NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA SURATHKAL

MANGALORE - 575 025 INDIA

ANNUAL REPORT

2020-21

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ANNUAL REPORT 2020-2021

CONTENTS

1. THE INSTITUTE

1.1 HISTORICAL BACKGROUND

National Institute of Technology Karnataka (NITK) Surathkal, formerly known as Karnataka Regional Engineering College (KREC) Surathkal, was established in the year 1960 at Srinivasnagar, Mangalore, Karnataka State. Sri U. Srinivasa Mallya, a visionary and a philanthropist was instrumental in the establishment of this Institute and hence the campus is named after him as "Srinivasnagar". KREC made a small yet significant beginning with 3 Departments offering BE programs in Civil, Mechanical and Electrical Engineering. Since then KREC grew from strength to strength and set unprecedented records in the field of technical education in the country. Initially the College was affiliated to the University of Mysore but in 1980 the affiliation was transferred to the Mangalore University.With every passing batch of students who went on to conquer unexplored domains in the service of humanity, the stature of KREC grew and the world recognized and applauded. So much so, 'Surathkal' is synonymous with high quality engineering education. In 2002, the Government of India decided to grant full autonomy and accordingly the College was elevated to the status of Deemed University and renamed as the National Institute of Technology Karnataka. Subsequently, the National Institute of Technology Act, 2007 was enacted by the Parliament of India to declare India's National Institutes of Technology as Institutes of National Importance. The Act received the assent of the President of India on 5thJune, 2007 and became effective from August 15, 2007. The Institute is governed by the rules and statutes of the NIT Act.

The Institute has established itself as a premier center engaged in imparting quality technological education and providing support to research and development activities. The Institute has a long tradition of research for several decades in both traditional and modern areas of engineering and sciences in all departments. The Institute has been actively involved in applied research while identifying and resolving problems faced by the society in several areas. NITK attracts students from all over the country and abroad. NITK graduates are sought after by top industries/companies and the Institute has been rated as one of the best Institutions in the country with regard to student placements. Many of its alumni occupy coveted positions both in India and abroad and are sources of pride and inspiration to the Institute. NITK is consistently rated among the top engineering and technological institutes in India. Today, the Institute offers nine B.Tech programmes, 31 Post Graduate programmes and Doctoral programmes in all its fourteen Departments and is making significant advances in R&D and outreach activities too.

1.2 LOCATION

The Institute is located at Srinivasnagar, Surathkal in the Dakshina Kannada District of Karnataka State, 21 km. North of Mangalore city on either side of NH.66 which cuts across the campus. The campus is well connected by rail, road, air and sea with the rest of the country. The airport is situated at Bajpe, 20 km from Surathkal. The nearest Railway station is Surathkal (3 km.) which is on the Mangalore-Mumbai Konkan Railway route and the nearest sea port is New Mangalore which is 8 km. south of Institute premise.

1.3 CAMPUS

The campus covers an area of 295 acres in picturesque surroundings with Western Ghats in the East and the West Arabian Sea in the West. The campus is well laid out with roads, electrical installation, water supply, underground drainage etc. The campus being on the seashore, is blessed with clean air lush green and a healthy climate. The National Highway NH 66 separates the campus into Western Side and Eastern Side campus. The Western Side of the campus houses the Departments of Electrical and Electronics Engg., Electronics & Communication Engg., Computer Science and Engg. and Information Technology, Guest House, STEP, Yoga centre and pristine beach.

2 GOVERNANCE & ADMINISTRATION

2.1 ADMINISTRATION

NITK is governed by the Board of Governors which consists of representatives of the Government of India, Government of Karnataka, Alumni, Industry and other nominees. The Chairman of the Board is nominated by the Government of India. The Director is the administrative Head of the Institute. The functioning of NITK is governed by NITSER Act 2007 and rules laid down by Government of India.

COUNCIL, BOG AND OTHER COMMITTEES

COUNCIL OF NITs

1 Hon'ble Minister, Ministry of Education (erstwhile MHRD), Government of India
2 Education Secretary, Ministry of Education (erstwhile MHRD), Government of India
3 The Chairperson of National Institute of Technology Karnataka, Surathkal
4 Director of National Institute of Technology Karnataka, Surathkal
5 Chairman, UGC
6 Chairman, All India Council for Technical Education
7 Director, General, Council for Scientific and Industrial Research
8 Secretary, Department of Bio-Technology, Government of India
9 Secretary, Department of Atomic Energy, Government of India
10 Secretary, Department of Information Technology, GOI
11 Secretary, Department of Space, Government of India
12 Not less than three but not more than five persons to be nominated Member by the Visitor, atleast one of whom shall be a women, having special knowledge or practical experience in respect of education, industry, science or technology
13 Three members of Parliament, of whom two shall be chosen by the Member House of the people and one by the Council of States
14 Two Secretaries to the State Government, from amongst the ministries Member or departments of that Government dealing with technical education Two Secretaries to the State Government, from amongst the ministries Member or departments of that Government dealing with technical education
15 Financial Adviser, Ministry Government of India
16 Joint Secretary -Technical (Technical)/Additional Secretary (Technical), Department of Higher Education, Ministry of HRD, GOI

BOARD OF GOVERNORS

Chairperson

K. Balaveera Reddy, Ph.D.
Former Vice Chancellor - VTU-Belgaum
Veerabhadra Nilayam, H.No.10
4thA Cross, 2nd Block, HRBR Layout
Kalyana Nagar, Bangalore – 560043.

MEMBERS

K. Umamaheshwar Rao, Ph.D.
Director
N.I.T.K, Surathkal

Shri Madan Mohan
Additional Director General (HE)
Dept. of Higher Education
Ministry of Education
Govt. of India, Room No.431, C- Wing
Shastri Bhavan, New Delhi – 110 115.

Ms. Darshana M Dabral
Joint Secretary and Financial Advisor
Integrated Finance Bureau
Ministry of Education
Govt. of India, 120-C
Shastri Bhavan, New Delhi - 110 001.

Prof. A K Suresh
Professor of Chemical Engineering and
Dy. Director (Academic & Infrastructure Affairs)
Indian Institute of Technology Bombay

Powai, Mumbai – 400 076.
[Nominee of the Director, IIT- Bombay]

Mr. G M Ravindra
Managing Director
RKS INFRATECH Pvt. Ltd.
No.42/36, "Rajani Towers", 3rd Floor
27th Cross, 7th 'B' Main Road
4th Block, Jayanagar, Bengaluru – 560011.

Dr. Shanth Averahally Thimmaiah
Managing Director
METAMORPHOSIS Group of Companies
"PRAKRUTI BHAVAN", #200, 1st & 2nd Floor
1st Cross, 40th Main, Behind Silk Board,
BTM Layout, II Stage, Bengaluru – 560068.

Subhash C Yaragal, Ph.D.
Professor
Dept. of Civil Engg.
N.I.T.K., SURATHKAL.

Prasanna B D, Ph.D.
Associate Professor
Department of Chemical Engg.
N.I.T.K, SURATHKAL.

Secretary

Shri K Ravindranath
Registrar
NITK, Surathkal.

FINANCE COMMITTEE

Chairperson

K. Balaveera Reddy, Ph.D.
Former Vice Chancellor - VTU-Belgaum
Veerabhadra Nilayam, H.No.10
4thA Cross, 2nd Block, HRBR Layout
Kalyana Nagar, Bangalore – 560043.

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K. Umamaheshwar Rao, Ph.D.
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Additional Director General (HE)
Dept. of Higher Education
Ministry of Education Govt. of India, Room No.431, C- Wing
Shastri Bhavan, New Delhi – 110 115.

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Integrated Finance Bureau
Ministry of Education ,Govt. of India, 120-C, Shastri Bhavan
New Delhi - 110 001.

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Subhash C Yargal, Ph.D.
Professor
Dept. of Civil Engg.
N.I.T.K., SURATHKAL.

Member Secretary

Shri K Ravindranath
Registrar
NITK, Surathkal.

BUILDING AND WORKS COMMITTEE

Chairman
Prof.K Umamaheshwar Rao, Ph.D.
Director
NITK, Surathkal – 575 025

Members
Director – NITs, Ministry of Education (erstwhile MHRD), Govt. of India,
Dept of Higher Education, Room No. 223, C-wing, Shastri Bhavan, New Delhi – 110 001

Shri D K Singh
Deputy Secretary – Finance
Ministry of Education (erstwhile MHRD),
Dept. of Higher Education, No. 406-C,
Shasrti Bhavan, New Delhi -110 001

Subhas C Yaragal, Ph.D.
Dean (P&D), NITK, Surathkal
Mangalore – 575 025

Lakshman Nandagiri, Ph.D.
Professor
Dept. of Water Resources and Ocean Engineering
NITK, Surathkal
Mangaluru – 575 025

Shri. Suneet K Dadheech
Superintending Engineer, Project Director, CPWD, NITKS Project Circle Office, NITK Campus, Mangalore – 575 025

Shri Manjappa
Superintending Engineer, MESCOM, O&M Circle, Attavar,
Mangalore – 575 001

Member – Secretary
Sri K Ravindranath
Registrar
NITK, Surathkal,
Post Srinivasnagar,
Mangalore-575 025

OTHER COMMITTEES

SENATE

Chairman

K. Umamaheshwar Rao,Ph.D
Chairman

Ananthanarayana V. S., Ph.D.Member

Prof. K.V. Jayakumar, External Member

Prof. N. C. Shivaprakash, External Member

Prof. (Ms.) Anjula Gurtoo, External Member

Members:-

A. Nityananda Shetty, Ph.D.

M. S. Bhat, Ph.D.

Subhash C Yaragal, Ph.D.

