holders, cloth bags, jute bags etc. were exhibited in the stall. 4470/- rupees was collected on that day and it was sent to the Institute of Palliative Medicine (IPM).

- NSS organized training sessions for Puthoor Government UP School on 14th, 21st and 28th of September, 2019 under the 'Let's Teach' programme. In all the three sessions, our volunteers gave USS scholarship exam coaching to 7th grade students and taught basic English, Mathematics and science.
- As a follow up to the post flood relief activities carried out during the flood of 2019, the NSS unit of NITC planned to conduct field surveys in the flood affected areas of kozhimanna, koozhakod, vellannoor, koolimad and pazhur. Out of these, NSS had already surveyed kozhimanna, koozhakkod and some parts of vellannoor, covering a total of 63 houses.
- A flood relief activities report meeting was conducted on 17th September 2019. The gathering enumerated and analyzed the flood relief activities carried out by the students of NITC under the supervision of the NSS unit in collaboration with the Students Affairs council (SAC).
- The Gandhi jayanti of 2019 marked the 50th NSS day. 150 medicinal saplings were planted across the campus. The plantation drive was inaugurated by the honorable director, Dr. Sivaji Chakraborty. Various sites across the campus - the canteen, hostels etc. were identified and cleared on the subsequent days to plant saplings.
- As part of POSHAN Abhiyaan (The Prime Minister's Overarching Scheme for Holistic Nutrition), the NSS cell of NITC had conducted a small survey and a lecture on the theme 'nutrition'. The program urged students to answer a questionnaire that interrogated their nutritional habits. A lecture on "ROAD TOWARDS A HEALTHY BALANCED DIET" was presented by Dr. Sherin Thomas, chief nutritionist, ASTER MIMS hospital, Calicut on October 10, 2019 from 5:15pm to 6: 45pm. The lecture was followed by an interactive session where the audience was given the chance to clear their doubts. Afterwards NSS published awareness posters incorporating all the information gathered from the survey and the lecture.
- Aavishkaar is the social initiative of the annual techno management fest "tathva" of NIT Calicut. NSS, as a part of aavishkaar, organised a talk on the topic "MAN AND NATURE" by Prof. T. Shobeendran on the 15th of October, 2019. Professor shobeendran is a recipient of the International Environment Award and several other accolades such as the Vanamithra Award and the Vrikshamithra Award.
- TATHVA STALL: The Aavishkaar stall gave a platform for the differently abled artists of Athani rehabilitation center to sell their crafts. Paintings, dream catchers, bottle art etc. were exhibited and sold. A caricature artist was also given the opportunity to display and sell his work.
- NSS in collaboration with the Human Values Group (HVG) of NITC conducted a STEM CELL DONOR REGISTRATION DRIVE on Thursday- October 24, 2019 from 10.a.m. to 7.p.m. Over 1050 donors were registered as stem cell donors. The prime motive was to find a donor for a student at NITC who was in need of immediate stem cell transplantation. The donors were registered to a donor registry maintained by DATRI- a non-profit organization.
- On October 31, 2019 NITC celebrated National Unity Day, (RASHTRIYA EKTHA DIVAS). A meeting of faculties, students and staff was conducted in the administrative block at 12: 15pm on National unity day. The programmes on ekta divas were organized by NITC in collaboration with both NSS unit and NCC cadet. Dr. Sivaji chakravorti, the respected director of the institute addressed the gathering. Retired Lt.col. Pankajakshan.k, the registrar conveyed his message in the assembly. Unity pledge was taken by all the students, faculties

and other staff who participated in the meeting. The scheduled unity march had to be cancelled due to heavy rains.

- The volunteers of NSS-NITC gave a helping hand in renovating the Govt. U.P. School, Puthoor, Kozhikode, during the months of September and October. The renovation works included painting the walls, adding some murals and turning the classrooms into repositories of creative ideas. Following are the dates on which the activities took place.
- As a part of shramdaan, cleaning activities were conducted by the volunteers of NSS-NITC at different part of Calicut city. The locations where they conducted the cleaning drive are: The Institute of Palliative Medicine (IPM), Sarovaram bio-park, Kozhikode Footpath of Kattangal-koduvally road, Calicut Mukkam road Roadside of 12th mile, Within the campus, the E hostel garden, the roadside of Ladies hostel and the premises of the open air theatre were cleaned.
- On 26th of November, 2019, NSS-NITC organised a gathering of the students and the staff of NITC to commemorate the adoption of the Constitution of India. The event was presided over by the institute registrar, retired Lt.col.Pankajakshan. Dr.Sivaji Chakravorti, the director of the institute recited the preamble of the constitution. The students were made aware of the time and effort that went into the making of the constitution. NSS in-charge Dr. Raghu oversaw the event and was joined by various teaching and non-teaching staff.
- The NSS annual camp started on December 3, 2019 at DCM UP school, Appapara. The team consisted of 45 volunteers. The team was divided into three committees namely food, work and entertainment to efficiently carry out the camp's service activities. The primary health centre at Appapara was cleaned and the walls on it's premises were renovated.
- An exhibition was conducted at DCU School followed by a treasure hunt and a reel and real game. Another exhibition was conducted at gov ashram high school. Apart from these, the Village office and its premises were cleaned. The 5 th day of the camp saw the volunteers taking measures to purge the forest areas of plastic waste. The waste was collected and properly disposed under the guidance of the Kerala forestry department.

On the following day, the volunteers embarked on a trek from the forestry bungalow to the brahmagiri hills covering a trail of 3kms of semi- evergreen forest and 2 kms of grassland. A closing ceremony was held in the presence of Forest Department officers, sisters and NSS faculty Coordinators and the volunteers. After 7 long days of activities that included renovating the health center wall, cleaning the roadsides under forest division and conducting exhibitions at schools, the camp ended on a happy note on December 9, 2019

- On December 31, 2019 NSS NITC participated in the Cancer awareness candlelight march conducted by Chathamangalam panchayath and MVR cancer centre and research institute. All participants gathered at the Chathamangalam panchayath office by 5:45pm. The walk that began from the office proceeded along kattangal road and was joined by the procession from MVRCCRI.
- Being able to take care of oneself without constantly relying on others is the epitome of a content life. Recognising this impelled NSS-NITC to conduct "Oru kaithangu..." for the differently abled:  
This venture provided a free, short certification programme on Microsoft excel- Data entry jobs, 2.Photoshop- Flex designing  
This course lasted for duration of one week starting from Sunday, December 15, 2019 in our campus. The certificates were provided after an exam at the end of the course.
- NSS-NITC conducted a cleaning drive at Calicut on the 25th of January, 2020. The cleaning drive began at 7:00am and lasted till 10:30am. Biodegradable waste, plastics and glass scraps

were collected separately at the collection point and were fetched by the cleaning workers of Calicut co-operation for proper disposal. A total of 140 students took part in the event. This was carried out under the clean beach mission overseen by the district collector, the Department of Tourism Promotion council and the health department of Calicut.

- On January 25, 2020, a group of 15 volunteers paid a visit to a nearby orphanage named “Balasadanam” located at poolacode, calicut. Balasadanam is home to 18 boys who are studying in different classes (from third to tenth standard). The volunteers conducted cultural activities, games, a motivational talk and a career guidance session.
- NSS-NITC has been conducting career guidance sessions in nearby schools as a part of PRERNA, a venture that aims at giving school students an insight into the vast spectrum of career opportunities. During the month of January, the volunteers of PRERNA received a chance to interact with the students of Nayarkuzhi High School (23.1.20) and kunnamangalam high school (29.1.20).
- The NSS Cell of NITC along with the Apothecary unit of SFI, government Medical College, Calicut conducted an awareness class on First Aid on 19th of January 2020. The classes were given by senior medical students of GMC, Calicut and the students of NITC participated in the event.
- NSS-NITC conducted a two-day camp for 8th and 9th standard students from schools across Calicut (ELIXIR’20) on the 1st and 2nd of February 2020. The students were chosen by District Institute of education and training (DIET), Kozhikode from their list of eligible students on a 'first come first serve basis'. A total of 26 students participated and were given talks by the professors of NITC, laboratory visits, workshop visits, activities aimed at building public speaking skills, quizzes etc. A special session on astronomy- a lecture followed by a sky watch session- was also included. Food and accommodation were arranged within the institute.
- NSS NITC launched its website and published its Magazine on February 13,2020. Student Coordinator of NSS NITC, presented the annual NSS report for the academic year 2019. Following this, the website was launched by Dr.Madhukumar (Dean Students welfare, NIT Calicut) along with the team of NSS volunteers who created it. Later the Magazine was published by Dr.Harikrishna M (Former Programme co-ordinator, NSS, NITC) and the e-Magazine was shown on the website.
- Members of NSS volunteered at the palliative care association event , hosted by REC GVHSSS, under the supervision of the chathamangalam panchayath in association with ASHA workers of the panchayath and various other non-profit organisations on the 9th of February. The program aimed at bringing the beneficiaries of palliative care society and social workers together.
- A blood donation camp was set up by NSS-NITC on March 3, 2020 in our institute auditorium. Medical officers from Govt. general hospital, Calicut and Govt. women and child hospital, Calicut were invited to oversee collection. The camp that lasted for more than three hours (from 9:00am to 12:30pm) collected 113 units of blood.
- The most well-known aspect of NSS is farm work. During the months of February, March and April tomatoes, brinjals and lady’s fingers were planted, in addition to tapioca, banana plantain and papayas.

## 11.12 TRAINING AND PLACEMENT STATISTICS

UG Program Details	Total Placed*	Total Registered**	Percentage	Min Salary	Max Salary	Avg. Salary
B.Arch	2	15	13.33	6.00	8.00	7.00
B.Tech Bio Technology	8	11	72.73	4.38	10.00	6.38
B.Tech Civil	23	54	42.59	4.50	13.43	7.11
B.Tech Chemical	45	54	83.33	4.20	30.00	8.01
B.Tech Computer Science	125	125	100.00	4.20	49.75	17.68
B.Tech Electrical & Electronics	74	94	78.72	4.20	31.77	9.67
B.Tech Electronics & Commn.	96	107	89.72	4.80	38.00	11.94
B.Tech Mechanical	67	91	73.63	4.20	22.00	7.73
B.Tech Production	14	20	70.00	4.20	13.43	7.68
B.Tech Engg.Physics	5	8	62.50	5.40	8.91	7.08
<b>Total UG</b>	<b>459</b>	<b>579</b>	<b>79.27</b>			

\* Indicates total number of students placed [double offers not counted;deferred/withdrawn offers not deducted] \*\* Includes students with CGPA  $\geq 6.5$  and who participated in all T&P registrations. If a company has offered a job to a student having CGPA  $< 6.5$ , it is included in both placed as well registered counts

\* Indicates total number of students placed [double offers not counted;deferred/withdrawn offers not deducted] \*\* Includes students with CGPA  $\geq 6.5$  and who participated in all T&P registrations. If a company has offered a job to a student having CGPA  $< 6.5$ , it is included in both placed as well registered counts

<b>PG Program Details</b>	<b>Total Placed*</b>	<b>Total Registered**</b>	<b>Percentage</b>	<b>Min Salary</b>	<b>Max Salary</b>	<b>Avg. Salary</b>
AR - M.Plan	0	2	0.00	0.00	0.00	0.00
CE - M.Tech Environmental GeoTech	0	1	0.00	0.00	0.00	0.00
CE - M.Tech Offshore Structures	4	5	80.00	5.80	6.20	6.00
CE - M.Tech Structural Engineering	6	9	66.67	6.00	7.00	6.46
CE - M.Tech Traffic & Transportation Planning	4	13	30.77	3.90	6.25	5.29
CE - M.Tech Water Resources Engineering	1	6	16.67	4.55	4.55	4.55
CH - M.Tech Chemical	0	2	0.00	0.00	0.00	0.00
CS - M.Tech Computer Science	16	18	88.89	6.50	31.77	19.01
CS - M.Tech Computer Science (Information Security)	15	15	100.00	6.50	34.26	15.04
CS – MCA	31	33	93.94	6.50	31.77	13.73
EE - M.Tech Power Systems	9	11	81.82	3.60	8.50	6.27
EE - M.Tech High Voltage Engineering	2	4	50.00	3.60	8.00	5.80
EE - M.Tech Instrumentation and Control Systems	7	12	58.33	6.25	17.33	12.42
EE - M.Tech Industrial Power and Automation	10	18	55.56	6.50	14.50	8.05
EE - M.Tech Power Electronics	6	9	66.67	6.25	8.00	6.83
EC - M.Tech Electronics Design Technology	10	14	71.43	9.00	21.52	16.76
EC - M.Tech Signal Processing	7	8	87.50	9.00	17.76	12.23
EC - M.Tech Telecommunication	2	4	50.00	4.80	17.76	11.28
EC - M.Tech Micro Electronics & VLSI Design	12	12	100.00	6.80	21.52	16.40
ME - M.Tech Energy Engg. & Management	2	5	40.00	6.80	8.00	7.40
ME - M.Tech Industrial Engg. &	0	8	0.00	0.00	0.00	0.00



Management						
ME - M.Tech Machine Design	4	9	44.44	6.25	16.35	11.90
ME - M.Tech Material Science & Technology	5	12	41.67	4.80	14.50	8.70
ME - M.Tech Manufacturing Technology	6	14	42.86	6.00	10.20	8.57
ME - M.Tech Thermal Engineering	3	10	30.00	4.80	10.20	7.25
NS - M.Tech Nano Technology	0	6	0.00	0.00	0.00	0.00
MS – MBA	18	31	58.06	5.80	10.20	6.88
PH - M.Sc. Physics	4	5	80.00	5.40	10.00	8.85
CY - M.Sc. Chemistry	2	2	100.00	6.00	8.00	7.00
MA - M.Sc. Mathematics	0	0	0.00	0.00	0.00	0.00
<b>Total PG</b>	<b>186</b>	<b>298</b>	<b>62.42</b>			

#### Details of companies visited for placement and offers 2019-'20

No	Name of the Company	#Offers
1	Aakash AESL	2
2	Aarti Industries Limited	3
3	AB InBev	3
4	ABB	3
5	Accenture	3
6	ADP	5
7	Amadeus Labs	3
8	Amazon	2
9	AMDOCS	20
10	Anritsu	1
11	App Dynamics	3
12	ARCESIUM	1
13	Arista Networks	1
14	Aryaka Networks	2

15	AstraZeneca plc	1
16	Atlassian	1
17	AutoNinja	11
18	Bajaj Auto	8
19	Baker Hughes	2
20	BIGBASKET	3
21	BigBinary	1
22	Bosch	13
23	CACTUS Communications	1
24	CAPGEMINI	20
25	CDM Smith	3
26	Cerner Corporation	2
27	CISCO	17
28	CITI BANK	6
29	CVRS EDUCATIONAL SERIVCES	4
30	D. E. Shaw Group	1
31	Dailyhunt	1
32	DBOI global services	6
33	DELL	11
34	DELOITTE	5
35	DELTA POWER	6
36	Digite	1
37	DXC Technology	4
38	ETAP	2
39	Exicom Tele-Systems Limited	2
40	EXXON MOBIL	7
41	Federal Bank	6
42	Fidelity Investments	5
43	FIITJEE	11
44	FORD	1
45	Gameskraft Technologies	1
46	GE	7

47	Global Analytics India Pvt Ltd	3
48	Goldman Sachs	8
49	HDFC	4
50	HONEYWELL	8
51	HPCL	4
52	Huawei Technologies	10
53	IBM	3
54	IFB	3
55	Impact Analytics	3
56	IMS	1
57	Ingersoll Rand Pvt. Ltd.	6
58	INTEL	10
59	ISRO	6
60	ITC Infotech	9
61	ITI Limited	2
62	ITRON	4
63	John Deere	2
64	JP MORGAN	10
65	KLA	3
66	L&T Construction	14
67	L&T Infotech	2
68	L&T LTD	11
69	L&T Technology Services	2
70	MakeMyTrip	4
71	MARUTHI	1
72	MBB Labs	3
73	Microsoft	1
74	Morgan Stanley	1
75	MRF	1
76	MyGate	1
77	Nokia	15
78	Novartis Healthcare Private Limited	5

79	NVIDIA	7
80	OfBusiness	1
81	One Convergence Devices Private Limited	6
82	One Plus	2
83	Oracle	27
84	Oracle Financial Services Software	14
85	PathPartner Technology Private Limited	4
86	PHILIPS IC	4
87	Phillips Carbon Black Limited	3
88	PRDC	1
89	Prism Johnson Ltd	1
90	Publicis Sapient	3
91	Qualcomm	21
92	QUANTIPHI	6
93	RaamGroup	1
94	Radisys India Pvt Ltd	4
95	Reliance Industries Limited	20
96	Samsung	1
97	SANDVINE	3
98	SAP	6
99	siemens healthineers	2
100	Sigma Group Educational Academy	5
101	Smt. S . R. Patel Engineering College	1
102	Societe Generale	3
103	Standav	3
104	Synopsys INC	1
105	Tally Solutions	1
106	TARGET	13
107	TATA MOTORS	3
108	TATA PROJECTS LIMITED	5
109	Tcs	9
110	Technip FMC LTD.	2

111	TechnipFMC Chennai	2
112	TESCO	8
113	Texas Instruments	2
114	The South Indian Bank Ltd	1
115	THERMAX	2
116	Thermo Fisher Scientific	3
117	Think and Learn Private Ltd(BYJU's)	13
118	TIME	3
119	Uber	1
120	UDAAN	1
121	Unilever	1
122	Urjanet Energy Solutions Pvt Ltd.	1
123	UTC Aerospace Systems	6
124	VEDANTA	3
125	Venper Academy	6
126	WABCO INDIA LIMITED	2
127	Wabtec Corporation (GE Transport)	2
128	Wells Fargo India	5
129	WhiteHatJr	3
130	WIPRO	4
131	WSP	1
132	Zifo RnD Solutions	3
133	ZS ASSOCIATES	7
Total Companies: 133; Total Offers: 645		

**NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT**

**ANNUAL ACCOUNTS 2019-20**




**NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT**  
BALANCE SHEET AS AT 31.03.2020

(Amount in Rupees)

SOURCES OF FUNDS	Schedule	Current Year	Previous Year
CAPITAL FUND	1	4,97,15,35,581.31	6,48,66,24,366.75
DESIGNATED/EARMARKED/ENDOWMENT FUNDS	2	1,28,24,65,945.60	1,20,17,38,049.50
GPF & CPF	2A	32,28,52,128.54	29,50,99,616.35
LONG TERM LIABILITIES	3D	46,10,00,000.00	-
CURRENT LIABILITIES & PROVISIONS	3	1,62,50,70,777.60	94,92,48,507.16
RESERVES AND SURPLUS		-	7,69,000.00
<b>TOTAL</b>		<b>8,66,29,24,433.06</b>	<b>8,93,34,79,539.28</b>
<b>APPLICATION OF FUNDS</b>			
<b>FIXED ASSETS</b>			
Tangible Assets		1,80,82,81,084.27	1,79,56,35,591.96
Intangible Assets	4	32,06,056.39	17,91,075.32
Capital Work-In-Progress		2,11,02,04,424.32	1,59,38,01,304.52
<b>INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS</b>			
Long Term		83,44,44,972.00	18,63,53,119.00
Short term	5	37,73,24,916.30	1,35,69,53,627.40
<b>INVESTMENTS- OTHERS</b>	6	-	-
<b>CURRENT ASSETS</b>	7	2,80,93,84,664.64	2,15,73,01,855.74
<b>LOANS, ADVANCES &amp; DEPOSITS</b>	8	72,00,78,315.14	1,84,16,42,965.34
<b>TOTAL</b>		<b>8,66,29,24,433.06</b>	<b>8,93,34,79,539.28</b>

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**NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT**

**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31.03.2020**

(Amount in Rupees)

PARTICULARS	Schedule	Current Year	Previous Year
<b>INCOME</b>			
Academic Receipts	9	41,93,69,252.46	34,38,60,290.16
Grants/Donations/Subsidies	10	1,16,40,11,991.00	1,82,56,00,000.00
Income from investments	11	4,06,75,038.00	3,17,45,183.00
Interest earned	12	2,18,36,325.00	76,17,077.00
Other Incomes	13	5,01,41,137.40	2,98,37,053.35
Prior Period Income	14	3,12,162.00	(2,13,34,989.00)
<b>TOTAL (A)</b>		<b>1,69,63,45,905.86</b>	<b>2,21,73,24,614.51</b>
<b>EXPENDITURE</b>			
Staff Payments & Benefits (Establishment expenses)	15	99,48,65,443.00	98,94,84,850.00
Academic Expenses	16	26,96,03,499.00	24,64,10,452.00
Administrative and General Expenses	17	9,54,53,658.30	6,98,20,494.00
Transportation Expenses	18	13,12,186.00	15,05,260.00
Repairs & Maintenance	19	8,71,50,726.00	6,62,45,621.00
Finance costs	20	2,09,85,390.00	1,53,356.52
Depreciation/Amortization	4	6,10,75,057.00	16,93,77,704.00
Other Expenses	21	1,21,98,46,706.00	4,76,48,802.00
Prior Period Expenses	22	28,757.00	2,44,794.00
<b>TOTAL (B)</b>		<b>2,75,03,21,422.30</b>	<b>1,59,08,91,333.52</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>(1,05,39,75,516.44)</b>	<b>62,64,33,280.99</b>
Less/(Add): Unutilised Non Plan Grant transferred to Liabilities/ (Assets)	3C		
Foreign Exchange gain/ loss			
Add: Transfers from Capital Grants		6,10,75,057.00	16,93,77,705.27
<b>Balance Being Surplus / (Deficit) Carried to Capital Fund</b>		<b>(99,29,00,459.44)</b>	<b>79,58,10,986.26</b>

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020

SCHEDULE -1 CAPITAL FUND

(Amount in Rupees)

Particulars	Current Year	Previous Year
Balance at the beginning of the year	6,48,66,24,366.75	5,81,36,31,023.76
Add: Contributions towards Capital Fund	-	-
Add: Grants from UGC, GOI & State Govt. to the extent utilized for capital expenditure	3,62,56,000.00	3,76,00,000.00
Add: Assets purchased out of earmarked funds	-	-
Add: Assets purchased out of Sponsored Projects, where ownership vests in the institution	20,14,769.00	97,42,200.00
Add: Assets donated/Gifts received	-	-
Add: Interest on Term Deposits and Savings account	1,22,58,926.00	-7,80,610.00
Less: Bank charges	1,712.00	1,528.00
Less: Transfer to earmarked funds - TEQIP	-	-
Add/(Less): Excess/(Deficit) of Income over Expenditure transferred from Income and Expenditure account	(99,29,00,459.44)	79,58,10,986.26
<b>Total</b>	<b>5,54,42,51,890.31</b>	<b>6,65,60,02,072.02</b>
Less/ (Add): Unspent Plan Fund transferred to Liabilities	51,16,41,252.00	-
Less: Transfers from Capital Fund	6,10,75,057.00	16,93,77,705.27
<b>Balance at the year end</b>	<b>4,97,15,35,581.31</b>	<b>6,48,66,24,366.75</b>

  
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SCHEDULE 2 – DESIGNATED/EARMARKED/ENDOWMENT FUNDS

(Amount in Rupees)

Particulars															TOTAL	
	TEQP	TEQP-B	TEQP-B (Equipment Modernisation Grant)	TEQP-B Reserves	TEQP-BI	TBS	GROWTH FUND	STUDENTS FUND	GYMKHANA	TBI	TBI-II	TBI-NIDH PRAYAS	K.N.D.	Endow- ment	Current Year	Previous Year
A.																
(a) Opening balance of the funds	28,54,812.00	4,95,871.00	1,02,048.00	1,01,49,540.00	96,77,983.00	62,624.00	1,13,61,94,772.00	3,13,90,409.00	-61,048.00	1,41,59,753.00	48,56,194.00		26,91,951.00	-	1,20,17,38,049.00	1,13,87,61,358.50
(b) Additions during the year	-	-	-	-	8,01,07,885.00	-	1,91,53,807.00	1,24,18,338.00	1,01,050.00	2,67,18,987.00	0.00	8,20,06,067.00	0.00	-	16,90,45,902.00	11,82,81,118.00
(c) Income from investments made out of funds	-	-	-	-	-	-	1,43,95,369.00	6,71,546.00	-	3,86,412.00	-	-	-	-	1,54,57,787.00	1,86,35,018.00
(d) Accrued Interest on Investments/Advances	-	-	-	-	-	-	2,75,90,967.66	-	-	-1,98,477.00	-	-	-	-	2,73,82,490.66	74,59,893.00
(e) Interest on Savings Bank A/c	-	-	-	-	-	-	42,575.00	-	-	-	-	-	-	-	42,575.00	457.00
(f) Other additions	-	-	-	-	53,76,381.00	-	-	-	-	-	-	-	-	-	53,76,381.00	-
Total(b)	28,54,812.00	4,95,871.00	1,02,048.00	1,01,49,540.00	84,84,849.00	62,624.00	1,28,55,16,990.66	4,44,94,013.00	1,02,050.00	4,10,44,713.00	48,56,194.00	8,20,06,067.00	26,91,951.00	-	1,38,50,54,194.66	1,28,41,28,817.50
B.																
(i) Utilisation/Expenditure towards objectives funds																
(ii) Capital Expenditure	-	0.00	-	-	3,11,18,815.00	-	-	-	-	-	-	-	-	-	3,11,18,815.00	30,89,316.00
(iii) Revenue Expenditure	-	1,01,480.00	-	-	2,36,52,823.00	-	76,999.60	1,79,33,012.80	0.00	2,80,21,515.00	-	35,26,085.00	53,711.00	-	7,33,66,346.40	2,52,07,780.00
Total(ii)	-	1,01,480.00	-	-	5,47,71,638.00	-	76,999.60	1,79,33,012.80	-	2,80,21,515.00	-	35,26,085.00	53,711.00	-	10,28,85,141.40	2,82,97,096.00
C.																
Amount paid back to the authority			1,02,048.00	-											1,02,048.00	
Total(C)			1,02,048.00												1,02,048.00	
Closing balance at the year end (A-B)	28,54,812.00	3,94,391.00	0.00	1,01,49,540.00	20,84,553.00	62,624.00	1,29,15,39,991.06	2,65,61,090.20	3,02,002.00	1,30,43,196.00	48,56,194.00	2,84,79,982.00	26,38,240.00	-	1,28,24,65,945.60	1,20,17,38,049.50

\* Opening balance is as per ledger accounts

Assistant Registrar (Finance)  
National Institute of Technology  
Calicut - 673601

REGISTRAR  
NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

DIRECTOR  
राष्ट्रीय प्रौद्योगिकी संस्थान कलिकट  
National Institute of Technology Calicut  
एन.ई.टी. कैंपस (पी.ओ.) कलिकट, केरल - 673601, भारत  
NIT Campus (P.O), Calicut, Kerala - 673 601, India

SCHEDULE 2(A) GPF & CPF

	GPF	CPF	TOTAL	
			Current year	Previous year
<b>A.</b>				
a) Opening balance of the funds	27,45,09,141.72	2,05,90,474.63	29,50,99,616.35	30,75,43,451.35
b) Additions during the year	4,65,74,444	4,91,99,749	9,57,74,193	9,65,76,309.00
c) Income from investments made out of funds	69,05,491.00	1,09,137.00	70,14,628.00	81,67,137.00
d) Accrued interest on investments/Advances	1,02,01,641.00	(4,339.00)	1,01,97,302.00	24,31,982.00
e) Interest on Savings Bank A/c	14,573	10,945	25,518	31,235.00
f) Other additions				
<b>Total(A)</b>	<b>33,82,05,290.72</b>	<b>6,99,05,966.63</b>	<b>40,81,11,257.35</b>	<b>41,47,50,114.35</b>
<b>B.</b>				
Utilisation/Expenditure towards objectives funds				
i) Capital Expenditure				
ii) Revenue Expenditure	3,28,78,584.00	5,23,80,545	8,52,59,129.00	9,19,06,680.00
<b>Total(B)</b>	<b>3,28,78,584.00</b>	<b>5,23,80,545</b>	<b>8,52,59,129.00</b>	<b>9,19,06,680.00</b>
<b>Closing balance at the year end (A-B)</b>	<b>30,53,26,706.72</b>	<b>1,75,25,421.63</b>	<b>32,28,52,128.54</b>	<b>29,50,99,616.35</b>

\* Opening balance is as per ledger accounts

  
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## SCHEDULE 3 - CURRENT LIABILITIES &amp; PROVISIONS