U Shripathi Acharya, Ph.D.

K Panduranga Vittal, Ph.D.

Jagannath Nayak, Ph.D.

Vidya Shetty K, Ph.D.

Ashvini Chaturvedi, Ph.D.

B M Dodamani, Ph.D.

Lakshman Nandagiri, Ph.D

Subba Rao, Ph.D.

Dwarakish G S, Ph.D.

Kiran G. Shirlal, Ph.D.

A. Mahesha, Ph.D.

(Mrs.) Amba Shetty, Ph.D.

Prasanna B D, Ph.D.

M.B. Saidutta, Ph.D.

Raj Mohan B, Ph.D.

Arun Mohan Isloor, Ph.D.

A. Chitharanjan Hegde, Ph.D.

Badekai Ramachandra Bhat, Ph.D.

Denthaje Krishna Bhat, Ph.D.

(Mrs.) B R Jayalekshmi, Ph.D.

K. N. Lokesh, Ph.D.

R. Shivashankar, Ph.D.

M. C. Narasimhan, Ph.D.

Katta Venkataramana, Ph.D.

A.U. Ravi Shankar, Ph.D.

K. Swaminathan, Ph.D.

Varghese George, Ph.D.

S. Shrihari, Ph.D.

Sitaram Nayak, Ph.D.

K. S. Babu Narayan, Ph.D.

Shashidhar G Koolagudi, Ph.D.

K. Chandrasekaran, Ph.D.

Annappa, Ph.D.

P. Santhi Thilagam, Ph.D.

T. Laxminidhi, Ph.D.

(Mrs.) Sumam David S., Ph.D.

Muralidhar Kulkarni, Ph.D.

John D'Souza, Ph.D.

Neelavar Shekar Vittal Shet, Ph.D.

Shubhanga K N, Ph.D.

Gururaj S Punekar, Ph.D.

B Venkatesa Perumal, Ph.D.

Biju R Mohan, Ph.D.

G. Ram Mohana Reddy, Ph.D.

Shyam S. Kamath, Ph.D.

A. Kandasamy, Ph.D.

Suresh M Hegde, Ph.D.
Santhosh George, Ph.D.

B. R. Shankar, Ph.D.

Murulidhar N. N., Ph.D.
S. M. Kulkarni, Ph.D.
Ashok Babu T P, Ph.D.

G. C. Mohan Kumar, Ph.D.
Prasad Krishna, Ph.D.
Gangadharan K. V., Ph.D.
Shrikantha S. Rao, Ph.D.
Vijay H. Desai, Ph.D.
Narendranath S., Ph.D.
Ravikiran Kadoli, Ph.D.
H. Suresh Hebbar, Ph.D.
S. M. Murigendrappa, Ph.D.
K. Narayan Prabhu, Ph.D.

A. O. Surendranathan, Ph.D.

Anandhan Srinivasan, Ph.D.

Udaya Bhat K., Ph.D.
Aruna M, Ph.D.
Ch. S. N. Murthy, Ph.D.
M. Govinda Raj, Ph.D.
Harsha Vardhan, Ph.D.
V. R. Sastry, Ph.D.
Ajith K M, Ph.D.

N. K. Udayashankar, Ph.D.

(Mrs.) H. D. Shashikala, Ph.D.
M. N. Satyanarayan, Ph.D.
S Pavan Kumar, Ph.D.
Aloysius Henry Sequeira, Ph.D.
K. B. Kiran, Ph.D.

Shashikantha Koudur, Ph.D.

Chairman - CCC
System Manager, CCC

Mallikarjuna Angadi, Ph.D., Librarian

Shri K. Ravindranath, Secretary /Registrar

BOARD OF STUDIES (BOS - UG/PG/RESEARCH)

Constitution:

Dean (Academic)	Chairman
Dean (Faculty Welfare)	Member
Dean (Planning & Development)	Member
Dean (Students' Welfare)	Member
Dean (Research & Consultancy)	Member
Dean (Alumni Affairs & Institutional Affairs)	Member
H.O.D. of each Department/his nominee	Members
BOG member representing the faculty	Member
Three Representatives from the premier	Member
Academic Institutions such as IIT, NIT, IISc.,	Member
IIM, others belonging to Southern region	Member
Assistant Registrars (Academic)	Members
Registrar	Secretary

QUARTERS ALLOTMENT COMMITTEE

K Umamaheshwar Rao, Ph.D.	President
M S Bhat, Ph.D.	Chairman
Muralidhar Kulkarni, BOG Member	Member
Sri. K Ravindranath, Registrar	Member
Sri. Rammohan Y, Joint Registrar	Member
K Narayan Prabhu, Ph.D.	Member
P Santhi Thilagam, Ph.D.	Member
Monappa Mera, Supdt. A/cs- II	Member
Sreejith A, Ph.D. Grievance Redressal officer (PwD)	Member
Prashanth M H, Ph.D., Asst. Prof. Faculty I/c (Estate & Works)	Member/ Secretary
The President, NITK Non-Teaching Employees Association (R)	Member
The President, NITK, Employees Association (R)	Member

INSTITUTE GRIEVANCE REDRESSAL COMMITTEE

Narendranath S, Ph.D.	Chairman
S M Murigendrappa, Ph.D.	Member
Ravishankar K S, Ph.D.	Member
Nagendrappa H, Ph.D.	Member
Rashmi Uchil, Ph.D.	Member
Shreekanth R Lamani, Ph.D.	Member
Pathipati Srihari, Ph.D.	Member
Kedamath Senapati, Ph.D.	Member

Shri. P N Subraahmanya, Asst. (SG-II, Est. & General Section	Member
Soumen Karmakar	Convener

SECURITY COMMITTEE

Dean (Faculty Welfare)	
Dean (P&D)	
Dean (SW)	
Registrar	
Chairman, CCC	
Prof. i/c Hostels	
Resident Engineer	
Joint Registrar	
Faculty i/c Estate & Works	
Faculty i/c Ele. Works	
Faculty i/c Security	
Security Officer	

LIBRARY ADVISORY COMMITTEE

M.N. Satyanarayan, Ph.D.	Chairman, LAC
Subrahmanya K., Ph.D.	Member
B M Kunar, Ph.D.	Member
V Murugan, Ph.D.	Member
Shashi Bhushan Arya, Ph.D.	Member
P Shrihari, Ph.D.	Member
Suprabha K R, Ph.D.	Member
Gangamma S, Ph.D.	Member
Sib Sankar Mal, Ph.D.	Member
Ajith K M, Ph.D.	Member
Manu Basavaraju, Ph.D.	Member
Anand Kumr M, Ph.D.	Member
Anish S, Ph.D.	Member
Nagendrappa H, Ph.D.	Member
Anupama Surenjan, Ph.D.	Member
Iranna Shettar	Member
Mrs. Anasuya C.	Member
Mallikarjun Angadi, Ph.D.	Convener

SPORTS ADVISORY COMMITTEE

Director	President
Dean (S. W.)	Chairman
Dean (F.W.)	Member
Registrar	Member
Joint Registrar	Member
Resident Engineer	Member
Professor-in-charge of Hostel Affairs	Member
A Nityananda Shetty, Ph.D. Dept. of Chemistry	Member
Prasanna B D, Ph.D., Dept. of Chemical Engg.	Member
B M Dodamani, Ph.D. Dept. of Applied Mechanics & Hydraulics	Member
Mohammad Rizwanur Rahman, Ph.D., Dept. of Metallurgical & Materials Engg,	Member
P Sam Johnson, Ph.D. Dept. of MACS	Member
Kalpana G Bhat, Ph.D Dept. of E&C Engg.	Member
Ramesh M R, Ph.D., Dept. of Mechnanical Engg.	Member
Raviraj H Mulangi, Ph.D, Dept. of Civil Engg.	Member
Alwyn Roshan Pais, Ph.D. Dept. of Computer Science and Engg.	Member
Hem Prasad Nath , Ph.D. SAS Officer	Member
Manoj, Ph.D., SAS Officer	Member
Iranna M Shettar, Asst. Librarian	Member
Students Council President	Member
Vice President	Member
Sports Secretary	Member
R C Convenor	
All Captains	Member
Physical Director i/c	Member/ Secretary

INTERNAL COMPLAINTS COMMITTEE

Vidya Shetty, Ph.D.	Chairperson, ICC-SH
Harsha Vardhan, Ph.D.	Member, ICC-SH
Geetha V, Ph.D.	Member, ICC-SH
Suprabha K R, Ph.D.	Member, ICC-SH
P Shekhar, Supdt. SG-II	Member, ICC-SH
Octavia Zeena Dsouza, Stenographer (S.G-II)	Member, ICC-SH
Rameela Shekar, Psychological Counselor	NGO Member, ICC, SH

HEALTH CARE COMMITTEE

Dean (Faculty Welfare)	Chairman
Warden, Girls Hostel	Member
Professor in-charge (Hostel Affairs)	Member
Liaison Officer, SC/ST Cell	Member
G Ram mohan Reddy, Ph.D.	Member
Pavan Kumar, Ph.D.	Member
Sri. Rukmayya Shetty	Member
C P Devatha, Ph.D.	Member

Ms. Gayathri Rao K	Member
Joint Registrar	Member
Supdt. Accounts III	Member
President Student's Council	Member
Girls Representative	Member
Dr. M L Balabhaskara, Medical Officer	Member
Dr. (Mrs.) Shrimathi B, Medical Officer	Secretary

3. DEPARTMENTS AND SCHOOLS

Water Resources & Ocean Engineering	(WROE)
Chemical Engineering	(CH)
Chemistry	(CY)
Civil Engineering	(CV)
Computer Science & Engineering	(CO)
Electrical & Electronics Engineering	(E&E)
Electronics & Communication Engineering	(E&C)
Information Technology	(IT)
Mathematical & Computational Sciences	(MACS)
Mechanical Engieering	(ME)
Metallurgical & Materials Engineering	(MT)
Mining Engineering	(MN)
Physics	(PH)

SCHOOLS	(SOM)
School of Management	

4. ACADEMIC PROGRAMMES

4.1 PROGRAMMES OFFERED

I. B.TECH. (Undergraduate Programme) – Eight semesters

1 Chemical Engineering
2 Civil Engineering
3 Computer Science & Engineering
4 Electrical and Electronics Engineering
5 Electronics & Communication Engineering
6 Mechanical Engineering
7 Metallurgical & Materials Engineering
8 Mining Engineering
9 Information Technology

II .M.Tech. (Post Graduate Programme) – Four Semesters

1 Structural Engg.
2 Geotechnical Engg.
3 Environmental Engg.
4 Transportation Engg.
5 Construction Technology and Management
6 Marine Structures
7 Water Resources Engineering and Management
8 Remote Sensing and Geographic Information Systems
9 Manufacturing Engg
10 Mechatronics Engg
11 Thermal Engg
12 Mechanical Design
13 Power & Energy Systems
14 VLSI Design
15 Communication Engineering and Networks
16 Signal processing and Machine Design
17 Environmental Science and Technology
18 Chemical Engineering
19 Industrial Biotechnology
20 Materials Engg
21 Process Metallurgy
22 Nanotechnology
23 Computer Science & Engg
24 Computer Science & Engg-Information Security
25 Computational and Data Science
26 Information Technology

III M.Tech. by Research : In all the above M.Tech Programme and in the Department of Mining - M.Tech Research Programme in Rock Excavation Technolgy and Management

IV. M.C.A. (Master of Computer Applications) - Six semesters

V. M.B.A. (Master of Business Administration) - Four semesters

VI. M.Sc. in Chemistry – (Four semesters)

VII. M.Sc. in Physics – (Four semesters)

VIII. Ph. D. Programme:-

Ph.D. Programmes are offered in 14 Departments in various streams and interdisciplinary specializations.

4.2 ACADEMIC CALENDAR

Academic Year	Programmes	Admission Commenced on	Admission closed on
2020-21	B.Tech.	16.11.2020	21.11.2020
2020-21	M.Tech.	17.09.2020	21.09.2020
2020-21	M.Tech. by Research/ Spon.	18.09.2020	25.06.2020
2020-21	MCA	28.12.2020	30.12.2020
2020-21	M.B.A.	29.06.2020	04.07.2020
2020-21	M.Sc. (Physics & Chemistry)	17.09.2020	21.09.2020
2020-21	Ph.D	18.09.2020	25.06.2020

5. ADMISSION POLICIES

5.1 ADMISSION PROCEDURE

B. Tech.:-

The Government of India, Department of Ministry of Education (erstwhile MHRD) issued a uniform admission procedure for all the NITs in the country. Candidates seeking admission to NIT are required to appear for the JEE (Main) conducted by CBSE, New Delhi. Seats are filled up as per the merit list prepared on the basis of JEE (Main) Examination and qualifying examination scores. According to All India rank prepared on the basis of the performance in JEE (Main), seats will be allotted in the centralized on-line campus counseling through Central Seat Allocation Board (CSAB). The seat allocation done on the basis of 50% Home State Quota (HS) and 50% Other State Quota (OS). These seats are filled on All India ranking Merit Basis (JEE Main). Seats are reserved for candidates belonging to Scheduled Caste, Scheduled Tribes, Persons with Disabilities (PWD,) Other Backward Classes and Economically Weaker Section (EWS) as per the guidelines issued by the Ministry of Education (erstwhile MHRD). Female supernumerary seats are also created by CSAB to accommodate 20% seats for female candidates. In addition to this, 15% over and above the intake is available under the Direct Admission of Students Abroad (DASA) Scheme, and a few seats are reserved for the candidates nominated by the Ministry of External Affairs and ICCR

M.Tech -GATE/Scholarship seats:-

On the basis of GATE Score, admissions for scholarship category (GATE) were made in the centralized on-line common Admission Process through Centralized Counseling for M.Tech. (CCMT) coordinated by MNIT Jaipur.
After the admission through CCMT, the vacant and unfilled seats were filled through Spot admission on 6.10.2020 at NITK, Surathkal for the GATE qualified candidates.

M.Tech.(Sponsored Seats/Research):-

Selection of candidates for admission were made on the basis of GATE score or in some of the programmes, selection was based on GATE score and on academic performance in qualifying examination and written aptitude test or/ and interview etc as decided by the DPGC of the concerned Department offering that programme.

M.C.A.:-

Selection of candidates for admissions was done through a common entrance test NIMCET. Admissions were made through a centralized counseling. (NIMCET)

M.B.A:-

Selection was based on CAT/MAT score and performance in the qualifying examination and written aptitude test or/ and interview etc as decided by the DPGC of the School of Management.

M.Sc (Chemistry & Physics):-

Selection of candidates for admissions was made on the basis of JAM Score. Admissions were made through a centralized counseling. (CCMN)

Ph.D. Programme:-

Selection of candidates for admission to Ph.D. Programme was based upon the academic performance in the qualifying examinations, written aptitude test and interviews conducted by the respective departments.

All the students are required to stay in the Institute Hostels, unless permitted to reside outside under special circumstances. Students have to strictly adhere to the rules and regulations of the institute.

6. ADMISSIONS FOR 2020-21

6.1 The number of candidates admitted are as follows:

I. B.Tech.

1	Admission through JEE (Main) Rank	969
2	G.O.I. Nominee- through Ministry of External Affairs (Education & Welfare)	10
3	DASA Scheme	84
	Total	**1063**

II. M.Tech./M.Tech. (By Research)

i) M.Tech Programme

The number of candidates admitted to First Year M.Tech. Programmes are:

1	With GATE qualifications for scholarship seats	698
2	Sponsored candidates	03
3	L&T Sponsored Candidates	30
4	ICCR Sponsored	04
	Total	**735**

II. M.Tech. (By Research)

1	GATE qualified with Scholarship	35
2	Non-Scholarship	09
	Total	**44**

IV MCA.:

Selection of candidates for admission to MCA, were made on the basis of rank obtained in NIT MCA Common Entrance Test (NIMCET). Admissions were made through a Centralized counseling conducted by N.I.T. Surathkal. A Total 58 candidates admitted were as follows:-

OP	22
OBC	15
EWS	06
SC	09
ST	04
PWD (1 OP, 1 OBC)	02
Total	**58**

IV M.B.A.:

Selection of candidates were made on the basis of CAT/MAT among candidates applied to NITK, Surathkal, Group Discussion and interview. A total 30 candidates were admitted as follows:-

OP	21
OBC	8
EWS	1
SC	0
ST	0
Total	**30**

V. M.Sc (Chemistry & Physics)

Selection were made on the basis of score obtained JAM 2020. Admissions were made through CCMN conducted by NIT Rourkela. Following are the admission details:

i. M.Sc (Chemistry)

OP	12
OBC	09
EWS	03
SC	05
ST	02
PWD (OP)	01
Total	**32**

ii M.Sc (Physics)

OP	12
OBC	09
EWS	04
SC	05
ST	00
Total	**30**

VI. Ph.D. Programme:

Fellowship Holders

OP	56
OBC	34
EWS	07
SC	14

ST	07
PWD	01
Total	**119**

External Registrants (Part Time)	52
Sponsored	3
Non Sponsored	19
QIP	8
Other Quota (CSIR – INSPIRE)	2
Total	**84**

A total number of 1063 candidates have been admitted to the First Year B.Tech. Programmes according to the guidelines, instructions issued by the Ministry of Education (erstwhile MHRD). The PG & Ph.D. admissions have been made according to the Rules and Regulations issued by the Senate of the Institute.