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>A. CURRENT LIABILITIES</b>		
1. Deposits from staff		
2. Deposits from students	3,19,70,114.00	2,51,90,714.00
3. Sundry Creditors		
a) For Goods & Services	41,463.00	40,963.00
b) Others	8,81,907.00	7,81,663.00
4. Deposits - Others (including EMD, Security Deposit)	6,09,33,974.70	6,30,04,606.70
5. Statutory Liabilities (GPF,TDS,WC TAX,CPF,GIS,NPS):		
a) Overdue		
b) Others	82,49,298.83	73,58,097.83
6. Other current Liabilities		
a) Salaries	5,41,29,462.00	1,65,64,486.00
b) Receipts against sponsored projects	13,87,78,024.50	12,69,51,651.50
c) Receipts against sponsored fellowships & scholarships	4,83,01,374.94	4,04,65,252.50
d) Unutilised Grants	51,50,71,311.00	51,84,217.00
e) Grants in advance	-	-
f) Tuition fee	46,22,604.53	46,22,604.53
g) Other liabilities	20,61,47,002.10	19,99,60,734.10
<b>Total (A)</b>	<b>1,06,91,26,536.60</b>	<b>49,01,24,990.16</b>
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	24,20,87,040.00	20,81,48,561.00
3. Superannuation/Pension	0.00	0.00
4. Accumulated Leave Encashment	25,88,02,625.00	21,50,79,824.00
5. Expenses payable	5,50,54,576.00	3,58,95,132.00
6. Trade Warranties/Claims	-	-
7. Others	-	-
<b>Total (B)</b>	<b>55,59,44,241.00</b>	<b>45,91,23,517.00</b>
<b>Total (A+B)</b>	<b>1,62,50,70,777.60</b>	<b>94,92,48,507.16</b>

  
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## SCHEDULE 3A- SPONSORED PROJECTS

(Amount in Rupees)

1.Sr. No	2. Name of the Project	Opening Balance		5. Receipts during the year	6. Total	7. Expenditure during the year	Closing Balance	
		3. Credit	4. Debit				8. Credit	9. Debit
1	Linear & Non Linear Optical (Dst)	-	11,153.00	-	(11,153.00)	-	-	11,153.00
2	Stable Isotopic Investigation	1,98,524.00	-	-	1,98,524.00	-	1,98,524.00	-
3	Experimental Investigation	2,60,895.00	-	-	2,60,895.00	-	2,60,895.00	-
4	Development Of Transparent Conducting Polymer Films For Electrode	3,03,928.00	-	-	3,03,928.00	-	3,03,928.00	-
5	Information Security Education	5,09,237.00	-	-	5,09,237.00	-	5,09,237.00	-
6	Multifunctional Plasmonic Nanoparticles - Nano Composites - Targeted Drug Delivery	5,429.00	-	-	5,429.00	-	5,429.00	-
7	Strengthen The Research Facilities In Networking And Security Area	100.00	-	-	100.00	-	100.00	-
8	Enhancement Of The Sensivity Of Peptide Nanotube Based Biosensors ...	18,808.00	-	-	18,808.00	-	18,808.00	-
9	Development Of An Interoperable Spatial Database Of Road Network For Cit	15,08,674.00	-	-	15,08,674.00	-	15,08,674.00	-
10	Fast Development Of Chitosan Reinforced Polymer Nanocomposites	8,914.00	-	-	8,914.00	-	8,914.00	-
11	Development Of Tools & Techniques For Modeling & Analysis	31,60,016.00	-	-	31,60,016.00	-	31,60,016.00	-
12	Strengthen The Research And Post Graduate In Area Power Quality	14,03,213.00	-	-	14,03,213.00	-	14,03,213.00	-
13	Thermo Responsive Ion Track Membrane	2,168.00	-	-	2,168.00	-	2,168.00	-
14	Fast Track Project Treatment Of Effluent Using Biomembran Techniques	-	2,640.00	-	(2,640.00)	-	-	2,640.00
15	Synthesis And Grafting Of Thermo Responsive Hydrogels On Nano Porous Membranes- Irradiation-Drug	90,348.00	-	-	90,348.00	-	90,348.00	-
16	Design Development And Optimization Of Miniature And Micro	5,14,936.00	-	-	5,14,936.00	-	5,14,936.00	-
17	Fast Track Development Of An Extractive Fermentation Process For Enhanced Alkline Phosphatase	12,863.00	-	-	12,863.00	-	12,863.00	-
18	Molecular And Functional Characterization Of Putative-Zingiber Zerumbt-Ginger	95,417.00	-	2,358.00	97,775.00	1,04,287.00	-	6,512.00
19	Regulation Of L- Sorbose Utilization In Human Fungal Pathogen Candida Albicans	11,66,075.00	-	-	11,66,075.00	-	11,66,075.00	-
20	Molecular Cloning And Characterization Of Terpene Synthas-Zingiber Zerumbet	1,00,990.00	-	-	1,00,990.00	-	1,00,990.00	-
21	Simulation Of Solid Rocket Exhaust Plumes	-	-	-	-	-	-	-
22	Devlimpt. Of Activity Based Models For Forecasting Of Travel Demand	-	1,950.00	-	(1,950.00)	-	-	1,950.00

23	Developmet Of A Toolbox For Evaluation And Identification Of Urban Road Safty Improvement Measures	1,950.00	-	-	1,950.00	-	1,950.00	-
24	Investigation Of Distributed Generation Stm. Integration	-	-	-	-	-	-	-
25	Identification And Characterization Of Phytochemicals From Indian Medicinal Herbs	-	-	-	-	-	-	-
26	Design & Devlp. Of Electro-Magnatically Driven Miniature-Ir Sensor Array Phase I	236.00	-	-	236.00	-	236.00	-
27	Development Of Pro-Fluorophore Scaffolds To Probe Peptide Aggregation And-Transition	7,64,819.00	-	-	7,64,819.00	-	7,64,819.00	-
28	Study On Long Term Performance Pavements With Coir Geotextiles	21,49,880.00	-	67,553.00	22,17,433.00	7,162.00	22,10,271.00	-
29	Use Of Coir Pith For Airport Soft Ground Arrestor System	43,923.00	-	1,886.00	45,809.00	45,000.00	809.00	-
30	Pufa Therapy Ameliorates Cognltive Impairment And Mitochondrial Dysfunction In Caeno	-	-	-	-	-	-	-
31	Productivity Monitoring And Wage Analysis For Nreg Works	1,670.00	-	-	1,670.00	-	1,670.00	-
32	Production Management System	4,16,900.00	-	38,486.00	4,55,386.00	4,51,581.00	3,805.00	-
33	Establishment Of Bif - Btbi	9,737.00	-	754.00	10,491.00	-	10,491.00	-
34	Electron C Structure Studies Of Adsorption Of Unsaturated Hydrocarbons	-	-	-	-	-	-	-
35	Combination Of Therapy In Ischmic	30,039.00	-	1,480.00	31,519.00	-	31,519.00	-
36	Cavity - Enhanced Absorbtion Spectroscopy For Trace Gas Pollutant Monitoring	2,122.00	-	9,60,000.00	9,62,122.00	-	9,62,122.00	-
37	Novel Functionalized Porphyrinic Coordination Arrays,Polymers And Frameworks	-	13,344.00	-	(13,344.00)	-	-	13,344.00
38	Tunable Hierarchical Zeolites Using Polymer Macro-	27,65,053.00	-	-	27,65,053.00	-	27,65,053.00	-
39	Theoretical Study Onysis By Methane Mono-Oxygenase The Enzymatic Castal	-	-	-	-	-	-	-
40	Novel Triazole Bridged Metalloporphyrins Formed Via Click Chem.	-	40,792.00	-	(40,792.00)	-	-	40,792.00
41	Nonlinear Analysis Of Eeg Signals Of Patients With Alzhemlers Disease	14,01,259.00	-	11,314.00	14,12,573.00	5,49,483.00	8,63,090.00	-
42	Design Uranium Based Catalist For Activation And Functionaliation A Computational Quantum	24.00	-	-	24.00	25.00	-	1.00
43	Design And In Vitro Evaluation - Hif Prolyl Hydroxilase	8,49,854.00	-	32,174.00	8,82,028.00	10,41,270.00	-	1,59,242.00
44	Oleamide As Novel Neuroprotectant Against Ischemic Stroke	3,73,524.00	-	13,222.00	3,86,746.00	-	3,86,746.00	-
45	Assessment Of Effectiveness Of Nh-47 Gye Pass Road In Coimbatore (Los)	1,25,295.00	-	-	1,25,295.00	-	1,25,295.00	-
46	Biodegradability Enhancement Of Low Density Polyethylene By Using Biopolymet Nano-	-	6,16,139.00	-	(6,16,139.00)	-	-	6,16,139.00
47	Nrb Project - Design And Development Of A Protocol Stack For Underwater.	17,698.00	-	-	17,698.00	-	17,698.00	-

48	Project Antibiotics Removal From Waste Water	14,35,865.00	-	-	14,35,865.00	-	14,35,865.00	-
49	A Genetic Approach Towards Understanding	4,26,645.00	-	-	4,26,645.00	-	4,26,645.00	-
50	Fast Track Project	3,04,647.00	-	-	3,04,647.00	-	3,04,647.00	-
51	Poly (3,4Ethylenedioxythiophene ) Poly(Methyl Methacrylate)	-	2,88,039.00	1,004.00	(2,87,035.00)	-	-	2,87,035.00
52	Investigation On Bio-Hydrogen Production By Thermo-Chemical Method	1,66,938.00	-	-	1,66,938.00	-	1,66,938.00	-
53	Centre For Transportation Research	55,15,007.00	-	1,34,119.00	56,49,126.00	85,797.00	55,63,329.00	-
54	Development Of Bistable Memory Devices Based On Organic Semi-Conductors	5,52,686.00	-	-	5,52,686.00	-	5,52,686.00	-
55	Rational Design And Synthesis Of Metalloprophyrin-Lanthanoid Hybrid Material For Dna Binding	13,85,798.00	-	-	13,85,798.00	-	13,85,798.00	-
56	Photo Switchable K Ion Channel Blockers	19,972.00	-	-	19,972.00	-	19,972.00	-
57	Experimental And Deterministic Model Studies In Regeneration Of Microbial Biosorbents After Heavy Metal Desorption	19,603.50	-	-	19,603.50	-	19,603.50	-
58	Devt Cf Low Cost Elastomeric Fullerene Derivatives Using Electron And Gamma Irradiation For Organic Electronic Applications	6,29,407.00	-	-	6,29,407.00	-	6,29,407.00	-
59	Design And Implementation Of Secure Communication System	8,069.00	-	-	8,069.00	-	8,069.00	-
60	Inhibition Of Mitochondrial Dynamain Relates Protein One	-	28,07,018.00	29,20,438.00	1,13,420.00	8,868.00	1,04,552.00	-
61	High Energy Density Photochemical Fules Based On Nanomaterial Hybrids	34,53,470.00	-	-	34,53,470.00	-	34,53,470.00	-
62	Transparent Flexible And Conducting Electrodes Based On Graphene- Nanometal Hybrids	-	6,21,992.00	4,676.00	(6,17,316.00)	-	-	6,17,316.00
63	Ruthenium (11) Osmium (11) And Gold (111)Alkaloids: Active Targets For Dna Intercalation Interactions	14,71,815.00	-	8,288.00	14,80,103.00	2,98,485.00	11,81,618.00	-
64	Investigation Of Optical Nonlinearity By Defect State In One Dimensional Photonic Crystals	-	13,121.00	-	(13,121.00)	-	-	13,121.00
65	Characterizing The Interacts Of Chlorpromazine With The Mitotic Kinesin Eg5 And Tublin	-	13.00	-	(13.00)	-	-	13.00
66	Design And Fabrication Of Anechoic Test Facility And Characterization Of Acoustic Emission From Airfoils In Flow Field	70,591.00	-	193.00	70,784.00	-	70,784.00	-
67	Ultrasensitive,Rapid & Low Cost Detection Of Cancer Biomakers	377.00	-	-	377.00	-	377.00	-
68	Development Of Nanocomposites Ethylene	7,68,784.00	-	20,470.00	7,89,254.00	1,44,463.00	6,44,791.00	-
69	Investigation-Scrap Tyre Shreds -Cement Concrete	62,308.00	-	-	62,308.00	-	62,308.00	-
70	Investigation Of Performance	-	-	-	-	-	-	-
71	Development Of Attached Media-Treatment Of Domestic -Coir Geotextiles.	61,301.00	-	-	61,301.00	-	61,301.00	-
72	Studies On Ground Water Pollution By Heavy Metal Disch & Ex	37,247.00	-	-	37,247.00	-	37,247.00	-
73	Investigation On Power Quality Issues Of Drives	1.00	-	-	1.00	-	1.00	-

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74	Mesophase Formation And Characterisation Of Organised Assemblies	13,386.00	-	-	13,386.00	-	13,386.00	-
75	Stand. Of Engi. Properties	-	9.00	-	(9.00)	-	-	9.00
76	Implementation Of Multy.	3,98,311.00	-	-	3,98,311.00	-	3,98,311.00	-
77	Seismic Evaluation Of Existing Multy - Storey Buildings In Kozhikode Dist.	3,40,941.00	-	-	3,40,941.00	-	3,40,941.00	-
78	Development Of Risk Management Tool In Green Construction Sites	-	-	-	-	-	-	-
79	Transcript Profiling Of Differentially Expr.	-	20,000.00	-	(20,000.00)	-	-	20,000.00
80	Experimental Investigation For Potential Use Of Coir Path In Making Value Added Products	-	-	-	-	-	-	-
81	Development Of Intelligent Robot For Fault Diagnosis Of Power	12,679.00	-	-	12,679.00	-	12,679.00	-
82	Low Density Polyethylene / Nanochitosan Biodegradable Films For Food-	33,804.00	-	-	33,804.00	-	33,804.00	-
83	Development Of Low Cost Polymer Electrolyte Membranes	4,06,866.00	-	-	4,06,866.00	-	4,06,866.00	-
84	Investigation On Absorption Of Flouride From Water Using Nano Material	-	-	-	-	-	-	-
85	Comprehensive Computational Analisys Of Anti- Diabetic Phytotherapeutics	2,87,726.00	-	-	2,87,726.00	-	2,87,726.00	-
85	Flexible Nanomaterial Doped Polymer Dispersed Liquid Crystal (Pdic) Devices For Switchable Window Applications	-	9,97,824.00	-	(9,97,824.00)	-	-	9,97,824.00
87	Devt And Analysis Of Model For Green Operations in Supply Chain Management	1,88,645.00	-	-	1,88,645.00	1,88,645.00	-	-
88	Enhancement Of Third-Order Optical Nonlinearity In Photonic Crystalcavity For Optical Switching	15,000.00	-	-	15,000.00	263.00	14,737.00	-
89	Development Of Organic Solar Cells Based On Transition Metal Oxide Anode Buffer Layers	921.00	-	-	921.00	-	921.00	-
90	Temperature Dependant Optical Switch From Organized Assemblies	1,594.00	-	-	1,594.00	-	1,594.00	-
91	Investigation On The Application Of Catalitic Nanoparticles As Diesel	25,89,291.00	-	-	25,89,291.00	-	25,89,291.00	-
92	Devt Of A Model Framework For Land Use Based Estimation And Prediction Of Solid Waste Generation	1,692.00	-	-	1,692.00	-	1,692.00	-
93	Implimentation Of Habitat Devt. Pgrme. Of Three Oorus In Attapadi	-	-	-	-	-	-	-
94	Investigation Over The Experimental And Mathematical Modelling Of Novel Plant Based Biosorbents For The Sequestration Of Hexavalent Chromium	7,930.00	-	-	7,930.00	-	7,930.00	-
95	Development Of A Hybridelectrochemical Discharge Machine And Itsperformance Analysis	2,675.00	-	-	2,675.00	-	2,675.00	-
96	Securityassessment Of Microgrids In Isolated Andin Grid Connected Mode	2,57,340.00	-	-	2,57,340.00	-	2,57,340.00	-

97	Setting Up Design Innovationcentre	7,21,810.00	-	22,31,036.00	29,52,846.00	18,776.00	29,34,070.00	-
98	Special Manpowerdevelopment-Chip To Systemdesign(Snmdp-C25d)-Department Ofelectronics And Information Technology Mit	7,69,475.00	-	35,91,668.00	43,61,143.00	32,85,903.00	10,75,240.00	-
99	Synthesis Of Novelelectrocatalytic Nanoparticles Andnanocomposites For Fuel Cell Application	13,392.00	-	461.00	13,853.00	-	13,853.00	-
100	Development Of Recombinantsphingomonas Paucimobilis Ofr Gellan Gumproduction.....Delivery System	33,790.00	-	1,556.00	35,346.00	-	35,346.00	-
101	Power Electronics For Grid Connectedrenewable Energy System Under Nampetphase II	2,99,884.00	-	-	2,99,884.00	-	2,99,884.00	-
102	Production Of Bil Diesel Fromchlorella Vulagris	1,310.00	-	1,34,683.00	1,35,993.00	-	1,35,993.00	-
103	Investigation Over The Experimentaland Mathematical Modelling Of Aerosols Inthe Kde Dist.	4,75,742.00	-	12,860.00	4,88,602.00	3,75,870.00	1,12,732.00	-
104	Development Of Cost Effective 3-Axisintelligent Platform Stabilization System*	2,60,426.00	-	5,892.00	2,66,318.00	1,00,697.00	1,65,621.00	-
105	Inspire Faculty,Ced - Inspire Research Project	-	2,053.00	-	(2,053.00)	-	-	2,053.00
106	Strength Improvement Of Locallyavailable Soft Clays In Construction Ofhighways Using Lime-Enzymatic Development Of Advanced Fibrereinforced Polymer	-	9,071.00	-	(9,071.00)	70,022.00	-	79,093.00
107	Nanocomposites For DEVELOPMENT OF STABLE	2,286.00	-	1,871.00	4,157.00	841.00	3,316.00	-
108	NANCFUIDS.....THERMAL POWER PLANTS	35,94,800.00	-	1,59,389.00	37,54,189.00	5,74,121.00	31,80,068.00	-
109	DEVELOPMENT OF SMART CONTROLLER FOR SWITCHED RELUCTANCE MOTOR	986.00	-	2,52,684.00	2,53,670.00	1,67,200.00	86,470.00	-
110	F ST PROGRAM-2015 IF DST TO STRENGTHEN THE .....MED	1,01,31,284.00	-	1,12,591.00	1,02,43,875.00	14,90,440.00	87,53,435.00	-
111	DEVELOPMT. OF SOLID STATE TRANSFORMER AS...INTERFACING DEVICE	74,279.00	-	2,163.00	76,442.00	11,749.00	64,693.00	-
112	DEVLMT.OF NANO LUBRICANT FOR DIESEL ENGINE	17,33,880.00	-	23,340.00	17,57,220.00	5,57,264.00	11,99,956.00	-
113	HIGH VALENT TRANS-METALLOPORPHYRINS WITH GLYCODIC LINKAGES	18,665.00	-	-	18,665.00	-	18,665.00	-
114	SYNTHESIS, CHARACTERIZATION AND APPLICATION OF NOVEL MAGNETICALLY.	2,839.00	-	12,09,988.00	12,12,827.00	9,85,958.00	2,26,869.00	-
115	DESIGN, SYNTHESIS AND EVALUATION OF SOLID-EMMISSIVE	8,04,403.00	-	8,13,806.00	16,18,209.00	5,52,899.00	10,65,310.00	-
116	SERB (DST) PROJ. "NAKED CARBON AS A BRIDGING	2,64,731.00	-	8,280.00	2,73,011.00	40,000.00	2,33,011.00	-
117	A MULTI-WAVE LENGTH INTEGRATING NEPHELOMETER	-	-	-	-	-	-	-
118	STUDENT PEOJECT (GEORGE K.V)	-	-	-	-	-	-	-
119	A MULTI-WAVE LENGTH INTEGRATING NEPHELOMETER	69,519.00	-	60,919.00	1,30,438.00	59,534.00	70,904.00	-
120	DEVELOPMENT OF STEEL FIBRE REINFORCED...SEISMIC RESISTANT DESIGN	1,996.00	-	67.00	2,063.00	89.00	1,974.00	-
121	POLYMER AND HYBRID ELECTRONICS... APPLICATIONS	4,75,791.00	-	-	4,75,791.00	649.00	4,75,142.00	-

122	SIMULTANEOUS REMOVAL OF ORGANIC... BIO-ELECTRO CHEMICAL CELL	27,413.00	-	895.00	28,308.00	172.00	28,136.00	-
123	MICRO-RNA-9 REGULATION OF NEURO...FOR ISCHEMIC STROKE	30,529.00	-	-	30,529.00	-	30,529.00	-
124	MS.SREEJA M "CHETAS"	84,639.00	-	5,54,142.00	6,38,781.00	6,14,018.00	24,763.00	-
125	MODEL FOR PART BASED...TRAFFIC OPERATION IN INDIA	16,504.00	-	6,93,161.00	7,09,665.00	6,09,084.00	1,00,581.00	-
126	DEVELOPMENT,TESTING AND STANDARDISATION OF HEAT PUMP.....THERMAL HYBRID EVAPORATORS	22,95,677.00	-	5,93,823.00	28,89,500.00	21,59,919.00	7,29,581.00	-
127	CAPACITY BUILDING IN DAM...REHABILITATION & IMPROVEMENT	1,77,33,946.00	-	3,57,246.00	1,80,91,192.00	65,09,299.00	1,15,81,893.00	-
128	CATIONIC MESOTHIENYLPORPHYRINS...DNA INTERACTION	34,796.00	-	9,10,074.00	9,44,870.00	9,04,773.00	40,097.00	-
129	TECHNOLOGICAL INNOVATION UNDER THE BANNER "BRIDGING THE INNOVATION GAP"	-	1,14,329.00	-	(1,14,329.00)	-	-	1,14,329.00
130	DR.LISA SREEJITH "MHRD SWACCHATA ACTION PLAN"	44,50,179.00	-	1,49,198.00	45,99,377.00	4,87,777.00	41,11,600.00	-
131	MHRD GIAN COURSE DR.A V BABU "KEY ENABLING"	-	1,24,374.00	-	(1,24,374.00)	-	-	1,24,374.00
132	CTHER PROJ.DR.SAMEER S M "FIST PROGR OF	2,06,04,343.00	-	6,06,936.00	2,12,11,279.00	22,36,908.00	1,89,74,371.00	-
133	CTHER PROJ.DR.SANJAY P K SERB PROJ."A STUDY	30,572.00	-	2,23,582.00	2,54,154.00	45,384.00	2,08,770.00	-
134	CTHER PROJ.(SERB) DR.M PRABHU"A LONG TERM	3,10,128.00	-	5,18,373.00	8,28,501.00	6,10,609.00	2,17,892.00	-
135	MHRD GIAN COURSE DR.SATYANANDA PANDA "A	-	21,298.00	-	(21,298.00)	649.00	-	21,947.00
136	CTHER PROJ.DR.SUBRAMANIAN NAMBOODIRI SERB	29,49,263.00	-	5,05,226.00	34,54,489.00	16,21,044.00	18,33,445.00	-
137	CTHER PROJ.DR.RAMYA K (UNDER MENTORSHIP OF	26,301.00	-	-	26,301.00	-	26,301.00	-
138	CTHER PROJ. MS.ATHULYA DAS "INSPIRE	53,047.00	-	1,827.00	54,874.00	-	54,874.00	-
139	CTHER PROJ.DR.DHANYA RAM V SERB	25,52,935.00	-	4,66,491.00	30,19,426.00	4,54,434.00	25,64,992.00	-
140	CTHER PROJ.DR.ARUN RAJ KUMAR PARTHIBAN	31,18,410.00	-	65,681.00	31,84,091.00	24,25,260.00	7,58,831.00	-
141	CTHER PROJ.DR.MAHESH KUMAR SERB	3,10,225.00	-	1,83,584.00	4,93,809.00	3,98,650.00	95,159.00	-
142	CTHER PROJ.DR.ANJANA BHASI SERB	16,88,015.00	-	5,76,546.00	22,64,561.00	8,59,507.00	14,05,054.00	-
143	CTHER PROJ.DR.DEEPAK LAWRENCE K SERB	16,84,993.00	-	6,65,680.00	23,50,673.00	18,70,892.00	4,79,781.00	-
144	CTHER PROJ. DR.SURESH P S DBT	39,33,595.00	-	69,237.00	40,02,832.00	33,94,130.00	6,08,702.00	-
145	INSPIRE FACULTY AWARD TO DR.MUNIYANDI	7,04,162.00	-	7,13,814.00	14,17,976.00	7,05,352.00	7,12,624.00	-
146	CTHER PROJ.DR.N SANDHYARANI DST	30,20,000.00	-	66,865.00	30,86,865.00	28,70,578.00	2,16,287.00	-

147	OTHER PROJ.DR.PANNEERSELVAM RANGANATHAN	6,32,911.00	-	3,27,271.00	9,60,182.00	5,10,433.00	4,49,749.00	-
148	OTHER PROJ.MS.AKSHAYA M V DST (WOS-B)	11,41,129.00	-	25,102.00	11,66,231.00	6,30,078.00	5,36,153.00	-
149	OTHER PROJ.DR.M A NASEER DST TRAINING	5,00,000.00	-	11,224.00	5,11,224.00	2,00,000.00	3,11,224.00	-
150	STUDENT PROJECT (GEORGE K.V)	5,640.00	-		5,640.00	-	5,640.00	-
151	REFUNDABLE FOR WORKSHOP FROM KSEB HRM	-	4,961.00		(4,961.00)	-		4,961.00
152	IMPLEMENTATION OF BREATH ANALYZER FOR DIABETES DETECTION"			74,72,242.00	74,72,242.00	5,85,922.00	68,86,320.00	
153	DEVELOPMENT OF BIO-MODIFIED CARBON PASTE.....METALS FROM WASTE WATER"			30,05,094.00	30,05,094.00	20,82,590.00	9,22,504.00	
154	"A HIGHLY FLEXIBLE PIEZO-TRIBO NANOGENERATOR.....CAPTURING HUMAN MODELING AND SIMULATION OF FLUID MOTION MICRO EDM"			32,05,209.00	32,05,209.00	25,68,214.00	6,36,995.00	
155	PROCESS INTENSIFICATION OF POST-COMBUSTION BED REACTOR CONCEPT"			2,25,773.00	2,25,773.00	20,000.00	2,05,773.00	
156	TURNING THE PERFORMANCE OF THIN FILM COMPOSITE OSMOSIS IN WATER			16,00,054.00	16,00,054.00	2,44,600.00	13,55,454.00	
157	INTELLIGENT SYSTEM FOR RETINOPATHY..... SCREENING AND DIAGNOSIS"			13,85,512.00	13,85,512.00	13,84,903.00	609.00	
158	ATTITUDE TOWARDS THE ENVIRONMENT.....POST 2018 FLOODS"			17,83,389.00	17,83,389.00	4,00,317.00	13,83,072.00	
159	A RES LIENT DC COMMUNITY GRID.....SERVICES TO LOCAL GRID"			2,42,684.00	2,42,684.00	2,39,935.00	2,749.00	
160	INITIATIVES TO RESOLVE SOCIO-ECONOMIC ISSUES			14,20,680.00	14,20,680.00	10,39,000.00	3,81,680.00	
161	"COMPUTATIONAL INVESTIGATIONS ON THE MECHANISM..... DEGRADATION WITH AGEING			4,07,815.00	4,07,815.00	2,42,410.00	1,65,405.00	
162	"MICROBIAL RECOVERY OF BIOGENIC METHANE.....AND RECLAMINATION OF THE SITE"			3,41,900.00	3,41,900.00	25,000.00	3,16,900.00	
163	"VLSI IMPLEMENTATION.....SATELLITE APPLICATIONS"			9,48,363.00	9,48,363.00	2,98,212.00	6,50,151.00	
164	"SYNTHESIS & CHARACTERIZATION OF CARBON BASED FUNCTIONAL...."			22,88,323.00	22,88,323.00	2,86,772.00	20,01,551.00	
165	UNNAT BHARAT ABHIYAN			6,917.00	6,917.00	1,30,355.00		1,23,438.00
170	DEVELOPMENT AND CHARACTERISATION OF BIO DEGRADABLE METALLIC IMPLANTS"			1,75,000.00	1,75,000.00	4,090.00	1,70,910.00	
171	DEVELOPMENT OF ELECTROSPUN.....MEMBRANE DISTILLATION"			23,05,396.00	23,05,396.00	1,54,663.00	21,50,733.00	
172	TWO DIMENSIONALLY TAILORED.....MULTIFUNCTIONAL APPLICATIONS"			18,88,428.00	18,88,428.00	1,45,290.00	17,43,138.00	
174	CONTROL OF INSTABILITIES IN JEFFCOTT ROTOR"			28,32,206.00	28,32,206.00	1,03,590.00	27,28,616.00	
175	DESIGN MODIFICATIONS OF TATA-JK.....MIDDLING COAL USING CFD"			22,13,274.00	22,13,274.00	1,52,830.00	20,60,444.00	
176	"DESIGN AND DEVELOPMENT OF REAL TIME OPTICAL FOR FIELD MEASUREMENTS"			3,52,123.00	3,52,123.00	65,000.00	2,87,123.00	
177				2,65,978.00	2,65,978.00	-	2,65,978.00	

178	"DEVELOPMENT OF AN INDIGENOUS TOOL FOR THE USING DEEP NEURAL NETWORKS"			20,75,886.00	20,75,886.00	1,33,390.00	19,42,496.00	
179	DEVELOPMENT OF KITCHEN LAYOUT FOR PARAPLEGIC PERSONS"			13,09,356.00	13,09,356.00	66,000.00	12,43,356.00	
181	DESIGN AND DEVELOPMENT OF AN.....CLIMATE CHANGE AND NON STATIONARITY"			20,98,526.00	20,98,526.00	11,32,800.00	9,65,726.00	
182	RATIONAL DESIGN AND DEVELOPMENT.....OXYGEN REDUCTION REACTION"			23,35,614.00	23,35,614.00	1,25,720.00	22,09,894.00	
183	STUDY AND DEVELOPMENT OF HIGHLY.....BASED METAL OXIDE COMPOSITE"			33,39,847.00	33,39,847.00	17,61,850.00	15,77,997.00	
184	INTEGRATED HYDRODYNAMIC CAVITATION.....FROM INDUSTRIAL EFFLUENT"			17,82,876.00	17,82,876.00	-	17,82,876.00	
185	STATOR FAULT DIAGNOSIS THROUGH WAVELET INVERTER FED INDUCTION MOTOR"			5,70,000.00	5,70,000.00	-	5,70,000.00	
	<b>Total</b>	<b>12,69,51,651.50</b>	<b>57,07,281.00</b>	<b>6,90,06,112.00</b>	<b>19,02,50,482.50</b>	<b>5,47,29,744.00</b>	<b>13,87,78,024.50</b>	<b>32,57,286.00</b>

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## SCHEDULE 3B- SPONSORED FELLOWSHIPS AND SCHOLARSHIPS

(Amount in Rupees)

1.Sr. No	2. Name of Sponsor	Opening Balance		Transactions during the year		Closing Balance	
		3. Credit	4. Debit	5. Credit	6. Debit	7. Credit	8. Debit
1	University Grants Commission	83,87,310.00	-	0.00	0.00	83,87,310.00	-
	<i>Ministry (Central Govt.)</i>						
2	Director of College Education	-	4,000.00	-	-	-	4,000.00
3	Cultural Scholarship	13,47,319.00	-	6,97,633.00	7,01,673.00	13,43,279.00	-
4	NCERT	23,013.00	-	-	-	23,013.00	-
5	SC/ST Scholarship	5,09,344.00	-	-	-	5,09,344.00	-
6	NIMCET	-	1,04,207.00	-	-	-	1,04,207.00
7	Summer Course	34,46,955.00	-	70,000.00	-	35,16,955.00	-
8	Zonasa 2003	57,085.00	-	12,300.00	-	69,385.00	-
9	Minority Scholarship	6,70,487.00	-	-	-	6,70,487.00	-
10	Top Class Education Scholarship for SC Students	19,72,415.00	-	9,83,593.00	10,01,880.00	19,54,128.00	-
11	Merit Cum Means Scholarship for Minorities	-	3,46,467.00	-	-	-	3,46,467.00
12	NBHM Fellowship	61,915.00	-	-	-	61,915.00	-
13	SPDC Scholarship	7,92,337.00	-	95,29,848.00	95,29,848.56	7,92,336.44	-
14	Inspire Fellowship	-	57,962.00	-	-	-	57,962.00
15	AIEE-CCB	-	-	-	-	-	-
16	Visweswarayya Scheme	2,96,549.00	-	29,86,305.00	30,19,448.00	2,63,406.00	-
17	Inspire Fellowship - Dr. Subrahmanian Nampoothiri	47,46,532.00	-	3,32,042.00	8,71,688.00	42,06,886.00	-
18	Inspire Fellowship - Dr. Mini Mol	6,21,430.00	-	7,13,547.00	4,74,331.00	8,60,646.00	-
19	Post Doctoral Fellowship - Dr. Robin	2,28,873.00	-	0.00	-	2,28,873.00	-
20	OBC Scholarship	-	-	-	-	-	-
21	Inspire Faculty Award-Dr. Lakshmi V Nair	-	-	41,79,286.00	15,59,028.00	26,20,258.00	-
22	Young Faculty research Fellowship- Dr.Kumaravel	-	-	7,54,114.00	3,75,106.00	3,79,008.00	-
23	National post doctral felloship- Dr.Muhsin	-	-	9,82,666.00	8,89,720.00	92,946.00	-
24	inspire Faculty Award-Dr. Tharaknath Kobaku	-	-	22,22,244.00	15,35,296.00	6,86,948.00	-
25	inspire Felloship-Anagha Yadeendran	-	-	4,53,573.00	2,10,000.00	2,43,573.00	-
26	Post Doctoral Fellowship - Dr Baby Viswambaran	-	-	4,72,988.00	3,52,000.00	1,20,988.00	-
27	inspire Faculty Award-Dr.Sreelakshmi	-	-	22,25,293.00	14,10,000.00	8,15,293.00	-
						-	-
	<i>Kerala Government</i>						
21	KSCSTE Fellowship	6,78,393.00	-	-	2,06,245.00	4,72,148.00	-
22	E- Grants (For Backward Castes)	52,81,953.50	-	3,44,64,747.00	3,07,21,243.00	90,25,457.50	-
23	Minorties Scholarship	-	41,595.00	-	-	-	41,595.00

<b>Other State Governments</b>							
24	Andhra Pradesh	-	34,692.00	-	-	-	34,692.00
25	Bihar	2,19,432.00	-	0.00	0.00	2,19,432.00	-
26	Karnataka	1,080.00	-	-	-	1,080.00	-
27	Lakshadweep	-	-	-	-	-	-
28	Madhya Pradesh	55,375.00	-	-	-	55,375.00	-
29	Maharashtra	-	4,675.00	-	-	-	4,675.00
30	Tamil Nadu	1,000.00	-	-	-	1,000.00	-
31	Chattisgarh	77,640.00	-	0.00	-	77,640.00	-
<b>Others</b>							
32	E- Remittance (other States)	35,03,065.00	-	21,63,126.00	22,87,661.00	33,78,530.00	-
33	Vishakhapatnam Steel Plant Scholarship	-	-	-	-	-	-
34	NIT - Kharakpur - GIAN	-	2,87,880.25	8,76,617.00	9,57,990.00	-	3,69,253.25
35	QIP - Poly Grant	74,85,750.00	-	0.00	2,62,015.00	72,23,735.00	-
<b>Total</b>		<b>2,87,31,311.25</b>	<b>5,93,598.00</b>	<b>6,41,19,922.00</b>	<b>5,63,65,172.56</b>	<b>4,83,01,374.94</b>	<b>9,62,851.25</b>



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**SCHEDULE -3C UNUTILISED GRANTS FROM UGC, GOVT. OF INDIA AND STATE GOVERNMENTS**

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>A. Plan grants: Government of India</b>		
Balance B/F	56,19,98,902.00	65,10,22,764.00
Add: Receipts during the year	3,62,56,000.00	3,76,00,000.00
<b>Total (a)</b>	<b>59,82,54,902.00</b>	<b>68,86,22,764.00</b>
Less: Refunds	-	-
Less: Utilized for Revenue Expenditure	-	-
Less: Utilized for Capital Expenditure	8,66,13,650.00	12,66,23,862.00
<b>Total (b)</b>	<b>8,66,13,650.00</b>	<b>12,66,23,862.00</b>
(Deficit)/Unitilized carried forward (a-b)	51,16,41,252.00	56,19,98,902.00
<b>B. Plan: UGC grants</b>		
Balance B/F	-	-
Add: Receipts during the year	-	-
<b>Total (c)</b>	<b>-</b>	<b>-</b>
Less: Refunds	-	-
Less: Utilized for Revenue Expenditure	-	-
Less: Utilized for Capital Expenditure	-	-
<b>Total (d)</b>	<b>-</b>	<b>-</b>
Unitilized carried forward (c-d)	-	-

Contd..

<b>C. Non Plan: Government of India</b>		
Balance B/F	(1,74,29,18,089.68)	(2,19,48,98,056.16)
Add: Receipts during the year	1,16,40,11,991.00	1,82,56,00,000.00
Add: Adjustment of Grant receivable from GOI	1,14,21,85,426.00	
<b>Total (e)</b>	<b>56,32,79,327.32</b>	<b>(36,92,98,056.16)</b>
Less: Refunds	-	-
Less: Utilized for Revenue Expenditure	1,46,93,70,902.30	1,37,36,20,033.52
Less: Utilized for Capital Expenditure	-	-
<b>Total (f)</b>	<b>1,46,93,70,902.30</b>	<b>1,37,36,20,033.52</b>

*Sahadevi P.S.*

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(Deficit)/Unitilized carried forward (e-f)	(90,60,91,574.98)	(1,74,29,18,089.68)✓
<b>D. Non Plan: UGC grants</b>		
Balance B/F	-	-
Add: Receipts during the year	-	-
<b>Total (g)</b>	-	-
Less: Refunds	-	-
Less: Utilized for Revenue Expenditure	-	-
Less: Utilized for Capital Expenditure	-	-
<b>Total (h)</b>	-	-
Unitilized carried forward (g-h)	-	-
<b>Grand Total (A+B+C+D)</b>	<b>(39,44,50,322.98)</b>	<b>(1,18,09,19,187.68)</b>

\*Grant receivable from Govt is written off as per the letter no F.No:23011/02/2018-IFI Dated 25.10.2018.

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SCHEDULE 3(D) - LONG-TERM LIABILITIES

(Amount in Rupees)

Particulars	Opening balance	Additions during the year	Repaid during the year	Closing balance	Previous year
HEFA	0	50,50,00,000.00	4,40,00,000.00	46,10,00,000.00	0
<b>Total</b>	<b>0</b>	<b>50,50,00,000.00</b>	<b>4,40,00,000.00</b>	<b>46,10,00,000.00</b>	<b>0</b>

  
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SCHEDULE 4 –FIXED ASSETS

(Amount in Rupees)

S. No	DESCRIPTION TANGIBLE ASSETS	GROSS BLOCK			DEPRECIATION					NET BLOCK		
		Opening balance 01/04/2019	Additions during the year	Deductions/ Reclassification during the year	Closing Balance	Dep. rates	Depreciation Opening Balance	Depreciation for the year	Deductions/Adjustment	Total Depreciation	31-03-2020	31-03-2019
1	Land:											
	a) Freehold	7,69,000.00	-	-	7,69,000.00	Nil	-	-	-	-	7,69,000.00	7,69,000.00
	b) Leasehold	-	-	-	-	-	-	-	-	-	-	-
2	Buildings:											
	a) On Freehold Land											
	i. Residential	1,60,38,95,657.00	-	-	1,60,38,95,657.00	2%	53,75,82,877.52	2,13,26,255.59	-	55,89,09,133.11	1,04,49,86,523.89	1,06,53,12,779.48
	ii. Non-Residential	92,93,04,297.00	21,46,696.00	-	93,14,50,993.00	2%	60,43,12,216.57	65,42,775.53	-	61,08,54,992.10	32,05,96,000.90	32,49,92,080.43
	b) On Leasehold Land	-	-	-	-	-	-	-	-	-	-	-
	c) Ownership Flats/ Premises	-	-	-	-	-	-	-	-	-	-	-
	d) Superstructures on Land not belonging to educational institutions	-	-	-	-	-	-	-	-	-	-	-
3	Tube wells & water supply	-	-	-	-	-	-	-	-	-	-	-
4	Sewerage & Drainage	-	-	-	-	-	-	-	-	-	-	-
5	Furniture & fixtures	11,98,64,981.00	67,41,523.00	-	12,66,06,504.00	7.5%	6,05,91,286.22	49,50,992.83	-	6,55,44,259.05	6,10,62,244.95	5,92,71,724.79
6	Electrical Installations	4,19,76,729.00	4,87,985.00	-	4,24,64,714.00	5%	2,72,57,931.28	15,20,678.27	-	2,87,78,609.55	1,36,86,104.45	1,47,18,797.73
7	Plants, machinery & equipment	84,64,94,764.00	4,95,47,091.00	-	89,60,41,855.00	5%	58,50,35,149.65	1,92,58,142.05	-	55,42,95,201.70	34,17,48,563.30	31,14,59,654.35
8	Office Equipment	47,55,731.00	-	-	47,55,731.00	7.5%	44,52,487.26	22,743.28	-	44,75,230.54	2,80,300.46	3,09,248.74
9	Computer & Peripherals	16,93,89,907.60	1,18,04,514.00	-	18,11,94,421.60	20%	15,75,66,994.32	46,26,422.96	-	16,21,93,356.58	1,89,45,094.42	1,17,66,972.78
10	Vehicles	69,98,909.00	-	-	69,98,909.00	10%	53,16,972.65	1,68,193.64	-	54,85,269.29	15,13,742.72	16,81,996.35
11	Library books	5,20,82,441.00	8,55,889.00	-	5,29,38,330.00	10%	4,77,01,988.68	5,21,482.13	-	4,82,23,470.81	46,99,339.19	43,59,452.32
	<b>Total (A)</b>	<b>1,77,54,55,416.00</b>	<b>7,15,81,178.00</b>	<b>0.00</b>	<b>3,84,70,38,594.00</b>		<b>1,97,99,19,824.04</b>	<b>5,89,37,685.68</b>	<b>-</b>	<b>2,08,87,67,509.79</b>	<b>1,80,82,81,084.27</b>	<b>1,79,56,36,591.96</b>
12	Capital Work in progress (B)	1,59,38,01,304.00	51,64,78,120.00	75,000.00	2,11,02,04,424.00		-	-	-	-	2,11,02,04,424.32	1,59,38,01,304.52
S. No	INTANGIBLE ASSETS	Opening Balance	Additions during the year	Deductions during the year	Closing Balance	Total Depreciation	Depreciation/ Amortizations for the year	Deductions/Adjustment	Total Depreciation	31/03/2020	31/03/2019	
13	Computer Software	1,98,54,263.00	35,52,352.00	-	2,34,06,615.00	40%	1,80,68,187.68	21,97,370.93	-	2,02,00,558.61	32,06,056.39	17,91,075.32
14	E-journals	-	-	-	-	-	-	-	-	-	-	-
15	Patents and Copyrights	-	-	-	-	-	-	-	-	-	-	-
	<b>Total (C)</b>	<b>1,98,54,263.00</b>	<b>35,52,352.00</b>	<b>-</b>	<b>2,34,06,615.00</b>	<b>1,80,68,187.68</b>	<b>21,97,370.93</b>	<b>-</b>	<b>2,02,00,558.61</b>	<b>32,06,056.39</b>	<b>17,91,075.32</b>	
	<b>Grand Total (A+B+C)</b>	<b>5,38,91,10,983.00</b>	<b>59,16,13,650.00</b>	<b>75,000.00</b>	<b>5,98,06,49,633.00</b>	<b>1,99,78,83,012.72</b>	<b>6,10,75,056.61</b>	<b>-</b>	<b>2,05,89,58,068.34</b>	<b>3,92,16,91,564.98</b>	<b>3,39,12,27,971.80</b>	

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**SCHEDULE 5 - INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS**

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>Long term</b>		
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other approved Securities	-	-
4. Shares	-	-
5. Debentures and Bonds	-	-
6. Term Deposits with Banks	83,44,44,972.00	18,63,53,119.00
7. Others	-	-
<b>Total (A)</b>	<b>83,44,44,972.00</b>	<b>18,63,53,119.00</b>
<b>Short term</b>		
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other approved Securities	-	-
4. Shares	-	-
5. Debentures and Bonds	-	-
6. Term Deposits with Banks	37,73,24,916.30	1,35,24,61,627.40
7. Others (Letter of Credit)	-	44,92,000.00
<b>Total (B)</b>	<b>37,73,24,916.30</b>	<b>1,35,69,53,627.40</b>
<b>Grand Total (A+B)</b>	<b>1,21,17,69,888.30</b>	<b>1,54,33,06,746.40</b>

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**SCHEDULE 6 - INVESTMENTS OTHERS**

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. In Central Government Securities	-	-
2. In State Government Securities	-	-
3. Other approved Securities	-	-
4. Shares	-	-
5. Debentures and Bonds	-	-
6. Others (to be specified)	-	-
<b>Total</b>	-	-

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**SCHEDULE 7 – CURRENT ASSETS**

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>1. Stock:</b>		
a) Stores and Spares	26,90,029.00	26,90,029.00
b) Loose Tools		
c) Publications		
d) Laboratory chemicals, consumables and glass ware		
e) Stationary		
<b>2. Sundry Debtors:</b>		
a) Debts Outstanding for a period exceeding six months		-
b) Others		-
<b>3. Cash in hand</b>	<b>8,83,785.50</b>	<b>7,90,488.50</b>
(i) Cash in hand	2,02,112.50	2,13,542.50
(ii) Imprest	6,81,673.00	5,76,946.00
<b>4. Cash in Bank</b>		
a) With Scheduled Banks:		
In Current Accounts	-28,97,37,018.16	-22,07,55,394.40
In Term deposit Accounts	1,74,12,12,779.96	1,01,77,19,522.56
In Savings Accounts	1,24,44,59,473.37	1,35,85,17,074.99
In EEFC Accounts (USD)	10,67,58,953.97	-47,76,525.91
b) With non-Scheduled Banks:		
In Term deposit Accounts	-	-
In Savings Accounts	-	-
<b>5. Post Office- Savings Accounts</b>	-	-
<b>6. Cash in Treasury</b>	<b>31,16,661.00</b>	<b>31,16,661.00</b>
<b>Total</b>	<b>2,80,93,84,664.64</b>	<b>2,15,73,01,855.74</b>

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**SCHEDULE 8 – LOANS, ADVANCES & DEPOSITS**

(Amount in Rupees)


Particulars	Current Year	Previous Year
<b>1. Advances to employees: (Interest bearing)</b>		
a) Salary		
b) Festival	(48,535.00)	(63,085.00)
c) LTC	18,49,532.00	22,15,835.00
d) Medical Advance	-	3,00,000.00
e) Travelling advance	20,02,500.67	20,34,998.67
f) Computer advance	(1,85,489.00)	(1,85,489.00)
g) Marriage advance	(66,184.00)	(66,184.00)
h) Other (Plan & Dept. advances)	1,20,53,445.30	1,06,29,684.50
<b>2. Long Term Advances to employees: (Interest bearing)</b>		
a) Vehicle loan	3,28,365.00	4,49,967.00
b) Home loan	(33,20,799.00)	(29,78,164.00)
c) Others (to be specified)	-	-
<b>3. Advances and other amounts recoverable in cash or in kind or for value to be received:</b>		
a) On Capital Account	50,52,00,468.00	50,52,00,468.00
b) To suppliers	(4,08,127.00)	(4,08,127.00)
c) Deficit Balance of Grants (Excess of expenditure)	-	1,14,21,85,426.00
d) TDS deducted on bank interest	3,75,61,702.00	1,81,05,784.00
e) Rent Receivable	24,08,084.00	24,08,084.00
f) Tuition Fee Receivable	-	1,82,45,946.00
<b>4. Prepaid Expenses</b>		
a) Insurance	8,50,423.00	-
b) Other expenses	-	-
<b>5. Deposits</b>		
a) Telephone	-	-
b) Lease Rent	-	-
c) Electricity	57,00,517.00	57,00,517.00
d) AICTE, if applicable	91,389.00	91,389.00

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e) MCI, if applicable	-	-
f) Others (to be specified)	-	-
<b>6. Income Accrued:</b>		
a) On Investments from Earmarked/ Endowment Funds	2,73,92,490.66	98,82,875.00
b) On Investments- Term Deposits	12,42,32,822.26	12,10,88,707.92
c) On Security Deposit with KSEB	2,15,573.00	2,15,573.00
d) Others (includes income due unrealized-Rs.....)	-	-
<b>7. Other - Current assets receivable from UGC/sponsored projects/Govt. grants</b>		
a) Debit balances in Sponsored Projects	32,57,286.00	57,07,281
b) Debit balances in Sponsored Fellowships & Scholarships	9,62,851.25	8,81,478.25
c) Grants Receivable	-	-
d) Other receivables from UGC	-	-
<b>8. Claims Receivable</b>	-	-
<b>Total</b>	<b>72,00,78,315.14</b>	<b>1,84,16,42,965.00</b>

  
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SCHEDULE 9 – ACADEMIC RECEIPTS

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>FEES FROM STUDENTS</b>		
<b>Academic</b>		
1. Tuition fee*	40,14,28,539.66	32,78,84,347.41
2. Admission fee	5,77,847.60	5,24,500.00
3. Enrolment Fee	-	-
4. Library Admission fee	31,08,864.80	28,63,299.75
5. Laboratory fee	-	-
6. Art & Craft fee	-	-
7. Registration fee	35,80,147.60	32,05,407.00
8. Syllabus fee	-	-
<b>Total (A)</b>	<b>40,86,95,399.66</b>	<b>33,44,77,554.16</b>
<b>Examinations</b>		
1. Admission test fee	-	-
2. Annual Examination fee	77,62,576.00	67,77,570.00
3. Mark sheet, certificate fee	5,62,816.80	3,31,526.00
4. Entrance examination fee	-	-
<b>Total (B)</b>	<b>83,25,392.80</b>	<b>71,09,096.00</b>
<b>Other fees</b>		
1. Identity card fee	61,400.00	51,840.00
2. Fine/Miscellaneous fee	18,27,160.00	15,82,725.00
3. Medical fee	-	-
4. Transportation fee	-	-
5. Convocation fee	-	-
<b>Total (C)</b>	<b>18,88,560.00</b>	<b>16,34,565.00</b>
<b>Sale of publications</b>		
1. Sale of Admission forms	4,59,900.00	6,39,075.00
2. Sale of syllabus and Question Paper, etc.	-	-
3. Sale of prospectus	-	-
<b>Total (D)</b>	<b>4,59,900.00</b>	<b>6,39,075.00</b>
<b>Other Academic Receipts</b>		
1. Registration fees for workshops, programmes	-	-
2. Registration fees (Academic Staff College)	-	-
<b>Total (E)</b>	<b>-</b>	<b>-</b>
<b>GRAND TOTAL (A+B+C+D+E)</b>	<b>41,93,69,252.46</b>	<b>34,38,60,290.16</b>

\* It include 50% of the DASA Dollar component which needs to be transferd to the growth fund

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SCHEDULE 10 – GRANTS/DONATIONS/SUBSIDIES

(Amount in Rupees)

Particulars	Plan			Total Plan	Non Plan Govt. of India	Current Year Total	Previous Year Total
	Govt. of India	UGC					
		Plan	Specific Schemes				
Balance B/F	56,19,98,902.00	-	-	56,19,98,902.00	(1,74,29,18,089.68)	(3,87,33,761.68)	(1,54,38,75,292.16)
Add: Receipts during the year	3,62,56,000.00	-	-	3,62,56,000.00	1,16,40,11,991.00	1,20,02,67,991.00	1,33,40,00,000.00
Add: Adjustment of Grant receivable from GOI*					1,14,21,85,426.00		
<b>Total</b>	<b>59,82,54,902.00</b>			<b>59,82,54,902.00</b>	<b>56,32,79,327.32</b>	<b>1,16,15,34,229.32</b>	<b>31,93,24,707.00</b>
Less: Refund	-	-	-	-	-	-	-
<b>Balance</b>	<b>59,82,54,902.00</b>	-	-	<b>59,82,54,902.00</b>	<b>56,32,79,327.32</b>	<b>1,16,15,34,229.32</b>	<b>31,93,24,707.84</b>
Less: Utilised for Capital Expenditure	8,66,13,650.00	-	-	8,66,13,650.00	-	8,66,13,650.00	12,66,23,862.00
<b>Balance</b>	<b>51,16,41,252.00</b>			<b>51,16,41,252.00</b>	<b>56,32,79,327.32</b>	<b>1,07,49,20,579.32</b>	<b>19,27,00,845.84</b>
Less: Utilised for Revenue Expenditure	-	-	-	-	1,46,93,70,902.30	1,46,93,70,902.30	1,37,36,20,033.52
<b>Balance C/F</b>	<b>51,16,41,252.00</b>	-	-	<b>51,16,41,252.00</b>	<b>(90,60,91,574.98)</b>	<b>(39,44,50,322.98)</b>	<b>(1,18,09,19,187.68)</b>

\*Grant receivable from Govt is written off as per the letter no F.No:23011/02/2018-IFI Dated 25-10-2018

  
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SCHEDULE 11 -INCOME FROM INVESTMENTS

(Amount in Rupees)

Particulars	Earmarked/ Endowment Funds,GPF& CPF		Other investments	
	Current Year	Previous Year	Current Year	Previous Year
1) Interest				
a) On Govt. Securities	-	-	-	-
b) Other Bonds/Debentures	-	-	-	-
2) Interest on Term Deposits	1,54,57,757.00	2,68,02,147.00	4,06,50,514.00	3,17,19,528.00
3) Income accrued but not due on Term Deposits/ Interest bearing advances to employees	2,73,92,490.66	98,82,875.00	-	-
4) Interest on Savings Banks Accounts	42,575.00	31,692.00	-	-
5) GPF& CPF	1,72,11,930.00	-	24,524.00	25,655.00
<b>Total</b>	<b>6,01,04,752.66</b>	<b>3,67,16,714.00</b>	<b>4,06,75,038.00</b>	<b>3,17,45,183.00</b>
Transferred to Earmarked/Endowment Funds	6,01,04,752.66	3,67,16,714.00	-	-
<b>Balance</b>	<b>-</b>	<b>-</b>	<b>4,06,75,038.00</b>	<b>2,32,40,023.00</b>

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**SCHEDULE 12 – INTEREST EARNED**

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. On Savings account with scheduled Banks	2,18,36,325.00	76,17,077.00
2. On Loans		
a. Employees/Staff	-	-
b. Others	-	-
3. On Debtors and other receivables	-	-
<b>Total</b>	<b>2,18,36,325.00</b>	<b>76,17,077.00</b>

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SCHEDULE 13- OTHER INCOME

(Amount in Rupees)

Particulars	Current Year	Previous Year
<b>A. Income from Land &amp; Building</b>		
1. Hostel Room Rent	86,94,611.00	16,90,925.00
2. License fee	66,45,029.80	55,77,162.35
3. Hire Charges of Auditorium/Play ground/Convention Centre, etc	-	-
4. Electricity charges recovered	2,13,21,898.00	1,68,42,589.00
5. Water charges recovered	4,00,754.00	1,03,630.00
6. Others	3,47,174.00	12,200.00
<b>Total</b>	<b>3,74,09,466.80</b>	<b>2,42,26,506.35</b>
<b>B. Sale of Institute's publications</b>	-	-
<b>C. Income from holding events</b>		
1. Gross Receipts from annual function/ sports carnival	-	-
Less: Direct expenditure incurred on the annual function/ sports carnival	-	-
2. Gross Receipts from fetes	-	-
Less: Direct expenditure incurred on the fetes	-	-
3. Gross Receipts for educational tours	-	-
Less: Direct expenditure incurred on the tours	-	-
4. Others (to be specified and separately disclosed)	-	-
<b>Total</b>	<b>-</b>	<b>-</b>
<b>D. Others</b>		
1. Income from consultancy	99,15,077.00	30,40,433.00
2. RTI fees	818.00	536.00
3. Income from Royalty	-	-
4. Sale of application form (recruitment)	-	-
5. Misc. receipts (Sale of tender form, waste paper, etc.)	27,06,186.60	19,65,528.00
6. Profit on Sale/disposal of Assets:		
a) Owned assets	-	-
b) Assets acquired out of grants, or received free of cost	-	-
7. Grants/Donations from Institutions, Welfare Bodies and International Organizations	-	-
8. Others	1,09,589.00	6,04,050.00
<b>Total</b>	<b>1,27,31,670.60</b>	<b>56,10,547.00</b>
<b>GRAND TOTAL (A+B+C+D)</b>	<b>5,01,41,137.40</b>	<b>2,98,37,053.35</b>