6.2 B.Tech. Students Strength for the year 2020-21

B.Tech I Year	SC			ST			OBC			DASA			ICCR			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Civil Engg	14	4	18	7	2	9	26	7	33	3	2	5	2	0	2	10	2	12	36	10	46	98	27	125
Mechanical Engg.	22	5	27	11	4	15	40	10	50	13	1	14	3	0	3	15	3	18	56	15	71	160	38	198
Electrical & Electronics Engg.	15	4	19	5	2	7	27	7	34	9	4	13	1	0	1	11	2	13	38	10	48	106	29	135
Electronics & Communication Engg.	11	4	15	5	3	8	27	7	34	15	2	17	0	0	0	10	2	12	39	9	48	107	27	134
Chemical Engg.	7	2	9	2	1	3	10	3	13	4	2	6	0	0	0	5	1	6	17	5	22	45	14	59
Metallurgical & Materials Engg.	8	2	10	4	1	5	13	3	16	0	0	0	0	0	0	4	2	6	20	5	25	49	13	62
Mining Engg.	7	2	9	4	1	5	14	3	17	0	0	0	0	0	0	4	2	6	21	5	26	50	13	63
Computer Science & Engg.	14	4	18	7	2	9	25	6	31	15	2	17	2	1	3	10	2	12	36	11	47	109	28	137
Information Technology	15	4	19	6	3	9	26	7	33	4	8	12	0	1	1	11	2	13	40	10	50	102	35	137
Total	**113**	**31**	**144**	**51**	**19**	**70**	**208**	**53**	**261**	**63**	**21**	**84**	**8**	**2**	**10**	**80**	**18**	**98**	**303**	**80**	**383**	**826**	**224**	**1050**

B.Tech II Year	**SC**			**ST**			**OBC**			**DASA**			**ICCR**			**EWS**			**GENERAL**			**TOTAL**		
	M	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**
Civil Engg	15	2	17	8	2	10	21	2	23	4	2	6	0	0	0	6	2	8	32	8	40	86	18	104
Mechanical Engg.	22	3	25	12	2	14	39	8	47	21	0	21	1	0	1	7	1	8	64	15	79	166	29	195
Electrical & Electronics Engg.	15	2	17	7	2	9	24	4	28	8	4	12	2	0	2	4	1	5	40	8	48	100	21	121
Electronics & Communication Engg.	14	2	16	6	1	7	23	5	28	11	5	16	0	0	0	4	3	7	38	7	45	96	23	119
Chemical Engg.	5	2	7	3	1	4	12	3	15	4	2	6	1	1	2	1	2	3	18	7	25	44	18	62
Metallurgical & Materials Engg.	6	2	8	3	0	3	12	2	14	0	0	0	0	0	0	3	0	3	16	2	18	40	6	46
Mining Engg.	6	1	7	3	1	4	11	2	13	0	0	0	0	0	0	3	0	3	17	3	20	40	7	47
Computer Science & Engg.	15	2	17	5	2	7	25	6	31	11	5	16	0	0	0	4	2	6	42	8	50	102	25	127
Information Technology	14	2	16	6	0	6	25	5	30	8	4	12	0	0	0	5	2	7	37	9	46	95	22	117
Total	**112**	**18**	**130**	**53**	**11**	**64**	**192**	**37**	**229**	**67**	**22**	**89**	**4**	**1**	**5**	**37**	**13**	**50**	**304**	**67**	**371**	**769**	**169**	**938**

B.Tech III Year	**SC**			**ST**			**OBC**			**DASA**			**SII**			**ICCR**			**GENERAL**			**TOTAL**		
	M	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**	**M**	**F**	**To**
Civil Engg	12	2	14	6	1	7	21	3	24	11	3	14	1	0	1	1	0	1	37	9	46	89	18	107
Mechanical Engg.	19	3	22	10	2	12	37	6	43	18	4	22	1	0	1	0	0	0	64	10	74	149	25	174
Electrical & Electronics Engg.	12	3	15	6	1	7	23	4	27	8	4	12	0	0	0	1	0	1	39	7	46	89	19	108
Electronics & Communication Engg.	11	3	14	5	1	6	21	5	26	12	4	16	0	0	0	0	0	0	40	7	47	89	20	109
Chemical Engg.	5	1	6	3	1	4	11	2	13	4	3	7	0	0	0	1	0	1	16	5	21	40	12	52
Metallurgical & Materials Engg.	6	1	7	3	0	3	8	4	12	0	0	0	0	0	0	0	0	0	19	3	22	36	8	44
Mining Engg.	5	1	6	2	2	4	7	2	9	0	0	0	0	0	0	0	0	0	15	2	17	29	7	36
Computer Science & Engg.	13	2	15	5	2	7	23	4	27	12	2	14	3	0	3	1	0	1	44	6	50	101	16	117
Information Technology	12	1	13	6	0	6	22	4	26	8	3	11	0	0	0	0	0	0	35	11	46	83	19	102
Total	**95**	**17**	**112**	**46**	**10**	**56**	**173**	**34**	**207**	**73**	**23**	**96**	**5**	**0**	**5**	**4**	**0**	**4**	**309**	**60**	**369**	**705**	**144**	**849**

B.Tech IV Year	SC			ST			OBC			DASA			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Civil Engg	11	3	14	5	0	5	21	1	22	6	5	11	35	6	41	78	15	93
Mechanical Engg.	19	0	19	10	1	11	34	1	35	21	3	24	66	3	69	150	8	158
Electrical & Electronics Engg.	14	0	14	5	1	6	24	2	26	8	3	11	37	9	46	88	15	103
Electronics & Communication Engg.	11	2	13	6	0	6	23	2	25	13	4	17	37	8	45	90	16	106
Chemical Engg.	4	2	6	2	1	3	10	2	12	6	2	8	15	5	20	37	12	49
Metallurgical & Materials Engg.	7	0	7	2	0	2	12	0	12	0	0	0	16	3	19	37	3	40
Mining Engg.	4	0	4	3	0	3	10	2	12	0	0	0	19	1	20	36	3	39
Computer Engg.	12	1	13	6	0	6	23	3	26	12	5	17	44	2	46	97	11	108
Information Technology	12	1	13	4	2	6	22	5	27	10	2	12	39	5	44	87	15	102
Total	**94**	**9**	**103**	**43**	**5**	**48**	**179**	**18**	**197**	**76**	**24**	**100**	**308**	**42**	**350**	**700**	**98**	**798**

M.Tech. Students Strength for the year 2020-21

M.Tech (I Year)	SC			ST			OBC			QIP			DASA			EWS			ICCR			Sponsored /L&T			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Structural Engg.	4	1	5	3	0	3	9	0	9	0	0	0	0	0	0	3	0	3	0	0	0	1	0	1	11	2	13	31	3	34
Geotechnical Engg.	3	0	3	1	0	1	5	0	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	4	3	7	15	3	18
Environmental Engg.	4	1	5	1	1	2	4	5	9	0	0	0	0	0	0	1	2	3	0	0	0	1	0	1	7	7	14	18	16	34
Transportation Systems Engg.	3	1	4	1	2	3	7	1	8	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	11	2	13	25	6	31
Construction Technology & Mgt.	5	0	5	0	3	3	7	2	9	0	0	0	0	0	0	3	0	3	28	2	30	0	0	0	9	4	13	52	11	63

M.Tech (I Year)	SC			ST			OBC			QIP			DASA			EWS			ICCR			Sponsored /L&T			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Marine Structures	4	1	5	1	0	1	7	2	9	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	9	5	14	24	8	32
Water Resources Engg. & Management	3	0	3	1	0	1	4	2	6	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	3	3	6	12	6	18
Remote Sensing & GIS	1	2	3	1	0	1	2	6	8	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	10	5	15	16	13	29
Thermal Engg.	2	0	2	0	0	0	4	1	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	5	1	6	13	2	15
Mechatronics Engg.	5	0	5	2	0	2	8	0	8	0	0	0	0	0	0	2	0	2	1	0	1	0	0	0	13	2	15	31	2	33
Manufacturing Engg.	3	0	3	1	0	1	5	0	5	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	7	0	7	17	1	18
Mechanical Design	2	1	3	1	0	1	3	1	4	0	0	0	0	0	0	2	0	2	1	0	1	0	0	0	6	1	7	15	3	18
Power & Energy Systems	4	1	5	3	0	3	8	0	8	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	13	0	13	31	2	33
VLSI Design	4	1	5	2	0	2	9	0	9	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	10	3	13	28	4	32
Signal Processing & Machine Learning	3	1	4	1	0	1	7	1	8	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	7	3	10	20	5	25
Communication Engg.& Networks	4	0	4	1	1	2	6	2	8	0	0	0	0	0	0	2	1	3	0	0	0	0	1	1	10	3	13	23	8	31
Chemical Engg	1	1	2	0	0	0	3	2	5	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	4	4	8	9	7	16
Environmental Science & Technology	1	0	1	0	0	0	2	0	2	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	6	2	8	11	2	13
Industrial Biotechnology	1	2	3	0	0	0	2	3	5	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	7	10	17	11	15	26
Process Metallurgy	2	1	3	0	0	0	5	0	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	6	1	7	15	2	17
Materials Engg.	3	1	4	1	0	1	9	0	9	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	10	0	10	26	1	27
Nanotechnology	1	2	3	1	0	1	4	1	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	6	1	7	14	4	18
Computer Science & Engg	5	0	5	2	1	3	7	0	7	0	0	0	0	0	0	3	0	3	0	0	0	0	1	1	10	4	0	27	6	33
Computer Science & Engg. - Information Security	4	1	5	2	0	2	8	2	10	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	9	3	12	26	7	33

M.Tech (I Year)	SC			ST			OBC			QIP			DASA			EWS			ICCR			Sponsored /L&T			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Computational & Data Science	4	1	5	1	1	2	9	0	9	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	13	1	14	30	3	33
Information Technology	3	2	5	2	0	2	6	2	8	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	9	4	13	24	8	32
TOTAL	**79**	**21**	**100**	**29**	**9**	**38**	**150**	**33**	**183**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**7**	**66**	**30**	**2**	**32**	**2**	**2**	**4**	**215**	**74**	**275**	**564**	**148**	**712**

M.Tech (II Year)	SC			ST			OBC			QIP			EWS			DASA			ICCR			Sponsored			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Structural Engg.	4	0	4	2	0	2	5	1	6	1	0	1	2	1	3	0	0	0	1	0	1	0	0	0	8	4	12	23	6	29
Geotechnical Engg.	1	0	1	1	0	1	1	3	4	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	3	2	5	7	5	12
Environmental Engg.	1	3	4	1	0	1	1	7	8	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	2	10	12	7	21	28
Transportation Engg.	3	0	3	1	0	1	4	3	7	0	0	0	3	0	3	0	0	0	1	0	1	0	0	0	11	2	13	23	5	28
Construction Technology & Mgt.	4	0	4	0	0	0	6	2	8	0	0	0	2	0	2	0	0	0	1	0	1	26	4	30	9	3	12	48	9	57
Marine Structures	4	0	4	1	0	1	3	5	8	0	0	0	2	0	2	0	0	0	0	0	0	1	0	1	5	8	13	16	13	29
Water Resources Engg. & Management	2	0	2	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	8	3	11
Remote Sensing & GIS	1	1	2	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	7	15	11	12	23
Thermal Engg.	2	0	2	1	0	1	5	0	5	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	5	1	6	15	1	16
Mechatronics Engg.	4	0	4	0	0	0	6	1	7	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	12	2	14	23	3	26
Manufacturing Engg.	2	0	2	1	0	1	3	0	3	0	0	0	2	0	2	0	0	0	0	0	0	1	0	1	7	0	7	16	0	16
Design and Precision Engg.	2	0	2	1	0	1	3	1	4	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	6	1	7	14	2	16
Power & Energy Systems	2	1	3	1	0	1	8	2	10	0	0	0	1	1	2	0	0	0	2	0	2	0	0	0	8	3	11	22	7	29

M.Tech (II Year)	SC			ST			OBC			QIP			EWS			DASA			ICCR			Sponsored			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
VLSI Design	1	3	4	2	0	2	7	1	8	0	0	0	2	0	2	0	1	1	0	0	0	0	0	0	11	2	13	23	7	30
Signal Processing & Machine Learning	1	2	3	1	0	1	5	3	8	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	10	2	12	18	8	26
Communication Engg.& Networks	2	2	4	1	0	1	6	4	10	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	9	2	11	19	9	28
Chemical Engg	1	0	1	0	0	0	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	2	6	9	3	12
Environmental Science & Technology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	9	4	5	9
Industrial Biotechnology	1	3	4	0	1	1	1	5	6	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	3	12	15	6	21	27
Process Metallurgy	1	0	1	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	12	0	12
Materials Engg.	1	1	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	2	20	20	3	23
Nanotechnology	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	4	1	5
Computer Science & Engg	1	1	2	1	1	2	5	1	6	0	0	0	1	1	2	0	0	0	0	1	1	0	0	0	12	1	13	20	6	26
Computer Science & Engg. - Information Security	1	4	5	1	0	1	8	1	9	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	13	0	13	26	5	31
Computational & Data Science	0	2	2	0	1	1	4	3	7	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	11	1	12	16	7	23
Information Technology	2	0	2	1	0	1	6	3	9	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	8	3	11	18	7	25
TOTAL	**44**	**23**	**67**	**18**	**3**	**21**	**101**	**51**	**152**	**2**	**0**	**2**	**31**	**7**	**38**	**0**	**1**	**1**	**5**	**1**	**6**	**28**	**4**	**32**	**199**	**79**	**278**	**428**	**169**	**597**

M.Tech Research	SC			ST			OBC			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Marine Structure	0	0	0	0	0	0	0	1	1	0	0	0	2	1	3	**2**	**2**	**4**
Remote Sensing & GIS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0**	**1**	**1**
Water Resources Engg. & Management	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	**2**	**0**	**2**
Structural Engg.	1	0	1	0	0	0	1	1	2	0	0	0	6	4	10	**8**	**5**	**13**
Geotechnical Engg.	1	0	1	0	0	0	0	0	0	0	1	1	1	0	1	**2**	**1**	**3**
Environmental Engg.	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	**0**	**2**	**2**
Thermal Engg.	0	0	0	0	0	0	2	1	3	1	0	1	5	0	5	**8**	**1**	**9**
Mechatronics Engg.	1	0	1	0	0	0	4	0	4	0	0	0	3	1	4	**8**	**1**	**9**
Manufacturing Engg.	0	0	0	0	0	0	1	0	1	0	0	0	5	0	5	**6**	**0**	**6**
Mechanical Design	0	0	0	0	0	0	2	0	2	0	0	0	2	0	2	**4**	**0**	**4**
Mechatronics and Automation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
Design and Precision Engg.	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	**3**	**0**	**3**
Power & Energy Systems	0	0	0	0	0	0	1	0	1	0	0	0	4	0	4	**5**	**0**	**5**
VLSI Design	0	1	1	0	0	0	2	0	2	0	0	0	2	1	3	**4**	**2**	**6**
Communication Engg	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0**	**1**	**1**
Communication Engg. and Network	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	**1**	**3**	**4**
Signal Processing and Machine Learning	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**1**	**0**	**1**
Materials Engg.	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2	**3**	**0**	**3**
Nanotechnology	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0**	**1**	**1**
Industrial Pollution Control	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0**	**1**	**1**
Chemical Plant Design	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**1**	**0**	**1**
Industrial Biotechnology	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**1**	**0**	**1**
Environmental Science & Technology	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**1**	**0**	**1**
Computer Science & Engg	0	0	0	0	0	0	2	0	2	0	0	0	4	0	4	**6**	**0**	**6**
Computer Science & Engg. - Information Security	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	**2**	**2**	**4**
Rock Excavation Technology & Mgt	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**1**	**0**	**1**
Information Technology	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	**2**	**0**	**2**
Computational and Data Science	0	0	0	0	0	0	2	0	2	1	0	1	1	0	1	**4**	**0**	**4**
TOTAL	**3**	**1**	**4**	**0**	**0**	**0**	**19**	**4**	**23**	**2**	**1**	**3**	**51**	**17**	**68**	**75**	**23**	**98**

MCA Students Strength for the year 2020-21																		
Year	SC			ST			OBC			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
I YEAR	7	2	9	4	0	4	15	1	16	1	5	6	16	7	23	**43**	**15**	**58**
II Year	7	1	8	3	0	3	9	5	14	0	0	0	19	7	26	**38**	**13**	**51**
III YEAR	10	2	12	6	1	7	20	5	25	0	0	0	32	13	45	**68**	**21**	**89**
TOTAL	**24**	**5**	**29**	**13**	**1**	**14**	**44**	**11**	**55**	**1**	**5**	**6**	**67**	**27**	**94**	**149**	**49**	**198**

MBA Students Strength for the year 2020-21																		
YEAR	SC			ST			OBC			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
I YEAR	0	0	0	0	0	0	3	5	8	1	0	1	10	11	21	**14**	**16**	**30**
II YEAR	0	2	2	1	0	1	0	2	2	0	0	0	15	8	23	**16**	**12**	**28**
TOTAL	**0**	**2**	**2**	**1**	**0**	**1**	**3**	**7**	**10**	**1**	**0**	**1**	**25**	**19**	**44**	**30**	**28**	**58**

M.Sc (Chemistry) Students Strength for the year 2020-21																		
YEAR	SC			ST			OBC			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
I YEAR	0	5	5	1	0	1	7	3	10	2	1	3	8	4	12	**18**	**13**	**31**
II YEAR	1	0	1	0	0	0	3	5	8	0	2	2	5	7	12	**9**	**14**	**23**
TOTAL	**1**	**5**	**6**	**1**	**0**	**1**	**10**	**8**	**18**	**2**	**3**	**5**	**13**	**11**	**24**	**27**	**27**	**54**

M.Sc(Physics) Students Strength for the year 2020-21																		
YEAR	SC			ST			OBC			EWS			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
I YEAR	5	0	5	0	0	0	6	1	7	4	0	4	9	2	11	**24**	**3**	**27**
II YEAR	3	1	4	1	0	1	3	3	6	1	1	2	9	2	11	**17**	**7**	**24**
TOTAL	**8**	**1**	**9**	**1**	**0**	**1**	**9**	**4**	**13**	**5**	**1**	**6**	**18**	**4**	**22**	**41**	**10**	**51**

Ph.D. Students Strength for the year 2020-21

Branch	SC			ST			OBC			EWS			QIP			ICCR			Ethiopian			VTU Scheme			Sponsored			GENERAL			TOTAL		
	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To	M	F	To
Civil	6	1	7	3	1	4	12	13	25	0	0	0	2	2	4	1	0	1	2	0	2	0	0	0	1	1	2	36	24	60	**63**	**42**	**105**
App. Mechanics	5	2	7	3	1	4	12	3	15	1	1	2	1	1	2	3	0	3	2	0	2	0	0	0	2	3	5	31	21	52	**60**	**32**	**92**
Mechanical	24	1	25	9	0	9	34	0	34	1	0	1	11	0	11	0	0	0	3	0	3	0	0	0	2	0	2	91	6	97	**175**	**7**	**182**
E&E	4	2	6	3	0	3	17	5	22	3	0	3	4	2	6	0	0	0	0	0	0	0	0	0	0	0	0	38	8	46	**69**	**17**	**86**
E&C	2	0	2	3	0	3	9	1	10	0	0	0	4	3	7	0	0	0	0	0	0	3	1	4	2	1	3	33	11	44	**56**	**17**	**73**
Chemical	1	1	2	1	2	3	3	8	11	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7	16	23	**13**	**27**	**40**
Metallurgy	5	0	5	2	0	2	11	1	12	2	0	2	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	24	2	26	**46**	**3**	**49**
Mining	2	0	2	0	0	0	8	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	**30**	**1**	**31**
Computer	4	3	7	0	0	0	8	3	11	0	0	0	5	0	5	0	0	0	0	0	0	4	1	5	0	0	0	14	14	31	**35**	**21**	**56**
Information Technology	2	1	3	2	0	2	3	3	6	1	0	1	0	0	0	0	0	0	0	0	0	2	2	4	1	1	2	8	7	15	**19**	**14**	**33**
Physics	2	2	4	2	1	3	6	2	8	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	13	14	27	**24**	**19**	**43**
Chemistry	5	1	6	1	0	1	4	10	14	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	15	29	**25**	**26**	**51**
MACS	1	1	2	1	0	1	1	5	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	17	13	30	**22**	**19**	**41**
School of Mgt.	3	3	6	1	0	1	9	2	11	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	14	17	31	**29**	**23**	**52**
Total	**66**	**18**	**84**	**31**	**5**	**36**	**137**	**57**	**194**	**9**	**2**	**11**	**29**	**8**	**37**	**4**	**0**	**4**	**8**	**0**	**8**	**10**	**4**	**14**	**12**	**6**	**18**	**360**	**168**	**531**	**666**	**268**	**934**