*Sadhivini P.S.*

DIRECTOR

राष्ट्रीय प्रौद्योगिकी संस्थान कलकत्ता

National Institute of Technology Calicut

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**SCHEDULE 14 – PRIOR PERIOD INCOME**

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Academic Receipts	-	-
2. Income from investments	-	-
3. Interest earned	-	-
4. Other Income	3,12,162.00	-2,13,34,989
<b>Total</b>	<b>3,12,162.00</b>	<b>(2,13,34,989.00)</b>

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**SCHEDULE 15 – STAFF PAYMENTS & BENEFITS (ESTABLISHMENT EXPENSES)**

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
a) Salaries and Wages	-	70,37,24,298.00	70,37,24,298.00	-	70,58,97,958.00	70,58,97,958.00
b) Allowances and Bonus	-	97,45,684.00	97,45,684.00	-	1,09,19,785.00	1,09,19,785.00
c) Contribution to Provident Fund (CPF)	-	-	0.00	-	-	-
d) Contribution to Other Fund (Leave Salary & Pension contribution)	-	2,75,710.00	2,75,710.00	-	5,38,524.00	5,38,524.00
e) Contribution to New Pension Scheme	-	2,35,98,950.00	2,35,98,950.00	-	2,36,15,129.00	2,36,15,129.00
f) Staff Welfare Expenses	-	-	0.00	-	-	-
g) Retirement and Terminal Benefits	-	23,50,76,664.00	23,50,76,664.00	-	23,16,74,117.00	23,16,74,117.00
h) LTC facility	-	46,89,103.00	46,89,103.00	-	51,74,211.00	51,74,211.00
i) Medical facility	-	22,03,159.00	22,03,159.00	-	36,60,390.00	36,60,390.00
j) Children Education Allowance	-	99,78,116.00	99,78,116.00	-	35,66,161.00	35,66,161.00
k) Honorarium	-	14,44,448.00	14,44,448.00	-	14,72,044.00	14,72,044.00
l) Travelling Allowances	-	41,29,311.00	41,29,311.00	-	29,66,531.00	29,66,531.00
m) Others (Stipend to Trainees)	-	-	-	-	0.00	0.00
<b>Total</b>	-	<b>99,48,65,443.00</b>	<b>99,48,65,443.00</b>	-	<b>98,94,84,850.00</b>	<b>98,94,84,850.00</b>

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SCHEDULE 15A – EMPLOYEES RETIREMENT AND TERMINAL BENEFITS

(Amount in Rupees)

Particulars	Pension	Gratuity	Leave Encashment	Total
Opening Balance as on	-	7,47,36,537.00	5,15,29,855.00	12,62,66,392.00
Addition: Capitalised value of Contributions received from other Organisations	-	-	-	-
<b>Total (a)</b>	-	<b>7,47,36,537.00</b>	<b>5,15,29,855.00</b>	<b>12,62,66,392.00</b>
Less: Actual payment during the year (b)	-	1,20,30,175.00	80,27,242.00	2,00,57,417.00
Balance available on 31/03/2019 (C)	-	6,27,06,362.00	4,35,02,613.00	10,62,08,975.00
Provision required as on 31/03/2019 as per Actuarial Valuation (d)	-	24,20,87,040.00	25,88,02,625.00	50,08,89,665.00
A. Provision to be made in current year (d-c)	-	17,93,80,678.00	21,53,00,012.00	39,46,80,690.00
B. Contribution to Pension scheme	-	-	-	-
C. Medical Reimbursement to Retired Employees	-	-	-	-
D. Travel to Hometown on Retirement	-	-	-	-
E. Deposit Linked Insurance Payment	-	-	-	-
<b>Total ( A+B+C+D+E)</b>	-	<b>17,93,80,678.00</b>	<b>21,53,00,012.00</b>	<b>39,46,80,690.00</b>

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SCHEDULE 16 – ACADEMIC EXPENSES

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
a) Laboratory expenses	-	-	-	-	-	-
b) Field work/Participation in Conferences	-	37,507.00	37,507.00	-	1,82,776.00	1,82,776.00
c) Expenses on Seminars/Workshops	-	-	-	-	-	-
d) Payment to visiting faculty	-	-	-	-	-	-
e) Examination	-	-	-	-	-	-
f) Student Welfare expenses	-	-	-	-	-	-
g) Admission expenses	-	-	-	-	-	-
h) Convocation expenses	-	51,69,764.00	51,69,764.00	-	15,92,482.00	15,92,482.00
i) Publications	-	-	-	-	-	-
j) Stipend/means-cum-merit scholarship	-	23,49,84,392.00	23,49,84,392.00	-	19,09,14,929.00	19,09,14,929.00
k) Books, periodicals, journals and e-journals	-	2,10,53,141.00	2,10,53,141.00	-	4,39,22,362.00	4,39,22,362.00
l) Others (FDP,R&D,Medals & prizes)	-	83,58,695.00	83,58,695.00	-	97,97,903.00	97,97,903.00
<b>Total</b>	-	<b>26,96,03,499.00</b>	<b>26,96,03,499.00</b>	-	<b>24,64,10,452.00</b>	<b>24,64,10,452.00</b>

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**SCHEDULE 17 – ADMINISTRATIVE AND GENERAL EXPENSES**

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
<b>A) Infrastructure</b>						
a) Electricity and power	-	4,34,33,004.00	4,34,33,004.00	-	4,10,89,527.00	4,10,89,527.00
b) Water charges	-	-	-	-	-	-
c) Insurance	-	-	-	-	-	-
d) Rent, Rates and Taxes (including property tax)	-	42,19,711.00	42,19,711.00	-	3,54,816.00	3,54,816.00
<b>B) Communication</b>						
e) Postage & telegram	-	5,48,508.00	5,48,508.00	-	3,10,727.00	3,10,727.00
f) Telephone, Fax and Internet Charges	-	2,39,500.00	2,39,500.00	-	6,23,535.00	6,23,535.00
<b>C) Others</b>						
g) Printing and Stationary	-	11,13,948.00	11,13,948.00	-	15,09,191.00	15,09,191.00
h) Traveling and Conveyance Expenses	-	-	-	-	-	-
i) Hospitality	-	24,52,215.00	24,52,215.00	-	16,28,254.00	16,28,254.00
j) Audit Charge	-	1,32,790.00	1,32,790.00	-	0.00	0.00
k) Professional Charges	-	-	-	-	-	-
l) Advertisement and Publicity	-	3,75,983.00	3,75,983.00	-	-2,83,137.00	-2,83,137.00
m) Magazines & Journals	-	-	-	-	-	-
n) Legal charges	-	11,88,308.00	11,88,308.00	-	6,01,591.00	6,01,591.00
o) Hospital contingencies	-	27,33,956.00	27,33,956.00	-	24,21,119.00	24,21,119.00
p) Department Operating Charges (DOC)	-	3,61,72,749.00	3,61,72,749.00	-	1,86,68,914.00	1,86,68,914.00
q) Others (OE&Misc.,T&P,Hindi translation)	-	28,42,986.30	28,42,986.30	-	28,95,957.00	28,95,957.00
<b>Total</b>	-	<b>9,54,53,658.30</b>	<b>9,54,53,658.30</b>	-	<b>6,98,20,494.00</b>	<b>6,98,20,494.00</b>

  
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SCHEDULE 18 – TRANSPORTATION EXPENSES

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
1. Vehicles (owned by educational institution)						
a) Running expenses	-	12,22,098.00	12,22,098.00	-	13,23,633.00	13,23,633.00
b) Repairs & maintenance	-	-	-	-	-	-
c) Insurance expenses	-	90,088.00	90,088.00	-	1,81,627.00	1,81,627.00
2. Vehicles taken on rent/lease						
a) Rent/lease expenses	-	-	-	-	-	-
3. Vehicle (Taxi) hiring expenses	-	-	-	-	-	-
<b>Total</b>	-	<b>13,12,186.00</b>	<b>13,12,186.00</b>	-	<b>15,05,260.00</b>	<b>15,05,260.00</b>

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## SCHEDULE 19 – REPAIRS &amp; MAINTENANCE

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
a) Building						
1. Institute building	-	1,07,54,196.00	1,07,54,196.00	-	72,45,456.00	72,45,456.00
2. Guest house	-	1,65,085.00	1,65,085.00	-	2,20,485.00	2,20,485.00
3. Hostels	-	10,763.00	10,763.00	-	5,20,122.00	5,20,122.00
4. Pump & filter house	-	12,78,751.00	12,78,751.00	-	5,22,784.00	5,22,784.00
5. Quarters	-	24,28,107.00	24,28,107.00	-	4,40,621.00	4,40,621.00
b) Furniture & Fixture	-	-	-	-	-	-
c) Plant & Machinery (Major)	-	74,66,184.00	74,66,184.00	-	23,59,183.00	23,59,183.00
d) Office Equipments	-	-	-	-	-	-
e) Computers	-	21,05,698.00	21,05,698.00	-	3,47,141.00	3,47,141.00
f) Laboratory & Scientific equipments (Minor)	-	38,173.00	38,173.00	-	-56,621.00	-56,621.00
g) Cleaning Material & Services	-	-	-	-	-	-
h) Book binding charges	-	-	-	-	-	-
i) Gardening	-	-	-	-	-	-
f) Others						
1. Campus	-	6,14,21,739.00	6,14,21,739.00	-	5,31,96,064.00	5,31,96,064.00
2. Water supply	-	9,251.00	9,251.00	-	9,74,371.00	9,74,371.00
3. Electrical installations	-	14,72,779.00	14,72,779.00	-	4,11,409.00	4,11,409.00
4. Play fields	-	-	-	-	0.00	0.00
5. Campus Road	-	0.00	0.00	-	64,606.00	64,606.00
7. Staff Club	-	-	-	-	-	-
<b>Total</b>	-	<b>8,71,50,726.00</b>	<b>8,71,50,726.00</b>	-	<b>6,62,45,621.00</b>	<b>6,62,45,621.00</b>

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SCHEDULE 20 – FINANCE COSTS

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
a) Bank charges	-	93,399.00	93,399.00	-	1,53,356.52	1,53,356.52
b) Others (HEFA Interest)	-	20891991.00	20891991.00	-	-	-
<b>Total</b>	-	<b>2,09,85,390.00</b>	<b>2,09,85,390.00</b>	-	<b>1,53,356.52</b>	<b>1,53,356.52</b>

  
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SCHEDULE 21 – OTHER EXPENSES

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
a) Provision for Bad and Doubtful Debts/Advances	-	-	-	-	-	-
b) Irrecoverable Balances Written-off	-	1,14,21,85,426.00	1,14,21,85,426.00	-	-	-
c) Grants/Subsidies to other institutions/organizations	-	-	-	-	-	-
d) Others-Actuarial Valuation cost components						
i) Interest Costs	-	2,95,51,814.00	2,95,51,814.00	-	2,87,49,926.00	2,87,49,926.00
ii) Current Service Costs	-	2,87,21,602.00	2,87,21,602.00	-	2,08,49,102.00	2,08,49,102.00
iii) Net Actuarial Gain	-	1,93,87,864.00	1,93,87,864.00	-	(19,50,226.00)	(19,50,226.00)
	-	-	-	-	-	-
<b>Total</b>	-	<b>1,21,98,46,706.00</b>	<b>1,21,98,46,706.00</b>	-	<b>4,76,48,802.00</b>	<b>4,76,48,802.00</b>

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SCHEDULE 22 – PRIOR PERIOD EXPENSES

(Amount in Rupees)

Particulars	Current Year			Previous Year		
	Plan	Non plan	Total	Plan	Non plan	Total
1. Establishment expenses	-	-	-	-	-	-
2. Academic expenses	-	-	-	-	-	-
3. Administrative expenses	-	-	-	-	-	-
4. Transportation expenses	-	-	-	-	-	-
5. Repairs and Maintenance	-	-	-	-	-	-
6. Others	-	28,757.00	28,757.00	-	2,44,794.00	2,44,794.00
<b>Total</b>	-	<b>28,757.00</b>	<b>28,757.00</b>	-	<b>2,44,794.00</b>	<b>2,44,794.00</b>

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**NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT**

Cash Flow Statement for the year ended 31.03.2020

Cash Flow from Operating Activities:	Amount(Rs.)
Increase/(Decrease) in Current Assets	(1,12,15,64,649.86)
Increase/(Decrease) in Current Liabilities	67,58,22,270.44
<b>Net Cash from Operating Activities</b>	<b>1,79,73,86,920.30</b>
<b>Cash Flow from Investing Activities:</b>	
(Purchase)/Sale of fixed assets	(53,04,63,593.18)
(Purchase)/Sale of investments	33,15,36,858.10
Interest received	-
Dividend received	-
<b>Net Cash from Investing Activities</b>	<b>(19,89,26,735.08)</b>

Contd..

Cash Flow from Financing Activities:	Amount (Rs.)
Additions to general fund during the year	(1,51,58,57,785.44)
Grants/funds in nature of founders'/promoters' contribution	-
Grants/funds related to assets not requiring fulfillment of any obligation	-
Endowment fund (principal sum)	8,07,27,896.10
Cpf & Gpf	2,77,52,512.19
Proceeds from long term borrowings	46,10,00,000.00
(Repayment of long-term borrowings)	-
Interest paid on loans	-
<b>Net Cash Flow From Financing Activities</b>	<b>(94,63,77,377.14)</b>
<b>Net Increase / (Decrease) in Cash equivalents</b>	<b>65,20,82,808.08</b>
<b>Cash and Cash equivalent at the beginning of the period</b>	<b>2,15,46,11,827.48</b>
<b>Cash and Cash equivalent at the end of the period</b>	<b>2,80,66,94,635.64</b>

Cash and Cash equivalent represented by:-	Amount (Rs.)
Cash in Hand	8,83,785.50
Cash in Bank	
- In Current Accounts	(28,97,37,018.16)
- In Savings Accounts	1,24,44,59,473.37
- In Term Deposits	1,74,12,12,779.96
- EEFC Account	10,67,58,953.97
Cash in Treasury	31,16,661.00
<b>Total</b>	<b>2,80,66,94,635.64</b>

*Sahidani P.S.*

DIRECTOR

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NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT  
RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR 2019-20

(Amount in Rupees)

RECEIPTS	Sch No.	Current Year	Previous Year	PAYMENTS	Sch No.	Current Year	Previous Year
<b>I. Opening Balances</b>				<b>I. Expenses</b>			
a) Cash in Hand		7,90,488.50	7,90,898.50	a) Establishment expenses	37	93,71,43,740.00	1,00,62,02,863.00
b) Bank balances				b) Academic expenses	38	24,76,65,345.00	24,27,74,405.00
i) In Current accounts		(22,07,55,394.40)	(20,54,50,361.50)	c) Administrative expenses	39	9,27,80,811.30	5,43,92,899.00
ii) In Savings accounts		1,35,85,17,074.99	1,08,67,19,629.63	d) Transportation expenses	40	13,12,186.00	15,05,260.00
iii) In Deposit accounts		2,56,10,26,268.96	2,14,90,90,957.96	e) Repairs and Maintenance	41	8,89,66,236.00	6,75,07,362.00
iv) EEFC Accounts		(47,76,525.91)	24,88,736.04	f) Finance Costs	20	2,09,85,390.00	1,54,884.52
c) Treasury		31,16,661.00	31,16,661.00	g) Prior period expenses		-	-
<b>II. Grants received</b>				<b>II. Payment against earmarked funds,gpf&amp;cpf</b>	34	18,78,46,338.40	12,02,03,776.00
a) From GOI	25	1,20,02,67,991.00	1,86,32,00,000.00				
b) From State Govt.							
c) From Other sources							
<b>III. Academic Receipts</b>	9	41,93,69,252.46	34,38,60,290.16	<b>III. Payment against sponsored Projects/Schemes</b>	3A	5,47,29,744.00	3,94,88,026.00
<b>IV. Receipts against Earmarked Endowment Funds,gpf&amp;cpf</b>	26	23,61,96,476.00	21,58,57,428.00	<b>IV. Payment against sponsored Fellowships/Scholarships</b>	3B	5,63,65,172.56	7,46,79,471.00
<b>V. Receipts against Sponsored Projects/Schemes</b>	3A	6,90,06,112.00	5,90,70,050.00	<b>V. Investments and Deposits made</b>			
				a) Out of Earmarked/ Endowment funds		-	-
				b) Out of own funds		-	-
<b>VI. Receipts against Sponsored Fellowships and Scholarships</b>	3B	6,41,19,922.00	8,61,25,532.00	<b>VI. Term Deposits with Scheduled Banks</b>		-	-
<b>VII. Income on Investments from</b>				<b>VII. Expenditure on fixed Assets and Capital Works-in-Progress</b>			
a) Earmarked/Endowment funds	27	1,83,42,411.00	1,27,88,314.00	a) Fixed Assets	4	7,51,15,530.00	9,06,59,119.00
b) Other investments				b) Capital Work-in-Progress		51,64,03,120.00	3,39,48,766.00
<b>VIII. Interest received on</b>				<b>VIII. Other payments including Statutory payments</b>	42	28,46,05,628.00	16,68,80,420.00
a) Bank Deposits	28	4,57,59,753.00	4,82,42,825.00				
b) Loans and Advances							
c) Savings Bank Accounts	29	2,79,01,391.00	1,88,71,138.00				
<b>IX. Investments encashed</b>		-	-	<b>IX. Refund of Grants</b>			
<b>X. Term Deposits with Scheduled Banks encashed</b>		-	-	<b>X. Deposits and Advances repaid</b>	35	60,88,421.00	93,69,151.00
<b>XI. Other Income (Including Prior Period Income)</b>	30	3,03,87,581.40	(43,10,901.65)	<b>XI. Deposits made (Cash Security Deposit with KSEB)</b>			
<b>XII. Deposits and Advances Received</b>	31	1,07,97,189.00	5,36,27,565.00	<b>XII. Loans and Advances given</b>	36	1,99,13,629.00	43,38,46,798.00
<b>XIII. Loans and Advances given repaid</b>	32	3,78,94,962.20	10,85,75,355.00	<b>XII. Closing balances</b>			
<b>XIV. Miscellaneous Receipts including Statutory receipts</b>	33	75,04,44,200.00	19,69,27,657.00	a) Cash in Hand		8,83,785.50	7,90,488.50
<b>XV. Any other receipts</b>				b) Bank balances			
				i) In Current accounts		(28,97,17,018.16)	(22,07,55,394.40)
				ii) In Savings accounts	7	1,24,44,59,473.37	1,35,85,17,074.99
				iii) In Deposit accounts		2,95,29,82,698.26	2,56,10,26,268.96
				iv) EEFC Accounts		10,67,58,953.97	(47,76,525.91)
				c) Treasury		31,16,661.00	31,16,661.00
<b>TOTAL</b>		<b>6,60,84,05,814.20</b>	<b>6,03,95,31,774.14</b>	<b>TOTAL</b>		<b>6,60,84,05,814.20</b>	<b>6,03,95,31,774.14</b>

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**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**  
**SCHEDULES FORMING PART OF RECEIPTS & PAYMENTS ACCOUNT FOR THE YEAR 2019-20**  
**25. GRANTS RECEIVED**


(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Plan	3,62,56,000.00	3,76,00,000.00
2. Non Plan	1,16,40,11,991.00	1,82,56,00,000.00
	1,20,02,67,991.00	1,86,32,00,000.00
Less: Current year Grants Receivable		
Plan	-	-
Non Plan	-	-
Add: Previous year Grants received		
Plan	-	-
Non Plan	-	-
<b>Net Receipt</b>	<b>1,20,02,67,991.00</b>	<b>1,86,32,00,000.00</b>

**26. RECEIPTS AGAINST EARMARKED ENDOWMENT FUNDS, GPF & CPF**

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. TEQIP I	0.00	71,743.00
2. TEQIP II	0.00	-1,01,93,298.00
3. TEQIP III	5,54,84,274.00	61,12,608.00
4. GPF	4,65,74,444.00	4,76,56,579.00
5. CPF	4,91,99,749.00	4,89,19,730.00
6. FBS	-	-
7. Growth Fund	1,34,53,307.00	9,09,51,628.00
8. Students Fund	1,24,18,598.00	1,69,38,261.00
9. TBI	2,67,16,987.00	93,52,647.00
10. TBI II	0.00	48,56,194.00
10. TEQIP II modernisation fund	0.00	5,57,824.00
11. Teqip reserves	-	-
12. Gymkhana	3,43,050.00	2,46,400.00
13. HWD	0.00	3,87,112.00
14. TBI Nidhi Prayas	3,20,06,067.00	-
Less: non cash items	-	-
<b>Net Receipt</b>	<b>23,61,96,476.00</b>	<b>21,58,57,428.00</b>

  
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**REGISTRAR**  
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**Calicut Kerala - 673 601, India**

27. INCOME ON INVESTMENTS EARMARKED FUNDS ,GPF&CPF

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. TEQIP I	-	-
2. TEQIP II	-	-
3. TEQIP III	-	-
4. GPF	1,71,21,705.00	45,95,974.00
5. CPF	1,15,743.00	12,771.00
6. FBS	-	0.00
7. Growth Fund	42,575.00	72,92,541.00
8. Students Fund	6,75,946.00	1,99,847.00
9. TBI	3,86,442.00	6,87,181.00
10. TEQIP II modernisation fund	-	-
11. Teqip reserves	-	-
12. Gymkhana	-	-
13. HWD	-	-
	1,83,42,411.00	1,27,88,314.00
Add: Interest accrued in the previous year and realised in the current year		
Less: Interest accrued not yet received	-	
<b>Net Receipt</b>	<b>1,83,42,411.00</b>	<b>1,27,88,314.00</b>

28. INTEREST ON BANK DEPOSITS

(Amount in Rupees)

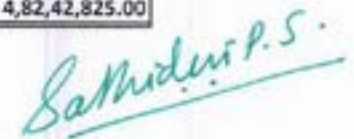
Particulars	Current Year	Previous Year
1. Interest on fixed deposit of Plan Fund	84,30,436.00	1,18,23,607.00
2. Interest on other Fixed Deposits	4,06,50,514.00	3,17,19,528.00
	4,90,80,950.00	4,35,43,135.00
Add: Interest accrued in the previous year and realised in the current year	14,65,02,393.00	15,12,02,083.00
Less: Interest accrued not yet received	14,98,23,590.00	14,65,02,393.00
<b>Net Receipt</b>	<b>4,57,59,753.00</b>	<b>4,82,42,825.00</b>



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29. INTEREST ON SAVINGS BANK DEPOSITS

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Interest on SB A/c of Plan Fund	38,28,490.00	-1,26,04,217.00
2. Interest on other SB Accounts	2,40,72,901.00	3,14,75,355.00
3. Interest on SB Accounts of Earmarked Funds		
	2,79,01,391.00	1,88,71,138.00
Less: Interest accrued not yet received		-
<b>Net Receipt</b>	<b>2,79,01,391.00</b>	<b>1,88,71,138.00</b>

30. OTHER INCOME INCLUDING PRIOR PERIOD INCOME

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Prior period income		0.00
2. Other Income	5,01,41,137.40	2,98,37,053.35
3. Interest on cash security deposit with KSEB	24,524.00	25,655.00
	5,01,65,661.40	2,98,62,708.35
Add: Interest accrued on cash security deposit with KSEB in the previous year realised		-
Less: Non Cash Items	1,97,78,080.00	3,41,73,610.00
<b>Net Receipt</b>	<b>3,03,87,581.40</b>	<b>-43,10,901.65</b>

31. DEPOSITS AND ADVANCES RECEIVED

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. EMD	22,89,923.00	45,46,981.00
2. Security Deposit & Bank Guarantee	11,14,866.00	4,63,29,584.00
3. Caution Deposit	73,92,400.00	27,51,000.00
<b>Net Receipt</b>	<b>1,07,97,189.00</b>	<b>5,36,27,565.00</b>

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32. LOANS AND ADVANCES GIVEN RECEIVED BACK


(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Advances given to employees	1,95,32,953.20	2,55,75,004.00
2. Other Advances	1,83,62,009.00	8,30,00,351.00
Net Receipt	3,78,94,962.20	10,85,75,355.00

33. MISCELLANEOUS RECEIPTS INCLUDING STATUTORY RECEIPTS

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Statutory Receipts	14,11,71,027.00	11,38,68,168.00
2. Other Miscellaneous receipts - Sch 3	60,92,73,173.00	8,30,59,489.00
3. All other misc receipts		
Net Receipt	75,04,44,200.00	19,69,27,657.00

  
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NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

SCHEDULES FORMING PART OF RECEIPTS & PAYMENTS ACCOUNT FOR THE YEAR 2019-20

34. PAYMENTS AGAINST EARMARKED ENDOWMENT FUNDS, GPF & CPF

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. TEQIP I	0.00	0.00
2. TEQIP II	1,01,480.00	-68,31,194.00
3. TEQIP III	5,27,71,738.00	67,40,591.00
4. GPF	3,28,78,584.00	5,23,14,004.00
5. CPF	5,23,80,545.00	3,95,92,676.00
6. FBS	0.00	0.00
7. Growth Fund	76,999.60	1,90,025.00
8. Students Fund	1,79,33,032.80	1,72,51,212.00
9. TBI	2,80,21,515.00	1,04,61,410.00
10. TEQIP II modernisation fund	1,02,048.00	0.00
11. Teqip reserves	0.00	0.00
12. Gymkhana	0.00	1,26,567.00
13. HWD	53,711.00	3,58,485.00
14. TBI Nidhi Prayas	35,26,685.00	
<b>Net Payment</b>	<b>18,78,46,338.40</b>	<b>12,02,03,776.00</b>

35. DEPOSITS REPAID

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. EMD	38,02,316.00	65,43,056.00
2. Security Deposit	16,73,105.00	28,26,095.00
3. Caution Deposit	6,13,000.00	0.00
<b>Net Payment</b>	<b>60,88,421.00</b>	<b>93,69,151.00</b>

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36. LOANS AND ADVANCES GIVEN

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Advances given to employees	1,93,83,831.00	2,01,02,798.00
2. Other Advances	5,29,798.00	41,37,44,000.00
<b>Net Payment</b>	<b>1,99,13,629.00</b>	<b>43,38,46,798.00</b>

37. ESTABLISHMENT EXPENSES

Particulars	Current Year	Previous Year
Expense as per the Income and Expenditure Account	99,48,65,443.00	98,94,84,850.00
Less: Establishment expenses payable at the year end	5,99,37,462.00	22,15,759.00
Add: Establishment Expenses of previous year paid in the current year	22,15,759.00	1,89,33,772.00
<b>Net Payment</b>	<b>93,71,43,740.00</b>	<b>1,00,62,02,863.00</b>

38. ACADEMIC EXPENSES

(Amount in Rupees)

Particulars	Current Year	Previous Year
Expense as per the Income and Expenditure Account	26,96,03,499.00	24,64,10,452.00
Less: Academic expenses payable at the year end	2,19,38,154.00	36,36,047.00
Add: Academic Expenses of previous year paid in the current year	36,36,047.00	0.00
<b>Net Payment</b>	<b>24,76,65,345.00</b>	<b>24,27,74,405.00</b>

39. ADMINISTRATIVE EXPENSES

(Amount in Rupees)

Particulars	Current Year	Previous Year
Expense as per the Income and Expenditure Account	9,54,53,658.30	6,98,20,494.00
Less: Administrative Expenses payable at the year end	2,57,56,327.00	2,30,83,480.00
Add: Administrative Expenses of previous year paid in the current year	2,30,83,480.00	76,55,885.00
<b>Net Payment</b>	<b>9,27,80,811.30</b>	<b>5,43,92,899.00</b>

  
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40. TRANSPORTATION EXPENSES

(Amount in Rupees)

Particulars	Current Year	Previous Year
Expense as per the Income and Expenditure Account	13,12,186.00	15,05,260.00
Less: Transportation expense payable at the year end	0.00	0.00
Add: Transportation expense of previous year paid in the current year	0.00	0.00
<b>Net Payment</b>	<b>13,12,186.00</b>	<b>15,05,260.00</b>

41. REPAIRS AND MAINTENANCE

(Amount in Rupees)

Particulars	Current Year	Previous Year
Expense as per the Income and Expenditure Account	8,71,50,726.00	6,62,45,621.00
Less: Repairs & Maintenance expense payable at the year end	70,68,060.00	3,56,03,097.00
Add: Repairs & Maintenance expense of previous year paid in the current year	88,83,570.00	
<b>Net Payment</b>	<b>8,89,66,236.00</b>	<b>6,75,07,362.00</b>

42. OTHER PAYMENTS INCLUDING STATUTORY PAYMENTS

(Amount in Rupees)

Particulars	Current Year	Previous Year
1. Statutory Payments	14,03,02,060.00	11,33,15,554.00
2. Other Payments	14,43,03,568.00	5,35,64,866.00
<b>Total</b>	<b>28,46,05,628.00</b>	<b>16,68,80,420.00</b>

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**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT  
PROVIDENT FUND ACCOUNT  
BALANCE SHEET AS AT MARCH 31,2020**

Amount	Liabilities	Amount	Amount	Assets	Amount
	<b>GPF</b>				
	Opening Balance	10,45,21,452.00		Investment	33,07,49,895.00
	Less: Subscription for March			Interest accrued as on 31/03/2020	
				Subscription due for March 2020	
	Add: Subscription in the year	4,65,74,444.00		GPF	
	Add: Subscription for March 2019			CPF	
	Add: Interest credited			UC due to CPF	
	Less: Advance/Withdrawal	3,28,78,584.00		NPS II	
	Closing balance		11,82,17,312.00		
	<b>CPF</b>			Tax recovered from interest on Investments pending refund from Income Tax Dept.	
	Opening Balance	1,37,86,495.00			
	Less: Subscription for March 2017			<b>Cash at Bank</b>	
				SBI Branch	
	Add: Subscription in the year	4,91,99,749.00		Others	
	Add: Subscription for March 2018				
	Add: Interest credited	78,97,766.65			
	Less: Advance/Withdrawal	5,23,80,545.00			
	Closing balance		1,85,03,465.65		
	<b>University Contribution (CPF)</b>				
	Opening Balance				
	Less: Subscription for March 2017				




Add: Subscription in the year				
Add: Subscription for March 2018				
Add: Interest credited				
Less: Advance/Withdrawal				
Closing balance				
<b>NPS Tier-II Account</b>				
Opening Balance				
Less: Subscription for March 2017				
Add: Subscription in the year				
Add: Subscription for March 2018				
Add: Interest credited				
Less: Advance/Withdrawal				
Closing balance				
<b>Interest Reserve</b>				
Opening Balance	17,67,91,669.35			
Add: Excess of income over expenditure	1,72,37,448.00	19,40,29,117.35		
Closing Balance				
<b>Total</b>		<b>33,07,49,895.00</b>	<b>Total</b>	<b>33,07,49,895.00</b>

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**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**  
**PROVIDENT FUND ACCOUNT**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31/03/2020**

(Amount in Rs.)