6.3 ADMISSION STATISTICS Undergraduate Programmes – B. Tech.

Particulars of sanctioned intake and admissions made during 2020-21

Sl. No.	Courses offered	Sanctioned intake				Admissions made to Undergraduate Programmes									
						Normal Intake									
		Normal Intake	ICCR + MEA	DASA	Total	OC	EWS	OBC	SC	ST	PWD	Total	ICCR	DASA	Total Admission
1	Civil Engineering	123	3	16	142	46	11	33	18	9	3 OC, 1 EWS 1 OBC= 5	122	2	5	129
2	Mechanical Engineering	183	3	24	210	70	18	47	26	14	2 OC, 2 OBC, 1SC, 1 ST = 6	181	3	14	198
3	Electrical & Electronics Engineering	124	4	14	142	47	13	31	19	8	3 OC, 2 OBC, = 5	123	1	13	137
4	Electronics & Communication Engineering	123	3	17	143	46	11	32	15	7	2 OC, 1 EWS 2 OBC , 1 SC, 1 ST =7	118	0	17	135
5	Chemical Engineering	58	2	9	69	21	6	16	9	4	1 OC	57	0	6	63
6	Metallurgical & Materials Engineering	64	0	2	66	23	6	16	10	5	2 OC, 1 OBC = 3	63	0	0	63
7	Mining Engineering	63	0	1	64	26	6	17	9	5	0	63	0	0	63
8	Computer Engineering	119	2	16	137	44	11	29	17	9	3 OC, 1 EWS, 3 OBC, 1 SC= 8	118	3	17	138
9	Information Technology	124	0	12	136	47	12	32	19	8	3 OC, 1 EWS, 1OBC, 1ST= 6	124	1	12	137
Total		**981**	**17**	**111**	**1109**	**370**	**94**	**253**	**142**	**69**	**41**	**969**	**10**	**84**	**1063**

ADMISSION STATISTICS – B.TECH. 2020-21

Details of Male & Female admissions – course wise and category wise

Sl. No.	Programme	OC		EWS		OBC		SC		ST		ICCR		DASA		Total Admission		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
1	Civil Engg	37+2PH	9+ 1PH	9+ 1PH	2	26+1PH	7	14	4	7	2	2	0	3	2	102	27	129
2	Mechanical Engg	55 +2PH	15	15	3	37+2PH	10	21+ 1PH	5	10+ 1PH	4	3	0	13	1	160	38	198
3	Electrical & Electronics Engg	38+2PH	9+ 1PH	11	2	24+2PH	7	15	4	6	2	1	0	9	4	108	29	137
4	Electronics & Communications	38+1PH	8+ 1PH	9+ 1PH	2	25+2PH	7	11+ 1PH	4	4+ 1PH	3	0	0	15	2	108	27	135
5	Chemical Engg	16+1PH	5	5	1	13	3	7	2	3	1	0	0	4	2	49	14	63
6	Metallurgical & Materials Engg	18+2PH	5	4	2	13+1PH	3	8	2	4	1	0	0	0	0	50	13	63
7	Mining Engg	21	5	4	2	14	3	7	2	4	1	0	0	0	0	50	13	63
8	Computer Engg	35+1PH	9+2PH	9+1PH	2	24+2PH	5+1PH	14	3+1 PH	7	2	2	1	15	2	110	28	138
9	Information Technology	38+2PH	9+1PH	10+1 PH	2	26	6+1PH	15	4	6	2+1 PH	0	1	4	8	102	35	137
	Total	**296+ 13PH**	**74+ 6PH**	**76+ 4PH**	**18**	**202+10PH**	**51+2PH**	**112+2 PH**	**30+ 1PH**	**51+ 2PH**	**18+ 1PH**	**8**	**2**	**63**	**21**	**839**	**224**	**1063**

PH= Persons with Disabilities

M. Tech. Programme - Particulars of Intake and Admissions during 2020-21

Sl. No.	Name of the Programmes	Intake	Admitted					Out of the total admissions-No. of candidates admitted under category																	
			GATE (Scholarship seats)	Other	Total			SC			ST			OBC			EWS			OC			PWD		
					M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO
1	Structural Engg.	34+1*	33	1 ICCR	31	3	34	4	1	5	3	0	3	9	0	9	3	0	3	11+ 1ICCR	2	14	0	0	0
2	Geotechnical Engg.	19+1*+ 1**	18	--	15	3	18	3	0	3	1	0	1	5	0	5	2	0	2	4	3	7	0	0	0
3	Environmental Engg.	34+1*	33	1 ICCR	18	16	34	4	1	5	1	1	2	4	5	9	1	2	3	7+ 1ICCR	7	15	0	0	0
4	Transportation Engg.	34+1*	32	--	26	6	32	3	1	4	1	2	3	8	1	9	3	0	3	11	2	13	0	0	0
5	Construction Technology & Management	34+1* 30 (L&T)	27	30 L&T	52	11	63	5	0	5	0	3	3	7	2	9	3	0	3	9+ +28 L&T	4+2 L&T	43	0	0	0
6	Marine Structures	34+1*+ 1**	33	--	25	8	33	4	1	5	2	0	2	7	2	9	3	0	3	9	5	14	0	0	0
7	Water Resources Engineering & Management	19+1*	18	--	12	6	18	3	0	3	1	0	1	4	2	6	1	1	2	3	3	6	0	0	0
8	Remote Sensing & Geographic Information Systems	34+1*+ 1**	30	--	17	13	30	2	2	4	1	0	1	2	6	8	2	0	2	10	5	15	0	0	0
9	Mechanical Design	19+1*	19	--	16	3	19	2	1	3	1	0	1	4	1	5	2	0	2	6+1 Spon	1	8	0	0	0
10	Manufacturing Engg.	19+1*	19	--	18	1	19	3	0	3	1	0	1	5	0	5	1	1	2	8	0	8	0	0	0
11	Mechatronics Engg.	34+1*	33	1 Spon	32	2	34	5	0	5	2	0	2	8	0	8	3	0	3	13	2+ 1spon	16	0	0	0
12	Thermal Engineering	19+1*+ 1**	18	--	16	2	18	3	0	3	1	0	1	4	1	5	2	0	2	6	1	7	0	0	0

Sl. No.	Name of the Programmes	Intake	Admitted					Out of the total admissions-No. of candidates admitted under category																	
			GATE (Scholarship seats)	Other	Total			SC			ST			OBC			EWS			OC			PWD		
					M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO
13	Power & Energy Systems	34+1*	33	--	31	2	33	4	1	5	3	0	3	8	0	8	3	1	4	13	0	13	0)	0	0
14	VLSI Design	34+1*+1**	33	1 Spon	29	5	34	4	1	5	2	0	2	9	0	9	3	0	3	10+1Spon	4	15	0	0	0
15	Communication Engineering and Networks	34+1*+1**	33	1ICCR	25	8	33	5	0	5	1	1	2	7	2	9	2	1	3	10	3+1ICCR	14	0	0	0
16	Signal Processing and machine learning	30+1**	29	--	23	6	29	3	1	4	2	0	2	6	1	7	3	0	3	8	4	12	1 OBC	0	1
17	Chemical Engineering	19+1*	16	--	9	7	16	1	1	2	0	0	0	3	2	5	1	0	1	4	4	8	0	0	0
18	Environmental Science and Technology	34+1*	13	--	11	2	13	1	0	1	0	0	0	2	0	2	2	0	2	6	2	8	0	0	0
19	Industrial Biotechnology	34+1*	27	--	12	5	27	1	2	3	0	0	0	2	3	5	1	0	1	8	10	18	0	0	0
20	Materials Engg.	34+1*	30	--	29	1	30	3	1	4	1	0	1	10	0	10	3	0	3	12	0	12	0	0	0
21	Process Metallurgy	19+1*+1**	17	--	15	2	17	2	1	3	0	0	0	5	0	5	2	0	2	6	1	7	0	0	0
22	Nanotechnology	19+1*	18	--	14	4	18	1	2	3	1	0	1	4	1	5	2	0	2	6	1	7	0	0	0
23	Computer Science &Engg.	34+1*+1**	33	1 ICCR	27	7	34	5	0	5	2	1	3	7	0	7	3	0	3	9	5+1ICCR	15	1 OC	0	1
24	Computer Science &Engg. – Information Security	34+1*	33	--	26	7	33	4	1	5	2	0	2	8	2	10	3	1	4	8	3	11	1	0	1
25	Information Technology	34+1*	33	--	25	8	33	3	2	5	3	0	3	6	2	8	4	0	4	9	4	13	0	0	0
26	Computational and Data Science	34+1*	33	--	30	3	33	4	1	5	1	1	2	9	0	9	3	0	3	12	1	13	1 OC	0	1