Expenditure	Amount	Income	Amount
<b>Interest credited to:</b>		Interest earned on Investment	1,72,37,448.00
GPF account	-	Add: Interest accrued on 03/18	
CPF account	-	Add: Tax recovered on interest- Refund to be obtained	
University Contribution (CPF)	-	Adjustment (Prior period Income)	-
NPS Tier-II account	-	Excess of Expenditure over Income	
Excess of Income over Expenditure	1,72,37,448.00		
<b>Total</b>	<b>1,72,37,448</b>	<b>Total</b>	<b>1,72,37,448</b>

  
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**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**  
**PROVIDENT FUND ACCOUNT**  
**RECEIPTS AND PAYMENTS ACCOUNTS FOR 2019-20**

(Amount in Rs.)

Receipts	Amount	Payments	Amount
<b>Opening Balance:</b>		GPF Adv/Withdrawal	7,42,78,584.00
Savings Bank Accounts	(22,66,406.00)	CPF Adv/Withdrawal	8,75,42,545.00
Term Deposits	27,86,22,271.00	NPS Tier II	-
MOD Balances	3,68,38,820.00	University Contribution Withdrawal	-
GPF Subscription	7,46,76,167.00	Investments during the year	-
CPF Subscription	8,76,15,470.00	Others	-
CPF University Contribution	-	<b>Closing Balance</b>	
NPS Tier II account	-	Savings Bank Accounts	(17,95,898.00)
Investments encashed	-	Term Deposits	28,49,92,176.00
Interest received	-	MOD Balances	4,75,53,617.00
Other receipts	1,70,84,702.00		
<b>Total</b>	<b>49,25,71,024.00</b>	<b>Total</b>	<b>49,25,71,024.00</b>

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## Schedule 23 Significant Accounting Policies

### 1. Basis for preparation of accounts

The annual financial statements have been prepared and presented under historical cost convention on accrual basis in accordance with the Indian Generally Accepted Accounting Principles (GAAP), which comprises of Accounting Standards issued by the Institute of Chartered Accountants of India and other guidelines notified by Central Government from time to time. The financial statements for the year ended 31 March 2020 have been prepared and presented in the **Revised Format of Accounts of Central Educational Institutions**, as approved by the Comptroller & Auditor General of India and notified by the Ministry of Education (formerly MHRD), Government of India *vide* letter no. 29-4/2012-IFD dated 17 April 2015. The figures for previous financial year have been regrouped and recast, wherever necessary, for conformity with the revised format.

### 2. Use of estimates

The preparation of the financial statements in conformity with Indian GAAP requires making estimates and assumptions that affects the reported balances of assets and liabilities and disclosures relating to contingent liabilities as at the date of the financial statements and reported amounts of income and expenses during the period. Examples of such estimates include computation of percentage of completion of Capital Work-in-progress, which requires the Institute to estimate the efforts or costs expended to date as a proportion of the total efforts or costs to be expended, future obligations under employee retirement benefit plans and the useful lives of tangible and intangible assets. Accounting estimates could change over a period of time and actual results could differ from those estimates. Appropriate changes in estimates are made as the management becomes aware of changes in circumstances surrounding the estimates. Changes in estimates are reflected in the financial statements in the period in which changes are made and, if material, their effects are disclosed in the notes to the financial statements.

### 3. Revenue recognition

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Institute and the revenue can be reliably measured.

Revenue from Plan (Non-recurring) grants is accounted on accrual basis and Plan (Non-recurring) grant is earmarked for the acquisition of the fixed assets and capital works. Income received on these funds by way of interest on Term Deposits and Savings Bank accounts in banks are added to the Capital Fund. Interest received on the Term Deposits held as security for opening Letters of Credit for import of fixed assets is accounted as addition to the respective earmarked funds. Non-Plan (Recurring) grant received from Government of India is recognized as income on accrual basis.

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Fees received from students are accounted on cash basis. Interest on Term Deposits, Savings Bank accounts, income from land and buildings and sale of application forms, tender forms, RTI fees, breakage charges and grants from other bodies are accounted on accrual basis. Interest on advances made to employees are calculated on reducing balances of loan and recognized on accrual basis. Electricity charges recovered in respect of staff quarters and hostels are accounted as revenue and subsequently adjusted/ netted off against the electricity charges of the Institute as a whole.

**4. Government grants-in-aid**

The Institute is funded by grants-in-aid received from Ministry of Education (formerly MHRD), Government of India for meeting its annual Plan (Non-recurring) and Non-Plan (Recurring) expenditure. Government grants and other grants are accounted on realization basis. However where a sanction order for release of grant pertaining to the financial year is received before 31 March and the grant is actually received in the next financial year, the grant is accounted on accrual basis..

Capital grants received from Government, which are related to acquisition of fixed assets, are treated as deferred income and recognized in the Income and Expenditure Account on systematic and rational basis over the useful life of the assets, i.e., Capital grants are allocated to Income over a period and depreciation charged in proportion thereto. Grants other than Capital grants from Government are treated as income of the Institute. Unutilized part of government grant is treated as liability to the Institute. Rs. 114,21,85,426/- which was kept as grant receivable from Govt. of India since F.Y 2014-15 has been written off and expenditure being kept as utilized from IRG of the Institute vide Letter No.F.No 23011/02/2018-IF.I

**5. Inventory**

Stationery, consumables, stores and spares are valued at cost or net realizable value, whichever is less. Net realizable value is the estimated selling price in the ordinary course of business less estimated cost necessary to make the sale.

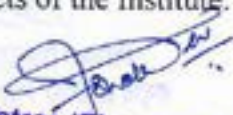
**6. Tangible assets and Capital Work-in-progress**

Fixed assets are stated at historical cost less accumulated depreciation and impairment, if any. The cost comprises cost of acquisition including inward freight, duties and taxes and incidental and direct expenses related to acquisition, installation and commissioning. Security Deposit for performance of warranty services are included in the cost of assets only after the expiry of the warranty period and after a formal claim is made by the respective suppliers to release the security deposit.

Gifted/ donated assets are valued at declared value, where available; if unavailable, the value is estimated based on the present market value adjusted with reference to the physical condition of the asset.

Books received as gifts are valued at the selling price printed on books and where the price is unavailable; the value is based on assessment.

Assets created out of Earmarked funds and funds of sponsored projects, where the ownership of such assets vests in the Institute, are treated as fixed assets of the Institute.

  
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Capital Work-in-progress comprises of the cost of fixed assets that are not yet ready for their intended use at the reporting date. Advances paid to C.P.W.D. towards completion of works/ fixed assets are shown as addition to capital work-in-progress.

Subsequent expenditure related to an item of fixed assets is added to its book value only if it increases the future benefits from the existing asset beyond its previously assessed standard of performance. All other expenses on existing fixed assets, including day-to-day repairs and maintenance and the cost of replacing parts, are charged to revenue for the period during which such expenses are incurred.

#### 7. Intangible assets

Research costs are expensed as incurred. Development costs are expensed as incurred unless the technical and commercial feasibility of the project is demonstrated, future economic benefits are probable, the Institute has an intention and ability to complete the project, use it or sell off the project findings and the costs can be measured reliably. Expenditure incurred on obtaining patents is not shown as Intangible assets and charged to Revenue.

Electronic Journals (e-Journals) are expensed every year considering the value of benefit derived and the cost incurred therefore. The payment for e-Journals towards subscription normally expires in one year and does not qualify as Intangible assets.

Expenditure on acquisition of software is included in the cost of acquisition of computer as a whole at the time of the purchase of computers.

#### Depreciation and amortization


The institute was following the Written down value method of depreciation till (2018-19) as per the Income tax act 1961, but due to CAG audit objection No.B.1 in Separate Audit Report(SAR) for the Financial Year 2018-19 the straight-line method is been adopted by the institute from the F.Y 2019-20. Net value of the previous year (i.e., opening balance as on 01.04.19) is taken as the book value and the straight-line method of depreciation is implemented this year. Depreciation is provided for the whole year on additions made to assets during the year. Where an asset is fully depreciated, it will be carried at a residual value of Re.1 and will not be further depreciated.

Security Deposit money released becomes part of the asset after the expiry of warranty period and claim made by the supplier. Depreciation is charged prospectively when it becomes part of the fixed assets. Depreciation is charged on assets created out of funds of sponsored projects and earmarked funds except for TEQIP – II, TEQIP - III and TBI.

No depreciation is provided on freehold land.

#### 8. Impairment of assets

The Institute does not assess at each balance sheet date whether there is any indication that an asset including any goodwill may be impaired.

  
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## 9. Leases

Leases, on which the lessor effectively retains substantially all the risks and benefits of ownership of the leased item, are classified as operating leases. Operating lease payments are recognized as an expense in the Statement of Income and Expenditure on Straight Line Method over the lease term.

## 10. Retirement benefits

### *New Pension Scheme*

Employees, who joined the Institute after 2004, are eligible for New Pension Scheme of the Central Government, which is a defined contribution plan. Matching monthly contribution to the plan, equal to 10% of the covered employee's basic salary, grade pay and dearness allowance, are paid by the employees while 14% is paid by employer. The Institute's NPS fund is managed by National Securities Depository Ltd. (NSDL). The Institute has no obligations to the Plan beyond its monthly contributions.

### *General Provident Fund*

Eligible employees receive benefits from a provident fund, which is a defined benefit plan as per the AS-15 (Revised) issued by ICAI. The provident fund is managed by the Institute with guarantee of minimum return/ interest as specified by the Government from time to time on similar provident fund schemes. The contribution is made by the employees only. The fund is invested in term deposits with nationalized banks in a manner to yield maximum interest to cover the minimum guaranteed return as notified. Provision for the interest shortfall is provided for in the Income and Expenditure Account.

### *Contributory Provident Fund*

It is a defined contribution plan. The employee and the Institute each make monthly contribution to the plan equal to 10% of the covered employee's basic salary and grade pay. The Institute maintains CPF fund by investing in approved manner as specified. Provision for the shortfall in interest payable, if any, is provided in the Income and Expenditure Account.

### *Gratuity*

The Institute provides for gratuity, covering eligible employees. Liabilities with regard to the Gratuity Plan are determined by actuarial valuation, performed by an independent actuary, at the Balance Sheet date. The Institute recognizes the net obligation of the gratuity plan in the Balance Sheet as an asset or liability, in accordance with Accounting Standard-15 (Revised) issued by the Institute of Chartered Accountants of India. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the Income and Expenditure Account for the period in which they arise.

  
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**Leave Encashment**

The employees of the Institute are entitled to Leave Encashment. The employees can carry forward a portion of the unutilized accrued leave and utilize it in future periods or receive cash compensation at retirement or termination of employment for the unutilized accrued leave (subject to a maximum of 300 days so earned). The Institute records an obligation for Leave encashment in the period in which the employee renders the services that increases this entitlement. Actuarial valuation is done to ascertain the expected cost of leave encashment as the additional amount that the Institute expects to pay as a result of the unused entitlement that has accumulated at the balance sheet date.

**Family Benefit Scheme**

The Family Benefit Scheme is a defined contribution plan for eligible employees. The contributions are made by the employees only and the Institute has no obligations for matching contribution other than repayment of employee's contribution with accumulated interest after attainment of 55 years of the age of the employees.

**11. Foreign currency transactions**

The Institute is exposed to currency fluctuations on foreign currency transactions. The gains or losses resulting from foreign currency denominated monetary assets and liabilities and non-monetary assets and liabilities translated at prevailing exchange rates are not included in the books of account.

Transaction gains or losses realized upon in settlement of foreign currency transactions are not included in determining surplus for the period in which the transaction is settled.

**12. Provisions and contingent liabilities**

The Institute creates a provision when there is a present obligation as a result of an obligating event that probably requires an outflow of resources and a reliable estimate can be made of the amount of the outflow. A disclosure for a contingent liability is made when there is a possible obligation or a present obligation that may, but probably will not, require an outflow of resources. Where there is a possible obligation or a present obligation in respect of which the likelihood of outflow of resources is remote, no provision or disclosure is made.

**13. Income tax**

The income of the Institute is exempt from Income Tax under Section 10(23C)(iiiab) of the Income Tax Act, 1961. Therefore, no provision is required to be made in books of accounts towards Income Tax.

**14. Earmarked/ Endowment funds**

The following long term funds are earmarked for specific purpose, each having a separate bank account. The income from investments is accounted on accrual basis and interests on Savings Bank Accounts are credited to respective funds and not treated as income of the Institute.

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The assets created out of Earmarked funds where ownership vests in the Institute are merged with the assets of the Institution except TEQIP – II, TEQIP - III and TBI.

- a. Technical Education Quality Improvement Program (TEQIP)
- b. TEQIP - II
- c. Technology Business Incubator (TBI)
- d. Family Benefit Scheme
- e. Growth Fund (Corpus Fund)
- f. Students Fund
- g. Harijan Welfare Fund

#### 14 (a) GPF and CPF

General Provident Fund and Contributory Provident Fund are separated from Earmarked / Endowment fund as per the observation and suggestion by CAG Audit in SAR for F.Y 2018-19 (para no. A.1.2). Hence it is shown as separately in the books of accounts.

#### 15. Investments

Investments, which are readily realizable and intended to be held for not more than one year from 31 March of the financial year on which such investments are made, are classified as short term investments. All other investments are classified as long term investments. Long term investments are stated at cost less provision for diminution in the value of such investments. Diminution in value is provided for where the Institute is of the opinion that the diminution is of permanent nature. Short term investments are valued at lower of cost and net realizable value.

#### 16. Sponsored projects

In respect of new projects and ongoing projects, the amount received from the sponsors and funding agencies towards the projects are credited to the respective project accounts and the expenses are recorded by debiting the project accounts. The assets purchased for the projects are accounted as fixed assets of the Institute.

#### 17. Cash and cash equivalents

Cash and cash equivalents comprise cash and cash on deposit with banks. The Institute considers all highly liquid investments with a remaining maturity at the date of investments of three months or less and that are readily convertible to known amounts of cash to be cash equivalents.

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**18. Cash flow statement**

Cash flows are reported using direct method, whereby surplus is adjusted for the effects of transactions of a non-cash nature and any deferrals or accruals of past or future cash receipts or payments. The cash flows from regular revenue generating, investing and financing activities of the Institute are segregated.

**Schedule 24**

**Notes to Accounts**

**1. RECEIPT OF GOVERNMENT GRANTS**

The opening balance of Plan (Non-recurring) grants-in-aid and Non-Plan (Recurring) grants-in-aid shown in the current financial year is adjusted for the internal revenue generated in previous financial years. The internal revenue comprises of tuition fees received, interest received on Fixed Deposits and Savings Bank accounts and other miscellaneous receipts. The internal revenue added to the unutilized balance of grants in previous financial years is not segregated. For Plan grants, the actual expenditure incurred for acquisition of fixed assets and capital work-in-progress is shown as deduction from the total of grants received during the year and the opening balance of grants consists of internal revenue of past financial years. Similar treatment is done for Non-Plan grants by deducting all the items of expenditure in the Income and Expenditure Account except for depreciation.

As mentioned above, the internal generated revenue is included in the utilization certificates submitted by the Institute for financial year 2019-20 to Ministry of Education (formerly MHRD).

*(Refer Schedule 3C- Unutilized Grants from UGC, Government of India and State Governments and Schedule 10- Grants/Donations/Subsidies).*

**2. CAPITAL FUND**


This includes grants received from Ministry of Education (formerly MHRD) to the extent incurred for capital expenditure and assets procured out of sponsored projects. It also includes interest on Fixed Deposits and Savings Bank Accounts of Plan funds and interest received on Fixed Deposits created for opening the Letter of Credit during the current financial year. Bank charges incurred on Plan Fund Savings Bank account is deducted therefrom.

*(Refer Schedule 1- Capital Fund).*

**3. CURRENT LIABILITIES AND PROVISIONS**

These include:

- a) Deposits from students representing refundable caution deposits.
- b) Payment for stamps worth Rs.41,463/- shown under "Sundry Creditors - for goods and services".
- c) Rs. 8,81,907/- represents amount payable to NIT Employees Multipurpose Co-operative Society and is shown under "Sundry Creditors - Others".

  
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- d) Deposits includes Earnest Money Deposit (EMD) of Rs. 54,47,897.70 /- and Security Deposit of Rs.1,10,92,805/- towards retention charges for the performance warranty in respect of new fixed assets. Unclaimed amounts, if any, lying as security deposits are not considered as income during the current year. It also includes the bank guarantee from ERA Infra amounting to Rs. 4,43,93,272.
- e) Statutory liabilities payable as on 31 March 2020 are as:

(Amount in Rupees)


Sl. No.	Particulars	2019-20	2018-19
1	TDS payable	58,08,000	62,74,200
2	Sales Tax payable	15	15
3	Service Tax payable	(2,41,937)	(2,41,937)
4	GST Payable	9,49,698	7,72,438
5	Professional Tax Payable	1250	1250
	<b>Total</b>	<b>65,17,026</b>	<b>68,05,966</b>

\*Figures in bracket indicate debit balance.

- f) Receipts against sponsored projects and sponsored fellowships and scholarships are shown in Schedule 3A and 3B. The credit balance at the end of financial year 2019-20 are shown as "other current liabilities" under *Schedule 3- Current Liabilities and Provisions* and debit balances are shown as "current assets receivable from sponsored projects and sponsored fellowships and scholarships" under *Schedule 8-Loans, Advances & Deposits*.
- g) Other Liabilities as shown below:

(Amount in Rupees)

Sl. No.	Particulars	Remarks	2019-20	2018-19
1	Pension and GPF contribution from other Institutions		36,92,706	36,92,706
2	Golden Jubilee		(2,39,853)	(2,39,853)
3	Plan Grant- Sikkim		(4,44,249)	(4,44,249)
4	Medical Exam Fees	Share payable to RMO	1,70,092	1,40,394
5	Research & Consultancy refundable monies		28,72,296	(1,67,327)
6	Time-barred cheques cancelled		2,93,801	2,93,801

  
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7	Advance Money for Centre and Admissions		3,00,000	3,00,000
8	Medical claim for Students		1,09,81,457	98,74,722
9	AMTID (Advances for Materials and Techniques for Infrastructure Development)		1,17,000	1,17,000
10	MBA Programs and alumni-related activities		(15,09,058)	(15,09,058)
11	International Conference (ICCSP)		3,50,000	3,50,000
12	Refund Account No. IV		77,870	77,870
13	Suspense Account No. II	Includes erroneous accounting entries made in past years, which could not be rectified during the reporting period	10,42,58,190.42	10,64,94,705
14	Suspense Account No. 1		4,96,98,860	4,96,98,820
15	Suspense Account No. 1 (NIT Sikkim)		42,50,877	42,50,877
16	Suspense Account No. II (Tuition Fees)		3,32,212	3,42,212
17	Transfer (Refunds)		(45,68,754)	(45,68,754)
18	Departmental suspense accounts		1,10,16,037	1,23,02,408
19	Convocation fee		7,36,550	5,61,250
20	Group Insurance		(2,17,332)	(2,17,332)
21	RD Commission NSO		15,533	15,533
22	PG Diploma course in construction		(34,415)	(34,415)
23	Interest on account (Refunds)		1,91,701	1,91,701
24	Other miscellaneous items		2,38,05,480.68	184,37,723
	<b>Total</b>		<b>20,52,47,202</b>	<b>19,99,60,734</b>

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Figures in bracket indicate debit balance, i.e., assets carried over from previous years.

h) Accounts Payable for other expenses for March 2020 as shown below:

(Amount in Rupees)			
Sl. No.	Particulars	2019-20	2018-19
1	Salary payable	5,41,29,462	1,65,64,486
	<b>Total</b>	<b>5,41,29,462</b>	<b>1,65,64,486</b>

(Refer Schedule 3- Current Liabilities and Provisions).

#### 4. FIXED ASSETS

Total addition to the assets during the FY 2019-20 was Rs. 59,16,13,650/- which includes purchases made after September, 2019 for Rs. 2,99,27,939. Total depreciation on assets for the period 2019-20 was Rs. 2,05,89,58,068 and that includes depreciation for the FY 2019-20 amounted to Rs. 6,10,75,056.

(Refer Schedule 4- Fixed Assets)

#### 5. FIXED DEPOSITS

Disclosure for Fixed Deposits with nationalized banks shown in books of accounts is as follows:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Fixed Deposits made out of Earmarked/ Designated Funds ## and GPF, CPF	163,47,71,754	150,80,07,545
2	Fixed Deposits made out of Plan Funds (includes FD of Rs. 1,89,41,657 pledged with Hon'ble Additional Sub-Judge, Kozhikode)	13,00,35,547.40	26,55,86,821
3	Fixed Deposits from Other Funds (Revenue Funds)	101,54,96,230	50,85,46,630
4	Fixed Deposits for Letters of Credit	44,92,000	44,92,000
5	Fixed Deposits for Bank Guarantee (in favor of KSEB)	20,50,840	20,50,840
6	Fixed Deposits from ERA BG	4,43,93,272	4,43,93,272
	<b>Total</b>	<b>283,12,39,643</b>	<b>233,30,77,108</b>

(Refer Schedule 5 – Investments from Earmarked/Endowment Funds and Schedule 7- Current Assets- Cash in Bank in Term Deposits Accounts).

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## The details of Fixed Deposits made out of Earmarked/ Designated Funds, GPF & CPF shown hereinabove is provided below:  
(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Growth Fund	106,97,68,927	95,24,46,598
2	General Provident Fund	31,57,95,661	29,55,77,320
3	Contributory Provident Fund	1,67,50,132	1,98,83,771
4	Technology Business Incubator (TBI)	31,60,489	31,60,489
5	Students Fund	1,50,46,608	13,99,787
6	Refund	21,42,49,937	23,55,39,580
	<b>Total</b>	<b>163,47,71,754</b>	<b>150,80,07,545</b>

The fixed deposits created during the financial year 2019-20 and the fixed deposits for past financial years are shown in Balance Sheet as at 31 March 2020 at their principal value only.

The principal amount of all fixed deposits in the name of the Institute as on 31/03/2020 amounts to Rs. 283,12,39,643/-.


#### 6. CASH IN BANK

Certificate for confirmation of balances of all its bank accounts held in nationalized banks as on 31 March 2020 has been obtained from the bankers. The Institute has also obtained certificate for the interest amount accrued and received on its bank accounts from the bankers as on 31 March 2020. Reconciliation of all major accounts (except Suspense Accounts) was undertaken and completed for the year 2019-20.

##### *Current Accounts*

The Institute has shown eleven current accounts in its books including one current account for project, as compared to seventeen current accounts certified by the banks as on 31 March 2020. The balance ten disclosed current accounts in the Institute's books of accounts is Rs - 28,87,70,457.96/- while their certified bank balance as on 31 March 2020 is Rs.1,45,93,533.7 /- [Annexure A(ii)]. Another current account in respect of a project has a balance of Rs.8,053/- as against the certified balance of Rs.29,053/-.

The certified closing balance of remaining six current accounts not shown in the Institute's books of accounts as on 31 March 2020 was Rs. 35,79,938.96/- [Annexure C (ii)]. These accounts have not been included in the financial statements as the particulars of transactions therein are not known and no relevant documents/ details other than the bank-certified balance is available with the Institute in respect of the six current accounts.

  
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### **Savings Bank Accounts**

The Institute held 42 Savings Bank accounts in nationalized banks as on 31 March 2020. Only 35 of these bank accounts are included in the books. [Annexure A (i)]. The balance of the 35 disclosed Savings accounts as per Institute's books of accounts is Rs.1,17,46,67,633.02/- while their certified bank balance as on 31 March 2020 is Rs.89,56,64,061.24/-

The certified bank balance of the remaining seven Savings Bank accounts as on 31 March 2020 was Rs.13,27,487.5/- [Annexure C (i)]. These have not been included in the books due to lack of sufficient information on the source of their creation and the particulars of transactions therein for the past periods.

### **Project Accounts**

The Institute maintains separate bank accounts for each project funded by various government agencies. A balance confirmation certificate has been obtained for 123 project bank accounts including one current account for the financial year 2019-2020. The certified closing balance of these bank accounts as on 31 March 2020 was Rs.10,39,90,620.38/- [Annexure B].


The books of accounts of the Institute shows 210 project bank accounts which are inclusive of both operative and in-operative project accounts. Of these 210 project bank accounts shown in books of accounts, Bank has confirmed the balance as on 31<sup>st</sup> March 2020 for only 123 project bank accounts. Bank certification for the remaining 87 project accounts shown in the books of accounts was not made available by the respective Bank.

Bank Reconciliation Statement in respect of project accounts has been prepared for 2019-2020. However, the existence of un-reconciled opening balances for several previous financial years renders the reconciliation of some accounts with the bank-certified balances as on 31 March 2020 difficult. Due to lack of sufficient information on some bank accounts, which were opened in the distant past and the transaction details of which are not known (these were not shown in the books of account during the previous years), such accounts have not been included in the current financial year as well. The details of such bank accounts are disclosed in Annexure C.

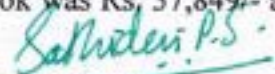
(Refer Schedule 7- Current Assets- Cash in Bank).

## **7. TREASURY ACCOUNTS**

The Institute held three accounts with District Treasury, Kozhikode, viz., TPA No.809, PD Account (419/1-HWD) and PD Account (419/2-NMS). The un-reconciled ledger balance of these accounts as on 31 March 2020 was Rs.10,76,413/-, Rs.20,10,398/- and Rs.29,850/- respectively. At present, the Institute operates only two of these accounts (419/1-HWD and 419/2-NMS) for receipt and disbursement of scholarship amount received from the Government of Kerala. As on 31 March 2020, the correct certified balance could not be obtained from District Treasury for want of sufficient information on old transactions for previous years (the balance shown in Pass Book was Rs. 37,849/- as of May 2006). No grant/ aid are being received in the other account, viz., TPA No.809 since FY 2003-2004.

  
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As per the guidelines issued by Government of Kerala, the scholarship amount should be distributed to the students at the earliest and unclaimed balance, if any, should be returned to Government of Kerala together with interest earned thereon. The un-reconciled closing balance in treasury accounts as on 31 March 2020 might comprise such unclaimed amounts for previous years.

Government of Kerala has demanded the refund of amount lying in PD Account (419/.2-NMS) vide letter no. C4/626/2015 dated 19 August 2015. However, no liability is recognized in the Balance Sheet as on 31 March 2020 for the demand raised due to non-confirmation of certified balance in the aforesaid Treasury account.

(Refer Schedule 7- Current Assets- Cash in Treasury).

## 8. INVENTORY

The stock purchased and issued to various departments is shown under the respective departmental operating cost ledger heads.  
(Refer Schedule 7- Current Assets- Stock).

Physical verification of fixed assets for the year 2019-20 is yet to be carried out. Stock-taking of library books is conducted once in three years in accordance with Rule 215 of GFR 2017.

## 9. ADVANCES TO EMPLOYEES

Loans and advances include loans given to staff for various purposes, which are recovered in installments along with interest from the salary of employees. The Institute does not recognize the interest receivable on such loans and advances. The amount recovered for each loan together with interest is credited to the loan account. The advances made during the financial year 2019-20 are given below:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Festival advance	(48,535)	(63,085)
2	Computer advance	(1,85,489)	(1,85,489)
3	Marriage advance	(66,184)	(66,184)
4	House Building Advance	(33,20,799)	(29,78,164)
5	Vehicle advance	3,28,365	4,49,967
6	Plan advance	(1,35,733)	(1,35,213)
7	Advance payment A/c No I	14,57,952	3,57,397
8	Advance payment A/c No II	68,92,133	66,91,138
9	LTC advance	18,49,532	22,15,835
10	Travelling allowance advance	20,02,500	20,34,998

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11	Department advances	37,70,858	36,89,610
12	Other advances	1,11,202	69,720
13	Gymkhana	(42,967)	(42,967)
14	Medical advance		3,00,000
	<b>Total</b>	<b>1,26,12,835</b>	<b>1,23,37,563</b>

Figures in bracket indicate credit balance, i.e., liability carried over from previous years.

(Refer Schedule 8- Loans, Advances and Deposits)

#### 10. INTEREST ACCRUED ON FIXED DEPOSITS

The total interest certified as accrued on fixed deposit accounts as on 31 March 2020 was Rs.14,98,23,590 /-. Interest accrued on fixed deposits comprises of interest accrued on Earmarked Funds. Interests accrued on Plan funds are shown as additions to the Capital Fund.

(Refer Schedule 2- Designated/Earmarked/Endowment Funds- , CPF and GPF and Schedule 11- Income from Investments).

#### 11. BANK GUARANTEE WITH KERALA STATE ELECTRICITY BOARD

The Institute executed a Bank Guarantee for Rs.20,50,840/- in favor of KSEB towards security deposit for its HT electric connections, by opening fixed deposit account with SBI, NIT Calicut Branch.

#### 12. PREPAID EXPENSES

There is Rs. 8,50,423/- prepaid expenses for the financial year 2019-20.

(Refer Schedule 8- Loans, Advances and Deposits-Prepaid expenses)

#### 13. TUITION FEES AND OTHER RECEIPTS

The income earned by way of tuition fees and other receipts for the financial year 2019-20 is Rs.40,14,28,539. The tuition fees and other fees remitted by students are transferred to various ledger accounts on the basis of itemized fee structure notified by the Institute from time to time. The remittance receipt flow directly into four designated bank accounts, viz., A/c No. 10401158082 (Non-Plan Recurring), A/c No. 10401159314 (Refunds), A/c No. 10401159802 (Growth Fund) and A/c No. 10401158106 (Students Fund). The respective tuition fee ledger accounts are credited on the income side and the aforesaid bank accounts are debited on the assets side (after obtaining confirmation from the bank) by the

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Institute's accounting software (NITC-DSS). The actual tuition fee bank accounts/ ledger accounts, into which the tuition fee is remitted by the students, remain untouched. Because of this, the tuition fees received directly in the bank accounts are not originally recorded in the books of accounts of the Institute. This has been followed consistently for the past several years.

Till financial year 2013-2014, there was a practice of passing an adjustment entry by debiting the respective tuition fee bank account and crediting bank A/c no. 10401158082 only on receipt of tuition fees though the amount of tuition fees was transferred initially and automatically to four different bank accounts as stated above. This distorts the actual balance of the bank accounts and has been a major reason for the difference noticed in the bank balance certified by the bankers and the bank balance shown in Institute's ledger accounts. Rectification at this stage is a challenging task in view of the number of transactions involved and the need to identify each fee component therefore.  
(Refer Schedule 9- Academic Receipts).

**14. INCOME FROM INVESTMENTS AND INTEREST EARNED**

Income from other investments represents interest on investments made out of Non-Plan Fund, Tuition Fees, Refund (Savings Bank) Account and Fixed Deposits (including those held as security for Bank Guarantee in favor of Kerala State Electricity Board) with nationalized banks. Interest earned represents interest received on Savings Bank accounts except for the Bank accounts held for Earmarked/Designated fund and Plan Fund.

(Refer Schedule 11- Income from investments and Schedule 12- Interest Earned).

**15. LICENSE FEES RECEIPT**


Disclosure relating to license fees for financial year 2019-20 is as under:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Staff Quarters	29,93,854	39,64,243
2	SBI building	35,85,145	13,77,096
3	Punjab National Bank ATM room	36,627	25,237
4	Service charges for the above structures	29,403	52,822
5	BSNL Building Rent		1,57,764
	<b>Total</b>	<b>66,45,029</b>	<b>55,77,162</b>

(Refer Schedule 13- Other Income- Income from Land and Buildings- License fee).

  
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### 16. INCOME FROM CONSULTANCY

Income from consultancy services represents the Institute's share of income received by its various departments for rendering services to external parties.

(Refer Schedule 13- Other Income- Others).

### 17. MISCELLANEOUS RECEIPTS

The miscellaneous receipts during the financial year are shown below:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Sale of tender/ registration forms	1,18,400	77,409
2	Breakage Charges	22,039	32,807
3	Conveyance receipts	2,23,450	2,33,100
4	Overhead Charges (Project Share)	46,25,116	15,69,049
5	Other Miscellaneous receipts	16,35,283	53,163
	<b>Total</b>	<b>66,24,288</b>	<b>19,65,528</b>

(Refer Schedule 13- Other Income- Others- Misc. Receipts & income from consultancy).

### 18. CONTRIBUTION TO VARIOUS FUNDS

The Institute's contribution towards leave salary, Provident Fund and New Pension Scheme is shown below:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Contribution to New Pension Scheme	2,35,98,950	2,36,15,129
2	Leave Salary & Pension Contribution	2,75,710	5,38,524
	<b>Total</b>	<b>2,38,74,660</b>	<b>2,41,53,653</b>

(Refer Schedule 15- Staff payments and Benefits [Establishment Expenses]).

### 19. RETIREMENT AND TERMINAL BENEFITS

This includes pension, pension commutation and Death-cum-Retirement-Gratuity (DCRG) paid to employees, who retired from the service.

The details for the financial year 2019-20 are as follows:

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(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Pension	15,44,98,691	15,56,07,336
2	Death-cum-Retirement-Gratuity (DCRG)	1,13,55,897	2,02,69,834
3	Pension Commutation	65,76,805	3,77,40,159
	<b>Total</b>	<b>17,24,31,393</b>	<b>21,36,17,329</b>

(Refer Schedule 15- Staff payments and Benefits [Establishment Expenses]).

## 20. PROVISION FOR EMPLOYEE BENEFITS

### *Defined Benefit Plan*

The employees of the Institute are entitled to Pension, Gratuity and Leave Encashment benefits on their retirement/ separation in accordance with the applicable Central Government rules. Actuarial valuation for employee benefits has been done for the first time in respect of Gratuity and Leave Encashment and disclosed as per AS-15 (Revised) issued by Institute of Chartered Accountants of India. Separate disclosure has been made for teaching staff and non-teaching staff owing to differences in their retirement age, attrition rate and leave encashment regulations. The actuarial valuation for leave encashment benefit has been built upon the data available for the calendar year 2019 (1 January 2019 to 31 December 2019). Actuarial valuation has not been done for pension benefits and no provision is recognized in the Income and Expenditure Account for the financial year 2019-2020.

(Refer Schedule 15A-Employees Retirement and Terminal Benefits).

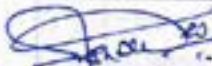
The following tables provide an abstract of the expenses recognized and the provision made for 2019-2020 based on actuarial valuation.

### I. Teaching Staff

a) Expenses recognized in Income and Expenditure Account during financial year 2019-2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Current Service Cost	91,92,801	1,39,96,431
2	Interest Cost	1,03,36,797	1,03,10,470
3	Expected Return on Assets	Nil	Nil

  
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4	Curtailment Costs	Nil	Nil
5	Settlement Costs	Nil	Nil
6	Past Service Costs	Nil	Nil
7	Net Actuarial (Gain)/Loss	61,60,326	1,18,21,584
8	Others	Nil	Nil
9	Employee expense recognized in Income and Expenditure Account	2,56,89,924	3,61,28,486

b) Amount recognized in Balance Sheet as at 31 March 2019

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Present Value of Defined Benefit Obligation	15,72,24,634	16,86,55,819
2	Fair Value of Plan Assets	Nil	Nil
3	Funded Status [ Surplus/ (Deficit)]	(15,72,24,634)	(16,86,55,819)
4	Unrecognized Past Service Costs	Nil	Nil
5	Net Assets/ (Liability) recognized in Balance Sheet	(15,72,24,634)	(16,86,55,819)
6	Present Value of Encashment Obligation	Not Applicable	16,83,63,894
7	Present Value of Availment Obligation	Not Applicable	2,91,925

c) Changes in present value of defined benefit obligations during the financial year 2019-2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Present value of Defined Benefit Obligations (Opening)	134,534,710	132,864,437
2	Current Service Cost	9,192,801	13,996,431
3	Interest Cost	10,336,797	10,310,470
4	Plan Amendments	Nil	Nil
5	Prior Service Costs	Nil	Nil

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6	Curtailments	Nil	Nil
7	Settlements	Nil	Nil
8	Actuarial (Gains)/Loss	6,160,326	11,821,584
9	Benefits Paid	(3,000,000)	(337,104)
10	Acquisition/ Divestures	Nil	Nil
11	Present Value of Defined Benefit Obligation (Closing)	157,224,634	168,655,819

d) Reconciliation of opening and closing value of Plan assets for the financial year 2019-2020.


(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Fair value of Plan Assets (Opening)	Nil	Nil
2	Expected return on Assets	Nil	Nil
3	Employer contribution	3,000,000	337,104
4	Plan participant's contribution	Nil	Nil
5	Settlements by Fund Manager	Nil	Nil
6	Benefit payouts	(3,000,000)	(337,104)
7	Actuarial Gains/(Loss)	Nil	Nil
8	Fair Value of Assets at the End	Nil	Nil
9	Actual return on Plan Assets	Nil	Nil

e) Reconciliation of Net Assets/ (Liabilities) recognized in Balance Sheet as at 31 March 2019.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Net Asset/ (Liability) recognized at the beginning of the period	(134,534,710)	(132,864,437)
2	Employer expense	(25,689,924)	(36,128,486)
3	Employer Contribution	3,000,000	337,104
4	Acquisition/ Divestures	Nil	Nil
5	Effect of the Limit in Para 59(b)	Nil	Nil

  
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6	Net Asset/ (Liability) recognized at the end of the period	(157,224,634)	(168,655,819)
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f) Components of the experience adjustments for financial year 2019-2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Actuarial (Gains)/ Losses due to Demographic Assumption changes in DBO	0	(0)
2	Actuarial (Gains) and Losses On Obligation Due to Financial Assumption change in DBO	1,16,76,696	17,249,661
3	Actuarial (Gains)/ Losses due to Experience Adjustment	(55,16,370)	(5,428,077)
4	Total Gains/ Losses for the year	61,43,349	11,821,584
5	Actuarial (Gains)/ Losses recognized in the year	61,43,349	11,821,584

## II. Non-Teaching Staff

g) Expenses recognized in Income and Expenditure Account during current financial year 2019-2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Current Service Cost	3,332,109	2,200,261
2	Interest Cost	5,317,874	3,586,673
3	Expected Return on Assets	Nil	Nil
4	Curtailment Costs	Nil	Nil
5	Settlement Costs	Nil	Nil
6	Past Service Costs	Nil	Nil
7	Net Actuarial (Gain)/Loss	(401,428)	1,807,382
8	Others	Nil	Nil
9	Employee expense recognized in Income and Expenditure Account	8,248,554	7,594,316

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**h) Amount recognized in Balance Sheet as at 31 March 2020**

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Present Value of Defined Benefit Obligation	75,387,157	51,827,970
2	Fair Value of Plan Assets	Nil	Nil
3	Funded Status [Surplus/ (Deficit)]	(75,387,157)	(51,827,970)
4	Unrecognized Past Service Costs	Nil	Nil
5	Net Assets/ (Liability) recognized in Balance Sheet	(75,387,157)	(51,827,970)
6	Present Value of Encashment Obligation	Not Applicable	51,558,937
7	Present Value of Availment Obligation	Not Applicable	269,033

**i) Changes in present value of defined benefit obligations during the financial year 2019-2020.**

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Present value of Defined Benefit Obligations (Opening)	75,431,733	51,923,792
2	Current Service Cost	3,332,109	2,200,261
3	Interest Cost	5,317,874	3,586,673
4	Plan Amendments	Nil	Nil
5	Prior Service Costs	Nil	Nil
6	Curtailments	Nil	Nil
7	Settlements	Nil	Nil
8	Actuarial (Gains)/Loss	(401,428)	1,807,382
9	Benefits Paid	(8,293,130)	(7,690,138)
10	Acquisition/ Divestures	Nil	Nil
11	Present Value of Defined Benefit Obligation (Closing)	75,387,157	51,827,970

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j) Reconciliation of opening and closing value of Plan assets for the financial year 2019-2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Fair value of Plan Assets (Opening)	Nil	Nil
2	Expected return on Assets	Nil	Nil
3	Employer contribution	8,293,130	7,690,138
4	Plan participants contribution	Nil	Nil
5	Settlement by Fund Manager	Nil	Nil
6	Benefit payouts	(8,293,130)	(7,690,138)
7	Actuarial Gains/(Loss)	Nil	Nil
8	Fair Value of Assets at the End	Nil	Nil
9	Actual return on Plan Assets	Nil	Nil

k) Reconciliation of Net Assets/ (Liabilities) recognized in Balance Sheet as at 31 March 2020.

(Amount in Rupees)

Sl. No.	Particulars	Gratuity	Leave Encashment
1	Net Asset/ (Liability) recognized at the beginning of the period	(75,431,733)	(-51,923,792)
2	Employer expense	(8,248,554)	(7,594,316)
3	Employer Contribution	8,293,130	7,690,138
4	Acquisition/ Divestures	Nil	Nil
5	Effect of the Limit in Para 59(b)	Nil	Nil
6	Net Asset/ (Liability) recognized at the end of the period	(75,387,157)	(51,827,970)

*Saravanan P.S.*

DIRECTOR

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National Institute of Technology Calicut

एन.ई.टी. कैंपस (पी.ओ.) कलकत्ता, केरल - 673 015

NIT Campus (P.O), Calicut, Kerala - 673 015

~~XXXX~~  
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CALICUT

*[Signature]*  
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**l) Components of the experience adjustments for the financial year 2018-2019**  
(Amount in Rupees)

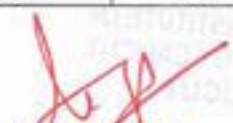
Sl. No.	Particulars	Gratuity	Leave Encashment
1	Actuarial (Gains)/ Losses due to Demographic Assumption changes in DBO	Nil	Nil
2	Actuarial (Gains) and Losses On Obligation Due to Financial Assumption change in DBO	2,980,078	2,847,223
3	Actuarial (Gains)/ Losses due to Experience Adjustment	( 3,381,507)	(1,039,841)
4	Total (Gains)/ and Losses for the year	(401,428)	1,807,382
5	Actuarial (Gains) / Losses recognized in the year	(401,428)	1,807,382

**m) Actuarial Assumptions**

Principal assumptions made for Actuarial valuation are:

Sl. No.	Particulars	Gratuity		Leave Encashment	
		Teaching	Non-Teaching	Teaching	Non-Teaching
1	Method Used	Projected Unit Credit Method			
2	Discount rate	6.82%	6.58%	6.82%	6.58%
3	Expected Return on Assets	0.00%	0.00%	0.00%	0.00%
4	Salary Escalation	6.00%	6.00%	6.00%	6.00%
5	Attrition Rate	3.00%	3.00%	3.00%	3.00%
	Demographic Assumptions:				
	a) Mortality	Indian assured lives Mortality (2012-14) Ultimate			
	b) Disability	5% of Mortality rates			
	c) Withdrawal	3.00%	3.00%	3.00%	3.00%
	d) Retirement age	65	60	65	60

  
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NIT Campus (P.O.), Calicut, Kerala - 673601

**Defined Contribution Plan**

Employer's (Institute's) contribution to New Pension Scheme and Contributory Provident Fund has been recognized as an expense for the financial year 2019-20.

**General Provident Fund**

The Fund balance as on 31 March 2020 amounting to Rs.11,82,17,312/-. The Institute has obligation to pay the dues along with the interest notified by the Government of India from time to time. The aforesaid amount is sufficient to cover any interest shortfall during the current financial year; hence, no provision is made for interest difference, if any, in the current year's financial statements.

**21.HONORARIUM**

Honorarium paid to experts/faculty/ staff during the financial year 2019-20 is as follows:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Faculty Recruitment	NIL	NIL
2	Thesis Evaluation	14,44,448	12,57,044
3	Others		2,15,000
	<b>Total</b>	<b>14,44,448</b>	<b>14,72,044</b>

(Refer Schedule 15- Staff payments and Benefits [Establishment Expenses]).

**22.E-JOURNALS**

The Institute spent Rs.2,10,53,141/- on subscription of e-journals in the financial year. As per Accounting Standard 26 issued by the Institute of Chartered Accountants of India, intangible assets on which the benefit extends beyond one year can be capitalized else the expenditure should be expensed in the year in which the benefits are derived. As the subscriptions to e-journals made in 2019-20 are valid for one year, the whole amount is written off as an expense in the current year 2019-20.

(Refer Schedule 16- Academic Expenses).

  
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### 23. DEPARTMENTS OPERATING COST

The details of operating cost (DOC) for different departments are as follows:

(Amount in Rupees)

Sl. No.	Particulars (DOC)	2019-20	2018-19
1	Architecture	48,62,713	6,06,953
2	Civil Engineering	20,49,468	13,77,456
3	Computer Science & Engineering	18,92,655	14,39,287
4	Electronics & Communication Engineering	24,11,627	16,85,943
5	Electrical & Electronics Engineering	35,30,055	15,57,287
6	Hospital	1,21,606	1,34,970
7	Library	2,63,369	3,49,959
8	Mathematics	8,53,984	4,74,518
9	Mechanical Engineering	73,40,662	38,47,449
10	Physical Education	(47,358)	6,15,649
11	Chemical Engineering	16,56,317	12,02,341
12	Physics	10,05,992	7,99,145
13	Bio-Technology	10,02,168	10,44,223
14	Nano-technology	10,52,630	9,86,041
15	School of Management Studies	4,61,057	4,34,056
16	Chemistry	14,27,200	12,60,183
17	Campus Networking Centre	4,92,320	2,77,276
18	Training & Placement	5,41,645	2,11,992
19	General	38,17,446	3,64,186
20	Bio-Mech	43,097	-
21	Main computer centre	13,94,096	
	<b>Total</b>	<b>3,61,72,749</b>	<b>1,86,68,914</b>

(Refer Schedule 17- Administrative and General Expenses).

### 24. OPERATING LEASE

The details with regard to operating lease are given below:



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(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Not later than one year	NIL	NIL
2	Later than one year and not later than five years	NIL	NIL
3	Later than five years	NIL	NIL

(Refer Schedule 18- Transportation Expenses).

#### 25. PRIOR PERIOD INCOME

Prior period income for the current financial year is Rs. 3,12,162.

(Refer Schedule 14- Prior Period Income).

#### 26. PRIOR PERIOD EXPENSES

Disclosure for prior period expenses for financial year 2019-20 is as under:

(Amount in Rupees)

Sl. No.	Particulars	2019-20	2018-19
1	Depreciation	NIL	NIL
2	Others	28,757	2,44,794
	<b>Total</b>	<b>28,757</b>	<b>2,44,794</b>

(Refer Schedule 22- Prior Period Expenses).


#### 27. TRANSFERS FROM CAPITAL GRANT (PLAN FUND)

As per the Income Approach of AS-12 issued by the Institute of Chartered Accountants of India, an amount equal to the proportion of the current year's depreciation on fixed assets that were purchased using Government grants has to be transferred from the Capital Grant account to Income and Expenditure Account every year.

(Refer Schedule 1- Capital Fund and Schedule 4- Fixed Assets-Total Depreciation).

#### 28. CONTINGENT LIABILITIES AND CONTINGENT ASSETS


- i. In respect of Central Academic Block constructed in 2013-2014, the contractor has filed a suit in the court of law (Case number O.S. 611/2011), which is *sub judice*; therefore, no quantification of the claim, if any, is made as on Balance Sheet date.

  
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National Institute of Technology Calicut  
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- ii. In respect of Central Library Building, the contractor has filed three suits in the court of law. The first case (No. OS.839/2009) is towards claiming of extra rate for TMT steel used in construction of the building while the second suit (No. OS 805/2011) relates to revoking of penalty imposed by the Institute and the third case (No. OS.659/2012) pertains to termination of the construction contract at the risk and cost of the contractor. The amount in dispute is approx. Rs.2,50,00,000/- which is pending adjudication before Hon'ble Sub Court, Kozhikode. The Institute has not made any provision towards the possible liability that may arise on this account. The contractor has also filed two Writ Petitions (WP(C) 33865/2014 and WP(C) 12347/2015) for undertaking the balance construction work at the prevailing rate; the petitions are pending before the Hon'ble High Court of Kerala at Ernakulam.
  - iii. The Institute has filed an appeal (RFA No. 435 of 2014) against the judgment in Case No. OS 259/2010 in connection with the construction of building for Chemical Engineering Department and pledged a Fixed Deposit Receipt for Rs.50,00,000/- made out of Plan Fund towards additional security before the Hon'ble First Additional Sub-Judge, Kozhikode. No provision has been made in the accounts.
  - iv. As on 31 March 2019, some court cases filed against the Institute by contractors, employees, etc., are *sub judice* in various courts of law. The quantum of the claims is not ascertainable at that date and hence, no liability is recognized in the Balance Sheet.
29. Schedules 1 to 24 herein above are annexed to and form an integral part of the Balance Sheet as at 31 March 2020 and the Income and Expenditure Account for the year ended on that date.
30. Schedules 25 to 42 annexed forms an integral part of the Receipts and Payments account for the year ended on that date.
31. The General Provident Fund account is owned by the members of the fund and not by the Institute. As such, this account is disclosed separately from the Institute's accounts from 1 April 2014. A Receipt and Payment Account, an Income and Expenditure Account (on accrual basis) and a Balance Sheet of the Provident Fund account for the financial year 2019-20 have been appended to the Institute's annual accounts.
32. All subscribers of New Pension Scheme (NPS) are allotted with PRA numbers and the Institute does not maintain data regarding their subscriptions and matching contributions. Therefore, separate set of accounts are not required for NPS.

  
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ANNEXURE A			
Certified balances of Bank Accounts and Fixed Deposits shown in the Institute's books of accounts			
(i) Savings Accounts			
			(Amount in Rupees)
S. No	Bank & Branch Details	A/c No	Amount
1	PNB ,LINK ROAD	1423000105436300	46,88,979.50
2	PNB,MKV	4312000100731440	18,492.00
3	PNB,KPK MENON	4258000105056900	3,23,268.90
4	HDFC, CALICUT	12551450000070	2,14,400.00
5	UCO, CALICUT	1470100010215	7,08,677.00
6	SBI,NIT	10401159325	44,116.47
7	SBI,NIT	10401160396	56,199.86
8	SBI,NIT	10401160454	78,83,621.48
9	SBI,NIT	30583579511	1,02,319.00
10	SBI,NIT	30705794534	2,18,344.00
11	SBI,NIT	30971545390	36,30,343.25
12	SBI,NIT	31064842240	578.00
13	SBI,NIT	31098052035	23,75,926.00
14	SBI,NIT	31444243085	3,01,400.00
15	SBI,NIT	31994129466	1,71,65,858.00
16	SBI,NIT	32399109132	18,35,547.75
17	SBI,NIT	33413466990	48,28,261.00
18	SBI,NIT	35570283919	7,04,375.50
19	SBI,NIT	35582060998	5,18,562.00
20	SBI,NIT	35730420414	28,10,930.00
21	SBI,NIT	35730420822	28,10,930.00
22	SBI,NIT	35730421214	28,10,930.00
23	SBI,NIT	35730436537	28,10,930.00

*Sahidur P.S.*

निदेशक / DIRECTOR  
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24	SBI,NIT	35981271500	4,30,43,861.78
25	SBI,NIT	37090485326	14,94,409.00
26	SBI,NIT	37838333933	12,70,42,381.60
27	SBI,NIT	38224161112	49,22,336.00
28	SBI,NIT	38224161622	2,84,79,422.75
29	SBI,NIT	38297554301	26,70,65,369.45
30	SBI,NIT	10401159303	28,341.55
31	SBI,NIT	10401159314	26,183.07
32	SBI,NIT	10401159530	2,918.91
33	SBI,NIT	10401159802	9,916.20
34	SBI,NIT	10401160578	7,37,37,331.31
35	SBI,NIT	30261390339	29,29,48,599.91
<b>Total</b>			<b>89,56,64,061.24</b>
(ii)	<b>Current Accounts</b>		
1	SBI,NIT	30846292747	80,77,818.00
2	SBI,NIT	36379213387	37,91,985.37
3	SBI,NIT	36379215839	5,25,245.39
4	SBI,NIT	36379216015	97,317.08
5	SBI,NIT	10401158082	50,282.00
6	SBI,NIT	10401158106	22,604.36
7	SBI,NIT	34899799867	14,150.50
8	CANARA,CLT	839201000560	4,882.00
9	CANARA,CLT	839201000561	5,000.00
10	CANARA,CLT	839201000567	20,04,249.00
<b>Total</b>			<b>1,45,93,533.70</b>
(iii)	<b>Term Deposits</b>		
1	SBI,NIT	36714003255	1,03,56,896.00
2	SBI,NIT	36714003277	1,03,56,896.00
3	SBI,NIT	38195628485	95,22,317.00
4	SBI,NIT	38195629080	95,22,317.00
5	SBI,NIT	38195629353	95,22,317.00
6	SBI,NIT	38195630313	95,22,317.00
7	SBI,NIT	38195630710	95,22,317.00

*Sahadevi P.S.*

DIRECTOR

എന്റെ ഉത്തരവ് സംഖ്യ: 100/2019

National Institute of Technology Calicut

എ.പി.ടി. ക്യാമ്പസ് (പി.ഒ.) കൊല്ലം, കേരളം - 673601

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National Institute of Technology Calicut

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8	SBI,NIT	38195631011	95,22,317.00
9	SBI,NIT	38195631248	95,22,317.00
10	SBI,NIT	38195631340	95,22,317.00
11	SBI,NIT	38195631431	95,22,317.00
12	SBI,NIT	38195644713	95,08,305.00
13	SBI,NIT	38195645150	95,08,305.00
14	SBI,NIT	38195645478	95,08,305.00
15	SBI,NIT	38195645795	95,08,305.00
16	SBI,NIT	38195646153	95,08,305.00
17	SBI,NIT	38195646595	52,82,392.00
18	SBI,NIT	35385766884	1,14,58,429.00
19	SBI,NIT	36234517379	1,14,23,811.00
20	SBI,NIT	36234519536	1,14,23,811.00
21	SBI,NIT	36234521432	1,14,23,811.00
22	SBI,NIT	36234522742	1,14,23,811.00
23	SBI,NIT	36234523348	1,14,23,811.00
24	SBI,NIT	36234523745	1,14,23,811.00
25	SBI,NIT	36234525119	1,14,23,811.00
26	SBI,NIT	36234525482	1,14,23,811.00
27	SBI,NIT	36234525674	1,14,23,811.00
28	SBI,NIT	36234525845	1,14,23,811.00
29	SBI,NIT	36234526032	1,14,23,811.00
30	SBI,NIT	36234526214	1,14,23,811.00
31	SBI,NIT	36234536506	1,14,23,811.00
32	SBI,NIT	36234536743	1,14,23,811.00
33	SBI,NIT	36234536889	1,14,23,811.00
34	SBI,NIT	36234536970	1,14,23,811.00
35	SBI,NIT	36234538694	1,14,23,811.00
36	SBI,NIT	35079055642	94,34,646.00
37	SBI,NIT	35079067443	95,03,419.00
38	SBI,NIT	35079068695	95,03,419.00
39	SBI,NIT	35079069586	95,03,419.00
40	SBI,NIT	32775839242	99,82,770.00