Sl. No.	Name of the Programmes	Intake	Admitted					Out of the total admissions-No. of candidates admitted under category																	
			GATE (Scholarship seats)	Other	Total			SC			ST			OBC			EWS			OC			PWD		
					M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO	M	F	TO
	Total	**760** **(734 CCMT + 26 Sponsored)** **25-ICCR** **9DASA** **30L&T Spon.**	**698**	**3 Spon** **4 ICCR** **30L&T Spon.**	**584**	**151**	**735**	**82**	**21**	**103**	**33**	**9**	**42**	**153**	**33**	**186**	**61**	**7**	**68**	**218** **2 ICCR** **3 Spon.** **2** **28 L&T Spon.**	**77** **2 ICCR** **2 L&T Spon.**	**327**	**4 (3 OC +1 OBC)**	**0**	**4**
Total Admission – 735																									

**Additional seats reserved for the international students under I.C.C.R. Scheme*

*** Sanctioned seats for DASA candidates, The above intake of M.Tech excluding the intake of QIP allotted by AICTE and two seats of Indian Navy Sponsored (One seat each in Mechanical Engg. & E&C Dept.), L&T – Additional seats reserved for L&T Sponsored candidates.*

M.TECH. PROGRAMME (BY RESEARCH) 2020-21

OC	OC PwD	EWS	EWS PwD	OBC	OBC PwD	SC	SC PwD	ST	ST PwD	Total
25	1	6	0	16	1	9	0	5	0	**63**

Sl. No.	Name of the Programme	No. of candidates admitted		Total number of candidates admitted		
		Gate Scholarship Seat	Non-Scholarship Seat	M	F	Total Admission
DEPARTMENT OF CIVIL ENGINEERING						
1	Structural Engg.	05 (OC) 01 (OBC) 01(SC)	01(OC) ER Spon	05	03	08
2	Transportation Engg.	--	--	--	--	--
3	Construction Technology and Management	--	--	--	--	--
	Geotechnical Engineering	01 (EWS)	--	--	01	01
4	Environmental Engg.	01(OBC)	--	--	01	01
DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING						
1	Nanotechnology	--	--	--	--	--
2	Process Metallurgy	--	--	--	--	--
3	Materials Engg.	--	01 (OC) ER Spon	01	--	01
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING						
1	VLSI Design	01(OC), 01 (OBC)	--	02	--	02
2	Communication Engineering	02 (OC)	--	--	02	02
3	Signal Processing and machine learning	01 (OC)	--	01	--	01
DEPARTMENT OF MECHANICAL ENGINEERING						
1	Mechanical Design	01(OC), 1(OBC)	--	02	--	02
2	Mechatronics Engineering	01(OC), 1(OBC)	01(OC) ER Spon, 02 (SC) IR NITK	04	01	05
3	Manufacturing Engineering	02(OC)	--	02	--	02
4	Thermal Engg.	1 (EWS)	01 (OC) ER Spon,	02	--	02
DEPARTMENT OF MINING ENGINEERING						
1	Rock Excavation Technology and Management	--	01 (OC) Research FT	01	--	01
DEPARTMENT OF WATER RESOURCES AND OCEAN ENGG.						
1	Remote Sensing & Geographic's Information Systems	--	--	--	--	--
2	Marine Structures	--	01 (OC) ER Spon	01	--	01
3	Water Resources Engineering & Mgt.	--	--	--	--	--
DEPARTMENT OF CHEMICAL ENGINEERING						
1	Chemical Engineering	--	01 (OC) ER Spon	--	01	01
2	Environmental Science and	01 (OC)	--	01	--	01

	Technology					
3	Industrial Biotechnology	--	--	--	--	--
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING						
1	Power and Energy Systems	02 (OC), 01 (OBC)	--	03	--	03
COMPUTER SCIENCE & ENGINEERING						
1	Computer Science and Engineering	01(OC), 2(OBC), 1SC	--	04	--	04
2	Computer Science and Engineering - Information Security	01 (OC)	--	01	--	01
INFORMATION TECHNOLOGY						
1	Information Technology	01 (OC)	--	01	--	01
DEPARTMENT OF MACS						
1	Computational and Data Science	01(OC), 01 (EWS), 02 (OBC)	--	04	--	04
	Total	**20 (OC), 3 EWS 10 OBC, 2 SC = 35**	**6 (OC) ER Spon, 1 (OC) Research FT, 2 (SC) IR -NITK = 9**	**35**	**09**	**44**

M.C.A., M.B.A. AND M.Sc. PROGRAMMES

Particulars of Admissions during 2020-21

Sl. No.	Programme	Intake	Total Admission			SC		ST		OBC		OC		EWS		PwD		Sponsored	
			M	F	Total	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	Master of Computer Applications (MCA)	58+ 1**	43	15	**58**	7	2	4	0	14	1	15	7	1	5	1 (OC), 1(OBC)	0	0	0
2	Master of Business Administration (MBA)	80+5*+ 1**	15	15	**30**	0	0	0	0	4	4	10	11	1	0	0	0	0	0
3	M.Sc. (Chemistry)	33+ 1**	19	13	**32**	0	5	2	0	6	3	8	4	2	1	1 (OC)	0	0	0
4	M.Sc. (Physics)	33+ 1**	26	4	**30**	5	0	0	0	7	2	10	2	4	0	0	0	0	0
	Total	**204+ 5*+ 4** =213**	**103**	**47**	**150**	**12**	**7**	**6**	**0**	**31**	**10**	**43**	**24**	**8**	**6**	**2 (OC), 1 (OBC)**	**0**	**0**	**0**

* Seats reserved for DASA candidates

** Additional seats for the international students under ICCR Scheme

PwD – Persons with Disabilities

Ph.D. PROGRAMME

Particulars of Intake & Admissions made during 2020-21

OC	OC PWD	EWS	EWS PWD	OBC	OBC PWD	SC	SC PWD	ST	ST PWD	**Total**
72	4	18	1	48	2	27	1	14	1	**188**

Details of Admissions made during 2020-21

Sl No.	**Name of the Department**	**Admitted Full time Programme**				**Admitted Under External Registrants (Part Time)**		**Out of the total Full time scholars, Number of Candidates belonging to the category of**									
		Fellowship Holder		**Other category-Non Fellowship+ QIP+ Sponsored + Ethiopian**				**OC**		**EWS**		**OBC**		**SC**		**ST**	
		M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
1	Civil Engg	12	4	1QIP Poly	--	1 ER	2 ER	4	3	0	0	5	1	2	0	1	0
2	Water Resources and Ocean Engg.	7	2	1 (OC) NSPON-NSCH	3 (OC) NSPON-NSCH	4 ER	1ER	3	1	1	0	2	0	0	1	1	0
3	Mechanical Engg	21	0	2 (OC) NSPON-NSCH, 1(OC) SPON-NSCH, 3 QIP	--	9 ER, 2IR	3 ER	9	0	1	0	7	0	4	0	0	0
4	Electrical &Electronics Engg	12	1	1(OC) SPON-NSCH, 1 QIP	1 (OC) NSPON-NSCH	2 ER	2ER	6	0	1	0	4	0	0	1	1	0
5	Electronics & Communication	7	4	2 QIP	---	1ER, 1 IR	1ER	2	3	0	0	3	1	1	0	1	0
6	Chemical Engg	2	4	--	1 (OC) NSPON-NSCH	--	--	1	3	0	0	1	1	0	0	0	0
7	Metallurgical & Materials Engg	6	0	--	--	1ER	--	3	0	1	0	1	0	1	0	0	0

Sl No.	Name of the Department	Admitted Full time Programme				Admitted Under External Registrants (Part Time)		Out of the total Full time scholars, Number of Candidates belonging to the category of									
		Fellowship Holder		Other category-Non Fellowship+ QIP+ Sponsored + Ethiopian				OC		EWS		OBC		SC		ST	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
08	Mining Engg	3	0	--	--	5ER	1ER	2	0	0	0	1	0	0	0	0	0
9	Computer Science &Engg	2	3	1(OC) SPON-NSCH 1QIP	1 (OC) NSPON-NSCH	1ER, 1IR	3ER	1	2	0	0	1 (PwD)	1	0	0	0	0
10	Information Technology	4	1	1 (OC) NSPON-NSCH	2(OC) NSPON-NSCH	2ER	1ER	1	1	0	0	1	0	1	0	1	0
11	Physics	1	4	1 (OC) UGC-JRF	--	--	--	1	1	0	0	0	1	0	1	0	1
12	Chemistry	5	2	1 (OC) NSPON-NSCH	5 (OC) NSPON-NSCH	1ER, 1IR	--	1	2	1	0	1	0	1	0	1	0
13	Mathematical & Computational Sciences	4	3	1 (OC) CSIR- NET	--	--	1ER	3	1	1	0	0	1	0	1	0	0
14	School of Management	3	2	1 (OC) NSPON-NSCH	--	4ER	1ER	1	1	0	1	2	0	0	0	0	0
	Total	**89**	**30**	**6 (OC) NSPON-NSCH**	**13 (OC) NSPON-NSCH**	**31 ER 5 IR**	**16 ER**	**38**	**18**	**6**	**1**	**29 (1PwD)**	**6**	**4**	**10**	**6**	**1**
				3 (OC) SPON													
				1 (OC) UGC NET													
				1(OC) CSIR NET													
				8 QIP													
Total Admission – 203																	

Spon= Sponsored. QIP = Admitted Under AICTE QIP Scheme, PwD – Persons with Disabilitie

Total Student's Strength

Programme	***Strength***
1. Undergraduate	3635
2. Post Graduate (Including MCA /M.Tech./M.Tech (Research)/MBA/M.Sc.)	1768
3. Ph.D. Programme	934
Total	**6337**

7. EVALUATION AND EXAMINATION

7.1 EDUCATION SYSTEM

The normal duration of programmes leading to B.Tech degree in Engineering is eight semesters. For full time M.Tech. Programmes, the duration of study is a minimum of four semesters and a maximum of four years. For Master of Science, programme the duration of study shall be a minimum of four semesters and a maximum of four years. For Master of Computer Application (MCA) the duration of study shall be a minimum of six semesters and a maximum of six years. For Master of Business Administration (MBA), the duration of study is a minimum of four semesters and a maximum of four years. For Doctoral Programmes (Ph.D.) the duration of study is a minimum of two years and maximum of seven years for all categories of research scholars.