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41	SBI,NIT	32797684133	1,04,94,233.00
42	SBI,NIT	32808580270	99,58,843.00
43	SBI,NIT	35293809903	24,67,894.00
44	SBI,NIT	35307800580	83,74,614.00
45	SBI,NIT	35385766396	98,79,122.00
46	SBI,NIT	35397552993	99,60,818.00
47	SBI,NIT	35420944340	83,48,808.00
48	SBI,NIT	35791056509	96,72,734.00
49	SBI,NIT	35791081150	96,72,734.00
50	SBI,NIT	35791081229	42,12,207.00
51	SBI,NIT	36043107039	1,26,29,123.00
52	SBI,NIT	36231766736	1,04,81,959.00
53	SBI,NIT	36231770152	1,04,81,959.00
54	SBI,NIT	36231772036	1,04,81,959.00
55	SBI,NIT	36231773299	1,04,81,959.00
56	SBI,NIT	36231774725	1,04,81,959.00
57	SBI,NIT	36231776007	1,04,81,959.00
58	SBI,NIT	36231782216	1,04,81,959.00
59	SBI,NIT	36231783945	1,04,81,959.00
60	SBI,NIT	36231785137	1,04,81,959.00
61	SBI,NIT	36231787269	1,04,81,959.00
62	SBI,NIT	36231788478	1,04,81,959.00
63	SBI,NIT	36231790442	1,04,81,959.00
64	SBI,NIT	36231792734	1,04,81,959.00
65	SBI,NIT	36231795407	1,04,81,959.00
66	SBI,NIT	36231795677	1,04,81,959.00
67	SBI,NIT	36231801999	1,04,81,959.00
68	SBI,NIT	36231803985	1,04,81,959.00
69	SBI,NIT	36231806192	1,04,81,959.00
70	SBI,NIT	36231807185	1,04,81,959.00
71	SBI,NIT	36231808190	1,04,81,959.00
72	SBI,NIT	36231819395	30,55,234.00
73	SBI,NIT	36231819703	85,68,634.00

*Saminis*

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Assistant Registrar (Finance)

National Institute of Technology

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74	SBI,NIT	36234470190	27,79,395.00
75	SBI,NIT	36234470474	36,87,921.00
76	SBI,NIT	36234482323	36,97,238.00
77	SBI,NIT	36234499835	37,61,961.00
78	SBI,NIT	36234504405	91,62,037.00
79	SBI,NIT	36234505895	1,00,22,504.00
80	SBI,NIT	36234513001	63,00,134.00
81	SBI,NIT	36234515429	63,69,725.00
82	SBI,NIT	36331596395	79,63,942.00
83	SBI,NIT	36455246010	1,07,23,237.00
84	SBI,NIT	36455249667	1,07,23,237.00
85	SBI,NIT	36455249725	1,07,23,237.00
86	SBI,NIT	36455249792	50,37,341.00
87	SBI,NIT	36812083014	1,01,38,339.00
88	SBI,NIT	36812085873	1,01,38,339.00
89	SBI,NIT	36812086128	1,01,38,339.00
90	SBI,NIT	36812108053	47,72,544.00
91	SBI,NIT	36812108122	87,38,682.00
92	SBI,NIT	37158545237	1,01,50,815.00
93	SBI,NIT	37161047237	1,05,71,840.00
94	SBI,NIT	37161047282	1,05,71,840.00
95	SBI,NIT	37161047328	1,05,71,840.00
96	SBI,NIT	38002158419	58,38,484.00
97	SBI,NIT	38947577559	1,90,00,000.00
98	SBI,NIT	38947578064	1,90,00,000.00
99	SBI,NIT	38947578382	1,90,00,000.00
100	SBI,NIT	38947578632	1,90,00,000.00
101	SBI,NIT	38947578905	1,90,00,000.00
102	SBI,NIT	38947579192	1,90,00,000.00
103	SBI,NIT	38947579374	1,90,00,000.00
104	SBI,NIT	38947579680	1,90,00,000.00
105	SBI,NIT	38947580028	1,90,00,000.00
106	SBI,NIT	38947580346	1,90,00,000.00

*S. Madhavan P.S.*

DIRECTOR

राष्ट्रीय प्रौद्योगिकी संस्थान कलकत्ता

National Institute of Technology Calicut

एन.आई.टी. कलकत्ता (पी.ओ.) कलकत्ता, केरल - 673 601, भारत  
NIT Campus (P.O), Calicut, Kerala - 673 601, India

*[Signature]*

REGISTRAR

NATIONAL INSTITUTE OF  
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*[Signature]*

Assistant Registrar (Finance)

National Institute of Technology

Calicut - 673601

107	SBI,NIT	38947580787	1,00,00,000.00
108	SBI,NIT	36042749067	47,53,053.00
109	SBI,NIT	36312000910	40,82,312.00
110	SBI,NIT	32793896072	4,05,75,217.00
111	SBI,NIT	35211095348	3,18,58,577.00
112	SBI,NIT	37158510893	4,97,05,639.00
113	SBI,NIT	38002378161	4,12,86,866.00
114	SBI, CALICUT	32457363478	96,09,540.00
115	SBI, CALICUT	32457358254	96,09,540.00
116	PNB,MKV	431200PU00010677	1,09,18,100.00
117	PNB,MKV	431200PU00005736	91,76,229.00
118	PNB,MKV	431200PU00010686	1,09,18,099.00
119	PNB,MKV	431200PU00010695	24,26,243.00
120	PNB,MKV	431200PU00006018	12,39,347.00
121	PNB,MKV	431200PU00006027	91,84,056.00
122	PNB,MKV	431200PU00006036	1,13,87,703.00
123	PNB,MKV	431200PU00009839	1,20,75,719.00
124	PNB,MKV	431200PU00009848	1,20,75,720.00
125	PNB,MKV	431200PU00009857	1,20,75,719.00
126	PNB,MKV	431200PU00009866	1,20,75,721.00
127	PNB,MKV	431200PU00009875	1,20,75,718.00
128	PNB,MKV	431200PU00009884	1,20,75,721.00
129	PNB,MKV	431200PU00009893	1,20,75,718.00
130	PNB,MKV	431200PU00009778	1,20,75,720.00
131	PNB,MKV	431200PU00010039	75,91,795.00
132	PNB,MKV	431200PU00011834	1,05,24,373.00
133	PNB,MKV	431200PU00011843	1,05,24,371.00
134	PNB,MKV	431200PU00011852	1,05,24,373.00
135	PNB,MKV	431200PU00011825	1,05,24,374.00
136	PNB,MKV	431200PU00011816	1,05,24,372.00
137	PNB,MKV	431200PU00011861	39,12,816.00
138	PNB,LINK ROAD	142300DP00009337	86,62,909.00
139	PNB,LINK ROAD	142300DP00009434	92,14,983.00

*Samin P.S.*

DIRECTOR

എല്ലാ വിഭാഗങ്ങളിലും സാമ്പത്തിക ഉപദേശകൻ

National Institute of Technology Calicut

എ.ടി.ടി. ക്യാമ്പസ് (പി.ഒ.) കലിക്യൂട്ട്, കേരളം - 673001, ഇന്ത്യ  
MIT Campus (P.O), Calicut, Kerala - 673 001, India

*[Signature]*

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*[Signature]*

Assistant Registrar (Finance)

National Institute of Technology  
Calicut - 673601

140	PNB, LINK ROAD	142300DP00009601	52,76,435.00
141	PNB, LINK ROAD	142300DP00009878	91,73,482.00
142	PNB, LINK ROAD	142300DP00009887	91,73,482.00
143	PNB, LINK ROAD	142300DP00009896	91,73,482.00
144	PNB, LINK ROAD	142300DP00009902	91,73,483.00
145	PNB, LINK ROAD	142300DP00009911	91,73,482.00
146	PNB, LINK ROAD	142300DP00009920	91,73,482.00
147	PNB, LINK ROAD	142300DP00009939	91,73,482.00
148	PNB, LINK ROAD	142300DP00009948	24,11,903.00
149	PNB, LINK ROAD	142300DP00010122	1,00,72,467.00
150	PNB, LINK ROAD	142300DP00010131	97,11,090.00
151	PNB, LINK ROAD	142300DP00010344	91,29,015.00
152	PNB, LINK ROAD	142300DP00010353	91,29,015.00
153	PNB, LINK ROAD	142300DP00010362	54,27,017.00
154	PNB, LINK ROAD	142300DP00011255	1,02,19,722.00
155	PNB, LINK ROAD	142300DP00011264	76,59,421.00
156	PNB, LINK ROAD	142300DP00011273	1,02,18,000.00
157	PNB, LINK ROAD	142300DP00011282	1,02,17,999.00
158	PNB, LINK ROAD	142300DP00011291	1,02,18,000.00
159	PNB, LINK ROAD	142300DP00011307	94,62,883.00
160	PNB, LINK ROAD	142300DP00011556	1,01,73,273.00
161	PNB, LINK ROAD	142300DP00011565	1,01,73,276.00
162	PNB, LINK ROAD	142300DP00011574	1,01,73,274.00
163	PNB, LINK ROAD	142300DP00011583	1,01,73,276.00
164	PNB, LINK ROAD	142300DP00011592	1,01,73,275.00
165	PNB, LINK ROAD	142300DP00011608	1,01,73,275.00
166	PNB, LINK ROAD	142300DP00012360	91,76,474.00
167	PNB, LINK ROAD	142300DP00012379	91,76,476.00
168	PNB, LINK ROAD	142300DP00012388	91,76,475.00
169	PNB, LINK ROAD	142300DP00012397	86,06,194.00
170	PNB, LINK ROAD	142300DP00012591	4,65,596.00
171	PNB, LINK ROAD	142300DP00012607	5,02,750.00
172	PNB, LINK ROAD	142300DP00012616	5,02,752.00

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राष्ट्रीय प्रौद्योगिकी संस्थान कलिकट

National Institute of Technology Calicut  
एन.टी.टी. कॅम्पस (पी.ओ.) कलिकट, केरल - 673601, भारत  
NIT Campus (P.O), Calicut, Kerala - 673 601, India



173	PNB, LINK ROAD	142300DP00012625	5,02,749.00
174	PNB, LINK ROAD	142300DP00012634	5,02,937.00
175	PNB, LINK ROAD	142300DP00012786	11,10,410.00
176	PNB, LINK ROAD	142300DP00012795	11,51,731.00
177	PNB, LINK ROAD	142300DP00012801	6,19,001.00
178	PNB, LINK ROAD	142300DP00012810	10,41,247.00
179	PNB, LINK ROAD	142300DP00012829	10,41,248.00
180	PNB, LINK ROAD	142300DP00012865	85,107.00
181	PNB, LINK ROAD	142300DP00012874	1,50,897.00
182	PNB, LINK ROAD	142300DP00012883	3,95,475.00
183	PNB, LINK ROAD	142300PU00003327	99,05,684.00
184	PNB, LINK ROAD	142300PU00003336	99,05,684.00
185	PNB, LINK ROAD	142300PU00003345	99,05,684.00
186	PNB, LINK ROAD	142300PU00003354	99,05,686.00
187	PNB, LINK ROAD	142300PU00003363	99,05,683.00
188	PNB, LINK ROAD	142300PU00003372	99,05,684.00
189	PNB, LINK ROAD	142300PU00003381	89,92,180.00
190	PNB, LINK ROAD	142300PU00003390	94,02,647.00
191	PNB, LINK ROAD	142300PU00003406	99,07,935.00
192	PNB, LINK ROAD	142300PU00003415	99,07,935.00
193	PNB, LINK ROAD	142300PU00003424	86,29,047.00
194	PNB, LINK ROAD	142300PU00003433	32,92,463.00
195	PNB, LINK ROAD	142300PU00003442	98,56,527.00
196	PNB, LINK ROAD	142300PU00003451	18,57,001.00
197	PNB, LINK ROAD	142300PU00003503	42,38,243.00
198	PNB, LINK ROAD	142300PU00003789	8,57,764.00
199	PNB, LINK ROAD	142300PU00003831	7,47,422.00
200	PNB, LINK ROAD	142300PU00003840	7,47,423.00
201	PNB, LINK ROAD	142300PU00003910	7,59,246.00
202	PNB, LINK ROAD	142300PU00003929	7,03,007.00
203	PNB, LINK ROAD	142300PU00003938	7,59,106.00
204	PNB, LINK ROAD	142300PU00003947	7,59,104.00
205	PNB, LINK ROAD	142300PU00003956	7,59,105.00

*Saridhar P.S.*  
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CALICUT

*[Signature]*  
Assistant Registrar (Finance)  
National Institute of Technology Jyoti  
Calicut - 673601

206	PNB, LINK ROAD	142300PU00003965	8,56,924.00
207	PNB, LINK ROAD	142300PU00003974	18,29,649.00
208	PNB, LINK ROAD	142300PU00003983	35,41,734.00
209	PNB, LINK ROAD	142300PU00004052	7,54,733.00
210	PNB, LINK ROAD	142300PU00004061	7,54,735.00
211	PNB, LINK ROAD	142300PU00004070	7,54,735.00
212	PNB, LINK ROAD	142300PU00004089	7,54,734.00
213	PNB, LINK ROAD	142300PU00004098	7,54,735.00
214	PNB, LINK ROAD	142300PU00004104	7,54,735.00
215	PNB, LINK ROAD	142300PU00004256	6,86,251.00
216	PNB, LINK ROAD	142300PU00004274	6,57,008.00
217	PNB, LINK ROAD	142300PU00004283	7,23,752.00
218	PNB, LINK ROAD	142300PU00004292	7,23,750.00
219	PNB, LINK ROAD	142300PU00004308	7,23,749.00
220	PNB, LINK ROAD	142300PU00004317	7,23,752.00
221	PNB, LINK ROAD	142300PU00004326	7,23,751.00
222	PNB, LINK ROAD	142300PU00004335	7,23,751.00
223	PNB, LINK ROAD	142300PU00004849	4,92,725.00
224	PNB, LINK ROAD	142300PU00004858	4,92,725.00
225	PNB, LINK ROAD	142300PU00004876	37,71,318.00
226	PNB, LINK ROAD	142300PU00004955	4,95,631.00
227	PNB, LINK ROAD	142300PU00004964	4,95,631.00
228	PNB, LINK ROAD	142300PU00004973	4,95,632.00
229	PNB, LINK ROAD	142300PU00004982	4,95,631.00
230	PNB, LINK ROAD	142300PU00004991	4,95,631.00
231	PNB, LINK ROAD	142300PU00005006	4,95,632.00
232	PNB, LINK ROAD	142300PU00005112	4,54,730.00
233	PNB, LINK ROAD	142300PU00005219	4,33,039.00
234	PNB, LINK ROAD	142300PU00005228	4,77,033.00
235	PNB, LINK ROAD	142300PU00005237	4,77,032.00
236	PNB, LINK ROAD	142300PU00005246	4,77,032.00
237	PNB, LINK ROAD	142300PU00005255	4,77,035.00
238	PNB, LINK ROAD	142300PU00005264	4,77,031.00

*Saminidi P.S.*

REGISTRAR

NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

*[Signature]*

Assistant Registrar (Finance)  
National Institute of Tech. + Jogy  
Calicut - 673601

REGISTRAR

National Institute of Technology Calicut  
P. O. Box 107, Calicut, Kerala - 673 011, India  
NIT Campus (P.O), Calicut, Kerala - 673 011, India

239	PNB, LINK ROAD	142300PU00005273	4,77,033.00
240	PNB, LINK ROAD	142300PU00005644	10,50,564.00
241	PNB, LINK ROAD	142300PU00005653	10,50,563.00
242	PNB, LINK ROAD	142300PU00005662	10,50,564.00
243	PNB, LINK ROAD	142300PU00005671	10,50,562.00
244	PNB, LINK ROAD	142300PU00005680	10,50,566.00
245	PNB, LINK ROAD	142300PU00005699	10,50,562.00
246	PNB, LINK ROAD	142300PU00005705	10,50,564.00
247	PNB, LINK ROAD	142300PU00005714	2,76,217.00
248	PNB, KPK MENON	425800DP00010662	90,17,359.00
249	PNB, KPK MENON	425800DP00010671	90,23,738.00
250	PNB, KPK MENON	425800DP00010680	90,23,737.00
251	PNB, KPK MENON	425800DP00010699	39,35,088.00
252	PNB, KPK MENON	425800DP00011227	1,00,44,884.00
253	PNB, KPK MENON	425800DP00011236	1,00,44,881.00
254	PNB, KPK MENON	425800DP00011245	1,00,44,883.00
255	PNB, KPK MENON	425800DP00011254	1,00,44,867.00
256	PNB, KPK MENON	425800DP00011263	1,00,44,866.00
257	UCO BANK	1470310046586	1,11,19,949
258	UCO BANK	1470310046630	61,72,194
259	UCO BANK	1470310049006	98,39,937
260	UCO BANK	1470310049037	98,38,296
261	UCO BANK	1470310049044	98,36,655
262	UCO BANK	1470310049051	98,35,014
263	UCO BANK	1470310049068	98,33,373
264	UCO BANK	1470310049082	98,30,091
265	UCO BANK	1470310049105	98,28,450
266	UCO BANK	1470310049112	98,26,810
267	UCO BANK	1470310049136	98,15,510
268	UCO BANK	1470310049143	98,13,870
269	UCO BANK	1470310049204	1,09,00,365
270	CANARA, CLT	0839303000302/7	1,10,00,000.00
271	CANARA, CLT	0839303000302/5	1,90,00,000.00

*Saminidini P.S.*

REGISTRAR  
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT  
National Institute of Technology Calicut  
P.O. Calicut, Kerala - 673 001

*[Signature]*  
REGISTRAR  
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

*[Signature]*  
Assistant Registrar (Finance)  
National Institute of Technology Calicut - 673601

272	CANARA,CLT	0839303000302/6	1,40,00,000.00
<b>Total</b>			<b>2,23,51,79,991.00</b>
(iv)	<b>Forex Accounts</b>		
<b>S. No</b>	<b>Bank &amp; Branch Details</b>	<b>A/c No</b>	<b>(Amount in USD)</b>
1	SBI, CALICUT	35350525917	5.00
<b>Total</b>			<b>5.00</b>
(v)	<b>MOD Account</b>		
<b>S. No</b>	<b>Bank &amp; Branch Details</b>	<b>A/c No</b>	<b>Amount</b>
1	SBI,NIT	35648364532	28,303.00
2	SBI,NIT	35657446255	2,84,142.00
3	SBI,NIT	35691632160	10,53,004.00
4	SBI,NIT	35707617079	2,04,151.00
5	SBI,NIT	35863216431	5,03,502.00
6	SBI,NIT	35987551842	18,130.00
7	SBI,NIT	36024799882	53,77,947.00
8	SBI,NIT	36041323971	39,16,145.00
9	SBI,NIT	36399771212	4,48,513.00
10	SBI,NIT	36428323282	5,91,432.00
11	SBI,NIT	36453595959	16,87,906.00
12	SBI,NIT	36476847539	3,37,015.00
13	SBI,NIT	36538158211	4,45,177.00
14	SBI,NIT	36574989128	85,601.00
15	SBI,NIT	36717394642	4,39,414.00
16	SBI,NIT	36824037290	63,25,196.00
17	SBI,NIT	36824037802	17,16,897.00
18	SBI,NIT	36927599753	53,31,115.00
19	SBI,NIT	37135396960	25,940.00
20	SBI,NIT	37173664552	40,602.00
21	SBI,NIT	37238643472	1,13,653.00
22	SBI,NIT	37265172168	4,29,862.00
23	SBI,NIT	37295472790	8,64,311.00
24	SBI,NIT	37323099862	20,454.00
25	SBI,NIT	37353273326	16,27,812.00

*Sahidini P.S.*

REGISTRAR

*[Signature]*  
**REGISTRAR**  
**NATIONAL INSTITUTE OF**  
**TECHNOLOGY CALICUT**  
**CALICUT**

*[Signature]*

**Assistant Registrar (Finance)**  
**National Institute of Technology**  
**Calicut - 673601**

REGISTRATION

National Institute of Technology Calicut

നാഷണൽ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് ടെക്നോളജി കലിക്യൂട്ട്, കേരളം - 673601, ഇന്ത്യ  
 NIT Campus - 673601, Calicut, Kerala - 673601, India

26	SBI,NIT	37461347332	76,251.00
27	SBI,NIT	37525333043	84,290.00
28	SBI,NIT	37536296541	41,43,781.00
29	SBI,NIT	37572024812	90,471.00
30	SBI,NIT	37585048125	1,29,424.00
31	SBI,NIT	37599483242	11,40,771.00
32	SBI,NIT	38380267786	37,40,000.00
33	SBI,NIT	38394822678	2,21,000.00
34	SBI,NIT	38467590756	10,15,000.00
35	SBI,NIT	38467591035	15,44,000.00
36	SBI,NIT	38531831984	49,000.00
37	SBI,NIT	38531832900	32,69,000.00
38	SBI,NIT	38546588103	43,000.00
39	SBI,NIT	38586213715	6,98,000.00
40	SBI,NIT	38603140103	25,64,000.00
41	SBI,NIT	38680132611	71,000.00
42	SBI,NIT	38711862104	18,77,000.00
43	SBI,NIT	38788590783	18,63,000.00
44	SBI,NIT	38826480907	13,27,000.00
45	SBI,NIT	38860390384	34,13,000.00
46	SBI,NIT	38945862469	39,50,000.00
47	SBI,NIT	38984189347	19,63,000.00
48	SBI,NIT	39000316685	5,45,000.00
49	SBI,NIT	39017205082	20,20,000.00
50	SBI,NIT	39030056153	18,000.00
51	SBI,NIT	39065981761	11,08,000.00
52	SBI,NIT	39161790427	51,000.00
53	SBI,NIT	39162445119	9,59,000.00
54	SBI,NIT	39180588755	7,44,000.00
55	SBI,NIT	39201024708	52,000.00
56	SBI,NIT	39202041712	9,28,000.00
57	SBI,NIT	39214835655	87,000.00
58	SBI,NIT	39233145614	3,17,000.00

*Sashidhar P. S.*

REGISTRAR

National Institute of Technology Calicut  
നാഷണൽ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് ടെക്നോളജി കലിക്ട്  
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CALICUT

*[Signature]*

Assistant Registrar (Finance)  
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59	SBI,NIT	39239982894	13,000.00
60	SBI,NIT	38764167969	86,43,000.00
61	SBI,NIT	38995969742	3,97,000.00
62	SBI,NIT	39011478158	63,67,000.00
63	SBI,NIT	35558103966	8,81,82,018.00
64	SBI,NIT	36855922595	1,14,11,649.64
65	SBI,NIT	37339623745	1,45,64,873.62
66	SBI,NIT	38380449074	7,07,49,256.06
67	SBI,NIT	38827669903	10,29,45,000.00
68	SBI,NIT	39198038519	4,63,11,381.98
69	SBI,NIT	39239181373	13,02,87,000.00
<b>Total</b>			<b>55,18,88,391.30</b>

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National Institute of Technology Calicut  
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NIT Campus (P.O), Calicut, Kerala - 673 601, India

ANNEXURE B			
Bank Accounts for Projects shown in Books of Accounts (Savings)			
			(Amount in Rupees)
S.No	Bank & Branch Details	A/c No	Amount
1	SBI,NIT	30428621431	6,17,129.00
2	SBI,NIT	30458848311	16,71,441.00
3	SBI,NIT	30506640444	35,00,611.00
4	SBI,NIT	30808033649	14,872.00
5	SBI,NIT	30948537262	11,997.00
6	SBI,NIT	31091558694	552.44
7	SBI,NIT	31130641093	19,93,546.00
8	SBI,NIT	31735759406	22,636.00
9	SBI,NIT	31735764063	44,469.00
10	SBI,NIT	31762778358	210.12
11	SBI,NIT	31789866710	22,10,271.00
12	SBI,NIT	31789868139	45,084.00
13	SBI,NIT	31915181691	2,358.00
14	SBI,NIT	32015957716	3,805.00
15	SBI,NIT	32101535934	1,798.00
16	SBI,NIT	32246641696	4,25,457.00
17	SBI,NIT	32563027683	2,483.00
18	SBI,NIT	32579164962	10,49,214.00
19	SBI,NIT	32954434797	1,78,580.00
20	SBI,NIT	33015477472	1,750.85
21	SBI,NIT	33049806044	30,165.00
22	SBI,NIT	33067690208	42,89,981.00
23	SBI,NIT	33175087386	21,547.50
24	SBI,NIT	33187581587	20,660.00
25	SBI,NIT	33301926627	8,643.00
26	SBI,NIT	33301927326	1,04,552.00
27	SBI,NIT	33368719830	36,775.00
28	SBI,NIT	33368722037	1,44,180.00
29	SBI,NIT	33368731461	68,880.00
30	SBI,NIT	33627227608	389.52

*Saminidi P.S.*

REGISTRAR / DIRECTOR

राष्ट्रीय प्रौद्योगिकी संस्थान कलकत्ता

National Institute of Technology Calicut

रा. प्रौ. सं. कलकत्ता (पी.ओ.) कलकत्ता, केरल - 675 626, India

National Institute of Technology Calicut  
P.O. Calicut - 675 626, India

*[Signature]*

REGISTRAR

NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

*[Signature]*

Assistant Registrar (Finance)

National Institute of Technology

Calicut - 673601

31	SBI,NIT	33869260955	1,927.25
32	SBI,NIT	34055770847	5,784.00
33	SBI,NIT	34743361812	67,694.00
34	SBI,NIT	34922458279	1,356.50
35	SBI,NIT	34984625589	10,77,740.50
36	SBI,NIT	35105587080	2,75,119.00
37	SBI,NIT	35108714120	25,07,794.75
38	SBI,NIT	35256507611	13,853.50
39	SBI,NIT	35260115754	45,893.50
40	SBI,NIT	35373645311	1,08,268.00
41	SBI,NIT	35531852511	6,152.50
42	SBI,NIT	35547110999	1,65,621.50
43	SBI,NIT	34781526032	17,101.00
44	SBI,NIT	32276182737	6,653.00
45	SBI,NIT	32785641568	68,369.00
46	SBI,NIT	32785878304	1,48,212.00
47	SBI,NIT	35601784856	2,19,501.43
48	SBI,NIT	35707855365	14,55,901.50
49	SBI,NIT	35712118085	93,670.50
50	SBI,NIT	35724132844	8,67,757.35
51	SBI,NIT	35760309489	9,04,569.50
52	SBI,NIT	35909407299	3,14,860.08
53	SBI,NIT	35977962286	64,694.20
54	SBI,NIT	36028528852	7,92,430.75
55	SBI,NIT	36076948949	5,03,760.25
56	SBI,NIT	36273863935	19,308.50
57	SBI,NIT	36374406306	2,29,627.00
58	SBI,NIT	36598636298	4,661.35
59	SBI,NIT	36697532901	2,33,011.00
60	SBI,NIT	36697545105	10,592.00
61	SBI,NIT	36699462861	6,82,603.50
62	SBI,NIT	36826070008	26,136.50
63	SBI,NIT	36826070213	11,719.50
64	SBI,NIT	36950958352	2,072.02
65	SBI,NIT	37096085388	31,580.50

*Sathudan P.S.*

REGISTRAR  
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT  
National Institute of Technology Calicut  
P.O. Calicut, Kerala - 673 001  
NT Campus (P.O.) Calicut, Kerala - 673 001

*[Signature]*

REGISTRAR  
NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

*[Signature]*

Assistant Registrar (Finance)  
National Institute of Technology  
Calicut - 673601



66	SBI,NIT	37186010229	7,74,587.25
67	SBI,NIT	37241357431	24,763.75
68	SBI,NIT	37251562506	1,00,816.72
69	SBI,NIT	37286864074	77,48,578.25
70	SBI,NIT	37324305638	29,258.50
71	SBI,NIT	37481542974	1,14,442.00
72	SBI,NIT	37520426749	41,11,600.50
73	SBI,NIT	37618269594	14,87,295.00
74	SBI,NIT	37720597560	1,89,74,371.00
75	SBI,NIT	37747553259	4,39,305.60
76	SBI,NIT	37779456678	54,874.00
77	SBI,NIT	37814761399	2,08,770.00
78	SBI,NIT	37849942885	2,19,142.70
79	SBI,NIT	38017800860	21,71,802.60
80	SBI,NIT	38030653645	7,58,831.25
81	SBI,NIT	38030654242	65,159.00
82	SBI,NIT	38044293551	4,49,749.75
83	SBI,NIT	38103882462	4,65,013.75
84	SBI,NIT	38103882983	13,79,989.50
85	SBI,NIT	38132483430	6,08,792.50
86	SBI,NIT	38180891032	18,636.75
87	SBI,NIT	38259781306	1,17,790.00
88	SBI,NIT	38276476234	2,17,262.70
89	SBI,NIT	38297555305	3,11,224.00
90	SBI,NIT	38302334688	5,36,153.25
91	SBI,NIT	38340306789	7,89,504.00
92	SBI,NIT	38340307057	32,53,747.50
93	SBI,NIT	38358757972	6,36,995.50
94	SBI,NIT	38399582550	13,55,454.00
95	SBI,NIT	38399582684	2,05,773.00
96	SBI,NIT	38399582924	13,84,322.00
97	SBI,NIT	38415705045	26,19,898.50
98	SBI,NIT	38441229277	2,749.00
99	SBI,NIT	38441229539	609.00
100	SBI,NIT	38446714927	3,81,680.00

*Sarindar P.S.*  
DIRECTOR  
राष्ट्रीय प्रौद्योगिकी संस्थान कलकत्ता  
National Institute of Technology Calicut  
National Institute of Technology, Kerala - 673 601, India


*[Signature]*  
REGISTRAR  
NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

*[Signature]*  
Assistant Registrar (Finance)  
National Institute of Technology  
Calicut - 673601

101	SBI,NIT	38446715137	3,79,008.00
102	SBI,NIT	38475444194	1,66,405.70
103	SBI,NIT	38475444445	6,50,151.60
104	SBI,NIT	38543741053	91,592.35
105	SBI,NIT	38550040182	3,16,900.00
106	SBI,NIT	38590885678	8,15,293.00
107	SBI,NIT	38603503929	6,86,948.10
108	SBI,NIT	38711830160	20,02,801.10
109	SBI,NIT	38882570452	21,51,283.35
110	SBI,NIT	39022693751	2,43,573.00
111	SBI,NIT	39022694530	27,28,616.75
112	SBI,NIT	39022694697	17,43,138.75
113	SBI,NIT	39075298670	1,20,988.00
114	SBI,NIT	39075299209	2,65,978.00
115	SBI,NIT	39075299844	19,42,496.00
116	SBI,NIT	39075304469	12,43,356.00
117	SBI,NIT	39075304899	20,60,444.00
118	SBI,NIT	39075305418	2,87,123.00
119	SBI,NIT	39106480976	9,65,726.00
120	SBI,NIT	39106481288	22,09,894.00
121	SBI,NIT	39106481539	15,77,997.00
122	SBI,NIT	39125726125	17,82,876.00
Total			10,39,61,567.38

**Bank Accounts for Projects shown in Books of Accounts (Current)**

S.No	Bank & Branch Details	A/c No	(Amount in Rupees) Amount
1	SBI,NIT	37021855472	29,053.00
Total			29,053.00


  
Assistant Registrar (Finance)  
National Institute of Technology  
Calicut - 673601


  
REGISTRAR  
NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT


  
DIRECTOR / DIRECTOR  
राष्ट्रीय प्रौद्योगिकी संस्थान कालीकट  
National Institute of Technology Calicut  
एन.ई.टी. कॉम्पस (पी.ओ.) कालीकट, केरल  
NIT Campus (P.O), Calicut, Kerala

ANNEXURE C			
List of Bank accounts and Fixed Deposits not shown in the Institutes books of accounts			
S.No	Bank & Branch Details	A/c No	(Amount in Rupees) Amount
<b>(i) Savings Accounts</b>			
1	SBI,NIT	31317481538	14,340.00
2	SBI,NIT	31725977448	475.00
3	SBI,NIT	32385609903	1,21,253.50
4	SBI,NIT	30013250817	68.00
5	SBI,NIT	30013264671	3,282.00
6	SBI,NIT	33605148992	20.00
7	SBI,NIT	39022694857	1188049
<b>Total</b>			<b>13,27,487.50</b>

<b>(ii) Current Accounts</b>			
1	SBI,NIT	33950524246	2,77,287.95
2	SBI,NIT	37217896428	(7.00)
3	SBI,NIT	33940902517	7,180.87
4	SBI,NIT	35725957831	30,77,305.14
5	SBI,NIT	37154522972	11,053.00
6	SBI,CLT	31039642229	2,07,119.00
<b>Total</b>			<b>35,79,938.96</b>
<b>(iii) Term Deposit A/c</b>			
1	PNB,MKV	431200PU00004551	14,98,644.00
2	SBI,NIT	32807026844	18,69,855.00
<b>Total</b>			<b>33,68,499.00</b>

  
Assistant Registrar (Finance)  
National Institute of Technology  
Calicut - 673601

  
REGISTRAR  
NATIONAL INSTITUTE OF  
TECHNOLOGY CALICUT  
CALICUT

  
DIRECTOR  
राष्ट्रीय प्रौद्योगिकी संस्थान कलिकट  
National Institute of Technology Calicut  
एन.ई.टी. कैंपस (पी.ओ.) कलिकट, केरल - 673601  
NIT Campus (P.O), Calicut, Kerala - 673601



प्रधान निदेशक लेखापरीक्षा (केंद्रीय) चेन्नै का कार्यालय  
लेखापरीक्षा भवन, 361, अण्णा सालै, तेनामपेट, चेन्नै - 600 018.

**OFFICE OF THE PRINCIPAL DIRECTOR OF AUDIT (CENTRAL)**  
Chennai

"LEKHA PARIKSHA BHAVAN", 361, Anna Salai, Teynampet, Chennai - 600 018.

सं/No. CE/ I/7-21/SAR NIT C/20-21/12

दिनांक/Date: 18 June 2021

To

भारत सरकार के सचिव /The Secretary to Government of India,  
शिक्षा मंत्रालय /Ministry of Education,  
शास्त्री भवन/Sastri Bhavan,  
नई दिल्ली /New Delhi - 110 001.

महोदय / Sir,

विषय:- 31 मार्च 2020 को समाप्त वर्ष हेतु राष्ट्रीय प्रौद्योगिकी संस्थान, कालिकट के लेखाओं पर पृथक लेखापरीक्षा रिपोर्ट।

Sub:- Separate Audit Report on the accounts of National Institute of Technology, Calicut for the year ended 31 March 2020.

31 मार्च 2020 को समाप्त वर्ष हेतु राष्ट्रीय प्रौद्योगिकी संस्थान, कालिकट के लेखाओं पर पृथक लेखापरीक्षा रिपोर्ट लेखाओं सहित इसके साथ अग्रेषित है।

Separate Audit Report on the accounts of the National Institute of Technology, Calicut for the year ended 31 March 2020 together with the accounts is forwarded herewith.

कृपया अनुलम्बकों सहित पत्र की पावती दें।

Receipt of the letter with enclosures may please be acknowledged.

भवदीय/ Yours faithfully,

SAI-

प्रधान निदेशक लेखापरीक्षा(केंद्रीय) चेन्नै  
Principal Director of Audit (Central), Chennai

प्रति का अग्रेषण/ Copy forwarded to:

The Director, NIT, Calicut, with copy of Separate Audit Report and Accounts for the year ended 31 March 2020 for necessary action.

Hindi version of the Separate Audit Report may be forwarded to the Branch Office, Kochi at the earliest. Four copies of Annual Report for 2019-20 as presented in Parliament may also be forwarded.

18.6.21

प्रधान निदेशक लेखापरीक्षा(केंद्रीय) चेन्नै

Principal Director of Audit (Central), Chennai

Regislar/OSD(A)/AR(F)  
For necessary action please

Sahidul P.S.  
Director (C) 28/06/2021

AR(F)/Acc/OSD(A)

PI disum 29/6/2021

दूरभाष / Phone : 044 - 2431 6400

फैक्स / Fax : 044 - 2433 8924

तार / E-mail : dgacchennai@cag.gov.in

\* 1. Please place the Annual Report for 2017-2020 in Bolo by circulation immediately.  
2. Appromed Annual Report and a copy of SAR may be sent to No E at the earliest.  
3. Hindi version of SAR and Four copies of Annual Report-2019-20 may be sent to the Branch Office, Kochi at the earliest.  
4. Please place SAR before the forthcoming FC/Bolo.  
5. Please prepare a report on Annexure I.

Sahidul P.S.  
28/06/2021

**Separate Audit Report of the Comptroller & Auditor General of India on the  
Accounts of the National Institute of Technology, Calicut for the year ended  
31 March 2020**

We have audited the attached Balance Sheet of the National Institute of Technology, Calicut as at 31 March 2020 and the Income & Expenditure Account and Receipts & Payments Account for the year ended on that date, under Section 19 (2) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with Section 22(2) of the National Institutes of Technology Act 2007. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency -cum - performance aspects, etc., if any, are reported through Inspection Reports /CAG's Audit Reports separately.

3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.

4. Based on our audit, we report that:

i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;

ii. The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report have been drawn up in the format approved by the Ministry of Education (erstwhile Ministry of Human Resource Development), Government of India;

iii. In our opinion, proper books of accounts and other relevant records have been maintained by the National Institute of Technology, Calicut as required under Section 22(1) of the National Institutes of Technology Act, 2007 relating to the establishment of NIT, Calicut in so far as it appears from our examination of such books; and

iv. We further report that:

## A. Balance Sheet

### A.1 Sources of Funds

#### A.1.1 Capital/Corpus Fund (Schedule 1) – ₹ 497.15 crore

Schedule 1 Capital/Corpus Fund includes the interest of ₹ 1.23 crore accumulated on the Plan Grant funds which was erroneously credited, instead of showing as liability for repayment to Government Account.

This has resulted in overstatement of Schedule 1 Capital Fund for ₹ 1.23 crore with corresponding understatement of Schedule 3 - Current Liabilities and Provisions.

#### A.1.2 GPF & CPF (Schedule 2 A) – ₹ 32.29 crore

As per the format of Financial Statements for Central Higher Educational Institutions issued by the MHRD, the GPF and CPF Accounts should be separated from the main Accounts of the Institute and these accounts should be shown separately but along with the Annual Accounts of the Institute. However, the Institute has included the GPF & CPF Accounts in the Schedule 2A of the Balance Sheet of Main Accounts for the Year 2019-20.

Owing to inclusion of GPF and CPF Accounts with the annual accounts of NITC, the 'GPF & CPF' (Schedule 2A) in Balance Sheet is overstated to the extent of ₹ 32.29 crore with corresponding overstatement of Schedule 5 - Investment from Earmarked/Endowment funds.

#### A.1.3. Current Liabilities and Provisions (Schedule 3) - ₹ 162.51 crore

i. Following e-journals were purchased during the year 2019-20 which have the subscription period of one year and payment of these journals were made after 31 March 2020.

SL No:	Particulars of E-Journal	Date of Payment	Amount (₹)
1	IEEE Online level-2 –Renewal 1.1.20 to 31.12.20	16.06.20	4325672.00
2	Taylor & Francis –New 14.1.20 to 13.1.21	09.07.20	1557908.00
3	ASTM SEDL-Renewal 1,1,20 to 31.12.20		781114.43
4	BIS Complete Set Renewal 1.1.20 to 31.12.20		370272.00
5	Springer Nature Renewal 1.1.20 to 31.12.20	23.10.20	1108085.00
6	RSC Gold-Renewal 1.1.20 to 31.12.20	23.10.20	1912850.00
	Total		1,00,55,901.43

Since the subscription period expires in one year NITC has decided to charge the expense every year instead of qualifying as Intangible Assets (Schedule 23 –Significant

Accounting Policies). Hence the amount due for e-journals should have been accounted in the year of purchase/renewal.

Non accounting of the same has resulted in understatement of Current Liabilities and Provisions (Schedule 3) and expenditure in Schedule 16-Academic Expenses for ₹ 1.01 crore.

#### ii. Other Liabilities – ₹ 20.61 crore

Item (g) Other Liabilities coming under Schedule 3 - Current Liabilities and Provisions includes 10 items with debit balance of ₹ 1.94 crore.

Inclusion of the debit balances in Schedule 3 - Current Liabilities and Provisions is a wrong method of Accounting. This has resulted in understatement of Schedule 3 - Current Liabilities and Provisions by ₹ 1.94 crore with corresponding understatement of Schedule 8 - Loans, Advances and Deposits.

Incorrect practice of accounting in the above aspect was pointed out in the previous Audit Report also.

### A.2 Application of Funds

#### A.2.1 Fixed Assets-(a) Tangible Assets ₹180.83 crore, (b) Intangible Assets ₹ 0.32 crore (Schedule 4)

Following cases of Capital expenditure were misclassified as Revenue expenditure and booked under Schedule 19- Repairs & Maintenance.

Details of which are given below: -

SL No:	Particulars	Ledger & Vr No:	Amount of expenditure (₹)	Category of Asset	Depreciation	
					Rate	Amount (₹)
(a)	Payment for construction of Additional floor for Centre for testing 7 Calibration Laboratories near production Engineering Block for EED vide Ref No: ENGG/E2/001/No 9 NON Plan/20 19-20 dt 21-4-19	151204/ Vr.No:P-C1/ 19/No 19/336	883954	Non Residential Building	2%	17679.08
(b)	Payment to M/s Mathworks India PVT LTD for Maintenance & Renewal of MATLAB campus wide 3year License (including maintenance fee).	151216 Vr No:P-C1/19/ No19/291 4Dt 26-08-19	5253360	Software	40%	2101344
(b)	Payment to M/s Quick Heal Technologies LTD for Renewal & support services for the License Securite End Point Security Business Edition Antivirus for 3 Years	15216/Vr No: P-C1/19/No: 19/ 2245 dt 16-7-19	896800	Software	40%	358720
	Total a- Tangible assets		883954			17679.08

Total b- Intangible assets	6150160	2460064.00
<b>Grand total</b>	<b>70,34,114</b>	<b>24,77,743.08</b>

This has resulted in understatement of Schedule 4 - Fixed Assets by ₹ 45,56,371, Depreciation by ₹ 24,77,743 and overstatement of Schedule 19- Repairs & Maintenance by ₹ 70,34,114.

**A.2.2 Loans, Advances & Deposits - ₹ 72.01 crore (Schedule 8)**

i. The Schedule 8 - Loans, Advances and Deposits contains 5 items of credit balances (negative balances) amounting to ₹ 40.29 lakh.

The wrong representation of items with credit balances in the Schedule 8 - Loans, Advances and Deposits has resulted in understatement of Schedule 8 by ₹ 40.29 lakh with corresponding understatement of Schedule 3 - Current Liabilities and Provisions.

Incorrect practice of accounting in the above aspect was pointed out in the previous Audit Report.

ii. The Schedule 8 - Loans, Advances and Deposits shows the deposit balance on Capital Account of ₹ 50.52 crore which includes the Advance to CPWD for ₹ 42.22 crore (Ledger code 90534). However, as per the statements of balance received from two CPWD Divisions, there was a net balance of Advance of ₹ 13.92 crore with CPWD on deposits made by the NIT (CPWD ProjDvn: ₹ (-) 93,58,062 and CPWD Central Dvn: ₹ 14,85,93,391). The expenditure incurred from the Advances given to the CPWD should have been transferred to the Capital Work-in-Progress based on the Expenditure statement received at the end of the financial year. Absence of such reconciliation has resulted in overstatement of Schedule 8 - Loan, Advances & Deposits by ₹ 28.30 crore and understatement of Capital Work-in-Progress by the same amount.

**B Income and Expenditure Account for the year 2019-20**

**B.1 Expenditure**

**B.1.1 Schedule 15 - Staff Payments and Benefits - ₹ 99.49 crore**

The additional provision required for terminal benefits of employees as per the actuarial valuation was created by debiting to schedule 21 - Other Expenses instead of adding back with the Retirement and Terminal Benefits in Schedule 15. This has resulted in overstatement of Schedule 21 - Other Expenses for ₹ 7.76 crore with corresponding understatement of Schedule 15 - Staff Payments and Benefits.

Further provision for pension liability in respect of employees who joined the Institute prior to 2004 was also not seen created in the Accounts.



## **C GENERAL**

### **C.1 Adopting incorrect Opening Balance**

In the following cases, the closing balances of Annual Accounts 2018-19 was not taken as the opening balances for the Annual Accounts 2019-20.

#### **(1) Schedule 2-Designated/Earmarked Funds/Endowment Fund- ₹ 128.25**

**crore**

As per Annual Accounts of 2018-19, closing balance of Growth Fund Account under Schedule 2 - Designated/Earmarked/Endowment fund was ₹ 119.02 crore. Instead of depicting this amount as opening balance of Growth Fund Account under Schedule 2 in the Annual Accounts 2019-20, ₹ 113.61 crore was shown as opening balance with a difference of ₹ 5.41 crore.

#### **(2) Schedule 2 (A) GPF & CPF: - ₹ 32.29 crore**

The closing balance of GPF & CPF Account under Schedule 2-Designated/Earmarked Fund of the Balance sheet of the Annual Accounts of 2018-19 was ₹ 32.28 crore.

(GPF Balance of ₹ 30.16 crore + CPF Balance of ₹ 2.12 crore as on 31-3-2019)

However, the opening balance of GPF & CPF Account depicted in Schedule 2 A of the Balance Sheet of the Annual Accounts 2019-20 was ₹ 29.50 crore with a difference of ₹ 2.77crore. It was replied that differences occurred due to the erroneous accounting of closing balance during the year 2017-18 and the same was rectified and schedules prepared on the basis of Ledger Balance.

The reply is not acceptable. Opening balance should have been taken correctly and necessary rectification entries should have been made during the current year.

### **C.2 Maintenance of Suspense Accounts**

#### **Schedule 3-Current Liabilities and Provisions - Other liabilities - ₹ 20.61 crore**

Analysis of Suspense Head Accounts from 2017-18 to 2019-20 shows that 14 heads of Suspense Accounts have been retained for the past three financial years. For the year 2017-18 balance of Suspense Account in the Annual Accounts was ₹ 16.70 crore under 14 Suspense Accounts. For 2018-19 the credit balances in the Suspense Account increased to ₹ 17.31 crore under the same 14 Suspense Accounts and for 2019-20 it shows a balance of ₹ 16.95 crore. The Suspense Account balance of ₹ 16.95 crore for the year 2019-20 was included under item g) other liabilities in Schedule 3: Current Liabilities & Provisions under the Balance Sheet.

The huge amounts under Suspense Account was commented upon in previous SARs. But no corrective action was taken by the Institute for clearance of the Suspense Account.

Keeping of huge amounts in Suspense Accounts without identifying the nature of items in suspense as income/liability or asset/expense for prolonged period, will depict an incorrect picture of the Accounts of the Institute.

**C.3 Huge difference between the investment balance of Schedule V - Designated/Earmarked Fund against the closing balance of Schedule 2 - Earmarked/Designated Fund**

(A) As per Schedule 2 - Designated/Earmarked/Endowment Funds (under Source of Fund in the Balance Sheet), the closing balance is ₹ 128.25 crore (under different heads of Schedule 2 items). But the Schedule 5 - investment from Designated/Earmarked/Endowment Funds (under Application of Funds in Balance Sheet) shows the balance of ₹ 121.17 crore as shown below.

Schedule 5 Investments	Total Amount (in Cr)
Long Term Deposits	83.44
Other Deposits	37.73
<b>Total Investments for Earmarked Funds</b>	<b>121.17</b>

Difference between the two balances is worked out to ₹7.07 crore. It was replied that the difference of ₹ 7.07 crore was due to wrong entries in past years. Eventhough the reason for the difference had been identified, no rectification was made.

(B) The balance in each fund and its corresponding bank/investment account should have been shown separately in a table below Schedule II as stated in the MHRD format.

**C.4 Unrealistic Cash Balance**

**(a) Cash in hand ₹ 2.02 lakh**

Even though physically there was no cash balance as on 31-3-2020 and no certification of physical verification of cash balance was recorded, ₹ 2.02 lakh was shown as Cash in Hand against item 3(i) in Schedule 7 - Current Assets.

Cash in Hand for ₹ 2.02 lakh comprises balances from six Ledger Accounts.

**(b) Imprest ₹ 6.82 lakh**

As per the Imprest Register closing balance of various Imprest Accounts for 31-03-2020 was ₹4.25 lakh.

But as per Schedule-7 Imprest cash balance was shown as ₹6.82 lakh. Thus, there was a difference of ₹2.57 lakh.(₹ 6,81,673- ₹ 4,25,000) against Imprest Balance as per the Imprest Register.

**C.5 Current Accounts ₹ (-) 28.97 crore.**

This shows a credit balance of ₹ 28.97 crore as payable to banks. As disclosed in Schedule 24 (Notes to Account) out of seventeen Current Accounts certified by the banks as on 31<sup>st</sup> March 2020, for ₹ 1.82 crore the Institute has disclosed only eleven Current Accounts having a credit balance of ₹ 28.97 crore (certified balance for these eleven accounts is ₹ 1.46 crore)

The certified closing balance of remaining six Current Accounts was ₹ 35.80 lakh, which were not included in the Institute's Books of Accounts for want of particulars of transactions.

While the bank has certified that ₹ 1.82 crore is due to NIT, at the same time, Books of Accounts of NIT shows a credit balance of ₹ 28.97 crore as payable to banks.

**C.6 Savings Account ₹ 124.45 crore.**

The balance of Savings Bank Account shown under Schedule 7 - Current Assets does not show a correct picture. Savings Account balance as per Schedule 7 is ₹ 124.45 crore while the bank has confirmed the balance as on 31<sup>st</sup> March 2020 for ₹ 100.10 crore only. Thus, ₹ 24.35 crore was shown in excess without confirmation from bank and hence the Savings Bank Account balance does not show a true and fair view.

Though the Bank has given certificate in respect of seven Savings Bank Accounts amounting to ₹ 13.27 lakh same was not included in the books for want of sufficient information.

Out of 251 SB accounts, bank has confirmed balances in 164 accounts only.

**C.7 Term Deposit Accounts - ₹ 174.12 core**

Term Deposit bearing No. 431200PU00004551, PNB for ₹ 12.60 lakh was not included in the accounts though the balance was certified by the bank as on 31.03.2020.

**C.8 Cash in Treasury - ₹ 31.17 lakh**

Confirmation from the Treasury for the above balance has not been obtained.

### C.9 Non-Reconciliation of Forex Account in Current Assets (Schedule 7)

The Item in "Cash in Bank" under Schedule 7 - Current Assets in the Balance Sheet includes EEFC Accounts US \$ 106.76 Million. However, as per balance confirmation statement received from the SBI Bank Road Branch Kozhikode, Forex Account Number 35350525917, the amount shown is US \$5. However, reconciliation statement has not been prepared to explain the reasons for the difference.

### COMMENTS RELATING TO ANNUAL ACCOUNTS OF PROVIDENT FUND

#### C.10 Provident Fund Account

The GPF Accounts for 2019-20 including Balance Sheet and Income and Expenditure Account Statement is attached along with the Institution's Annual Accounts 2019-20.

(i) NITC discloses the details of GPF and CPF Accounts also in Schedule 2A: GPF & CPF forming part of the Sources of Funds of Balance Sheet of Annual Accounts 2019-20 of the Institute. There was difference between the figures mentioned in the Schedule 2A and that of Annual Accounts of the PF as shown below:-

(₹in lakh)

	As per the Schedule 2A of Annual Accounts of the Institute			As per the Annual Accounts of the Provident Fund		
	GPF	CPF	TOTAL	GPF	CPF	TOTAL
a) Opening balance of the funds	2745.09	205.90	2951.00	1045.21	137.86	1183.07
b) Additions during the year	465.74	492.00	957.74	465.74	492.00	957.73
c) Income from investments made out of funds	69.05	1.09	70.15			
d) Accrued interest on investments/Advances	102.02	(0.04)	101.97	-	78.98	78.98
e) Interest on Savings Bank A/c	0.15	0.11	0.25			
f) Other additions	-	-	0			
<b>TOTAL</b>	<b>3382.05</b>	<b>699.06</b>	<b>4081.11</b>	<b>1510.95</b>	<b>708.84</b>	<b>2219.78</b>
Total expenditure	328.78	523.81	852.59	328.78	523.81	852.58
<b>Closing balance</b>	<b>3053.27</b>	<b>175.25</b>	<b>3228.52</b>	<b>1182.17</b>	<b>185.03</b>	<b>1367.20</b>

The accrued interest depicted against GPF (₹ 102.02 lakh) and CPF (₹-0.04lakh) in Schedule 2A: GPF & CPF (of Annual Accounts of the Institute) is ₹ 101.97 lakh. However, accrued interest income is not shown distinctively in the Income and Expenditure statement of Provident Fund Account, which is against MHRD format of the Income and Expenditure statement of PF Accounts. Similarly, the NITC had not shown the interest due to subscribers as expenditure in the Income & Expenditure Account and liability in the Balance Sheet.

(ii) The liability of 'Interest Reserve' in the Balance Sheet of PF Account represents accumulated balances carried forward from Income and Expenditure Account. However, on ledger verification, the item having opening balance of ₹ 1767.92 lakh is the total of the opening balances of Accounts of Interest Earned on GPF and CPF investments and not representing the accumulation of excess income carried forward from Income and Expenditure Account of previous years. This is a deviation of presentation of PF Accounts with that of MHRD format.

Though the Institute had agreed to follow the MHRD format, same was not complied with this year.

#### **D. Grant-in Aid**

The Institute received a Grant-in-Aid of ₹ 120.03 crore from the Government of India during 2019-20, which includes ₹3.63 crore as Non-Recurring Grant (Grant in Aid Capital) and ₹ 116.40 crore as Recurring Grant (Grant in Aid General and Grant in Aid Salaries).

Internal Resource generated during the year was ₹ 49.13crore. The unspent balance carried forward from previous year was ₹ 140.93 crore including Non-Recurring Grant of ₹ 61.34 crore and Recurring Grant of ₹ 79.59 crore.

Thus the total fund available during 2019-20 was ₹ 310.09 crore.

The Institute utilized an amount of ₹ 155.60 crore which comprised Non-Recurring Expenditure (Capital) of ₹ 8.66 crore and Recurring Expenditure of ₹ 146.94 crore.

Thus, the unspent balance as on 31-03-2020 on grant was ₹ 154.49 crore.

v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipts& Payments Account dealt with by this report are in agreement with the books of accounts.

vi. In our opinion and to the best of our information and according to the explanations given to us, because of the effects of the observations discussed above in the preceding paragraphs, the said financial statements read together with the Accounting Policies and Notes on Accounts, and other matters mentioned in Annexure I to this Audit Report, **do not give a true and fair view** in conformity with accounting principles generally accepted in India.

a. In so far as it relates to the Balance Sheet, of the state of affairs of the National Institute of Technology, Calicut as at 31 March 2020 and

b. In so far as it relates to Income & Expenditure Account of the deficit for the year ended on that date.

**For and on behalf of the C& AG of India**



**Principal Director of Audit (Central), Chennai**

**Place: Chennai**

**Date: 18 June 2021**

## Annexure I

### 1. Adequacy of Internal Audit System:

The Internal Audit system is inadequate as the Ministry has not conducted the audit of the Institute so far. Though an Internal Audit wing is functioning with an Officer on Special Duty (Audit) and an Ad-hoc Assistant, the duties and functions of the wing have not been defined. Now the audit is limited to pre check of sanctions and pass orders related to works and procurements. The internal audit does not cover the activities of all the wings/departments of the Institute. A system of reporting of internal audit findings to the Head of Institute for taking corrective measures is not in vogue.

The internal audit wing should be strengthened by providing necessary staff with clearly defined duties for effective functioning of the Institute.

### 2. Adequacy of Internal Control System:

Internal control system is inadequate. There is no proper system of reconciliation of bank figures with that of figures in Institute's Books of Accounts. Huge difference in balance of bank accounts and Institute's Accounts still persists. Some of the Savings/Current Accounts maintained at the Banks do not find places in the Books of Accounts of the Institute. The Institute is keeping, in the books of accounts, the balances of Savings Bank Accounts, which had already been closed.

### 3. System of Physical Verification of Assets:

Annual physical verification of assets has not been conducted for the year 2019-20.

### 4. System of Physical Verification of Inventory:

Annual physical verification of inventory, library, etc. has not been conducted for the year 2019-20.

### 5. Regularity in Payment of Statutory Dues:

The NIT is not regular in payment of statutory dues.



Dy. Director (DT) II