Each academic year is divided into two semesters. A semester that is typically from August to Mid- December is called the ODD SEMESTER, and the one that is from January to Mid-May is called EVEN SEMESTER.

The medium of instruction, examination and project work is English only.

7.2 EXAMINATION & EVALUATION PROCEDURE

The examination and evaluation work of allthe B.Tech./M.Tech./MCA/MSc/MBA students and Ph.D./M.Tech by Research candidates were carried out by the respective Faculty Members in their concerned Departments itself as per the regulations approved by the Senate of the Institute. The Grades obtained by each student with details of attendance in each course are submitted to the Examination/Evaluation Section for processing their Grade Cards as per the regulations of the Institute. The results are declared and pubished on the website of the Institute in time and Grade Cards were issued to all eligible students.

8. EXAMINATION RESULTS FOR 2020

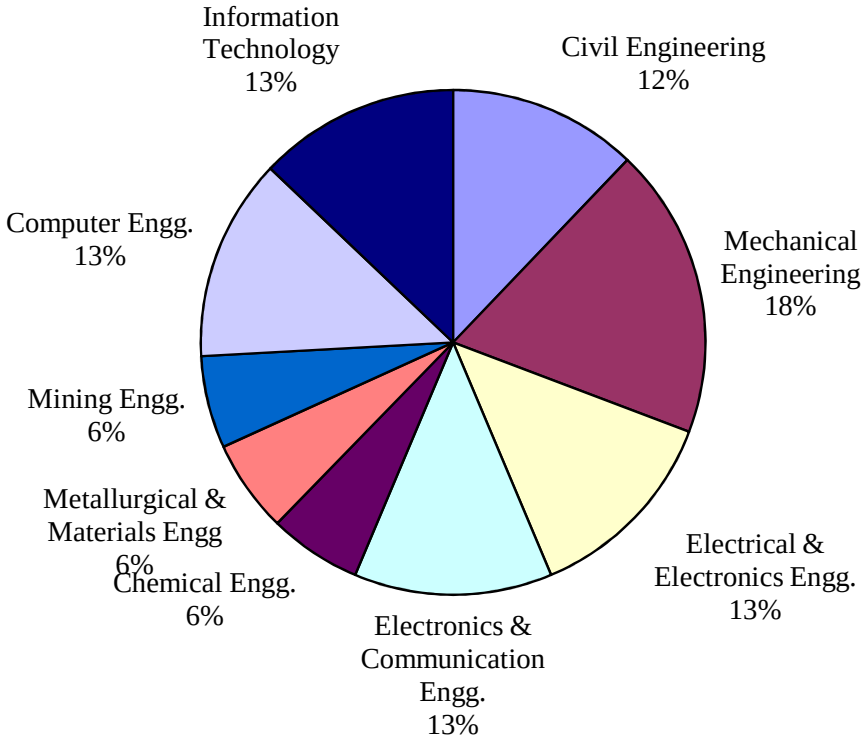
UNDER GRADUATE

Sl.No.	Branch	Total No. Appeared	No. of students passed in				Total Pass	Percentage of passes	No. of SC/ST candidates passed
			CGPA above 7 & below 10	CGPA above 6 & below 7	CGPA above 5 & below 6	CGPA below 5			
1.	Civil Engineering	88	59	24	4	0	87	99%	19
2.	Mechanical Engineering	141+1*	99	32	5	2+1*	138+1*	98%	26
3.	Electrical And Electronics Engineering	106	81	19	5	1	106	100%	17
4.	Electronics And Communication Engineering	112	89	15	5	3	112	100%	21
5.	Chemical Engineering	44	24	8	12	0	44	100%	10
6.	Metallurgical And Materials Engineering	37	31	5	1	0	37	100%	10
7.	Mining Engineering	31	27	4	0	0	31	100%	10
8.	Computer Engineering	106	79	21	4	0	104	98%	19
9.	Information Technology	101+2*	82	12	7	2*	101+2*	100%	17
		766+3*					760+3*		
	*- Repeaters								

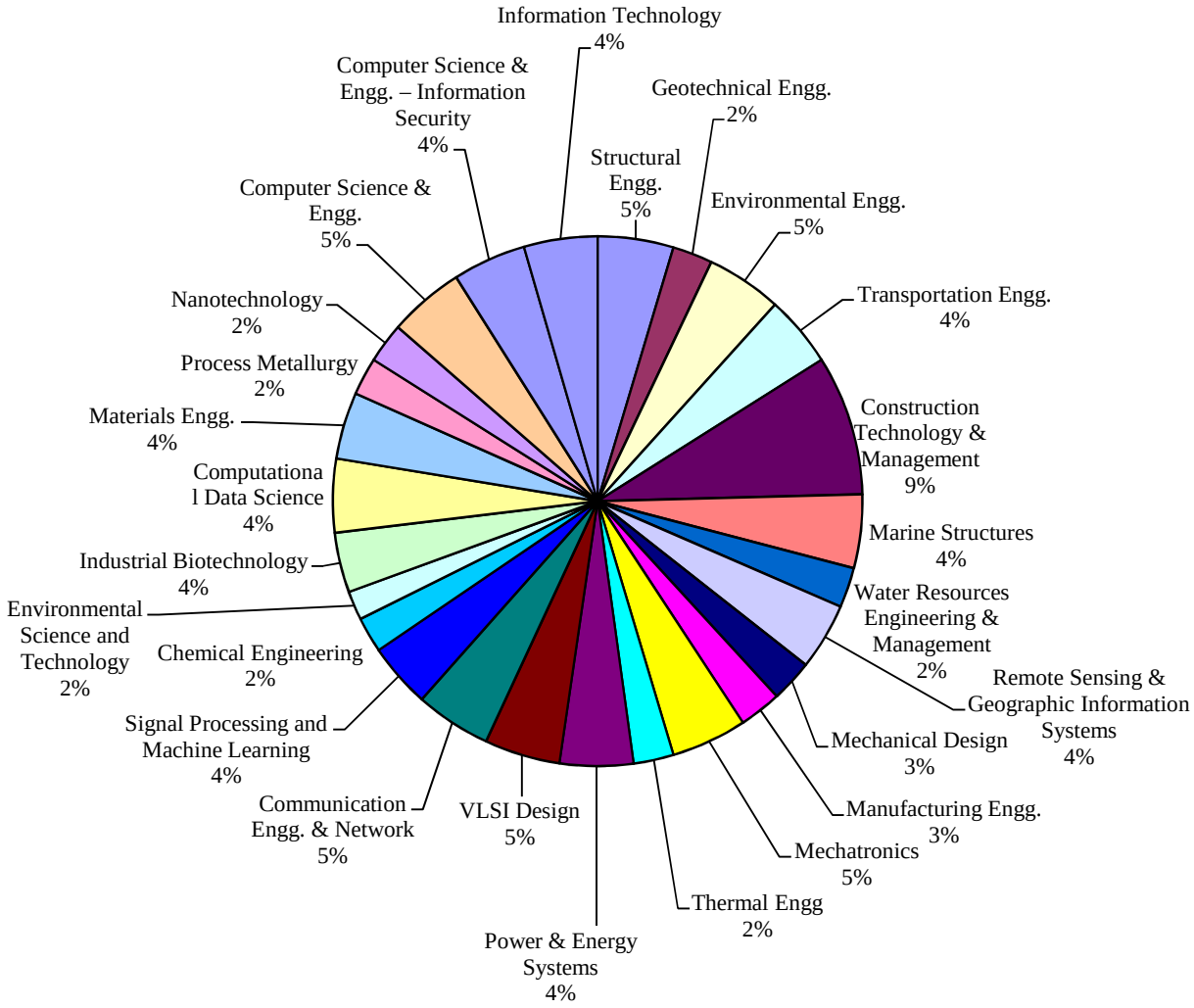
POST GRADUATE

Sl.No.	Branch	Total No. Appeared	No. of students passed in			Total Pass	Percentage of passes	No. of SC/ST candidates passed
			CGPA above 7 & below 10	CGPA above 6 & below 7	CGPA above 5.50 & below 6			
1.	Construction Technology & Management	53	52	0	0	52	98.11	4
2.	Structural Engineering	24	23	1	0	24	100.00	6
3.	Geotechnical Engineering	14	14	0	0	14	100.00	3
4.	Environmental Engineering	22	22	0	0	22	100.00	5
5.	Transportation Engineering	22	20	1	0	21	95.45	3
6.	Marine Structures	24	23	0	0	23	95.83	3
7.	Remote Sensing & Geographic Information System	20	18	0	0	18	90.00	1
8.	Water Resources Engineering & Management	12+1*	11+1*	0	0	11+1*	92.31	1
9.	Design and Precision Engineering	16	16	0	0	16	100.00	3
10.	Manufacturing Engineering	14	13	1	0	14	100.00	2
11.	Mechatronics Engineering	21	20	0	1	21	100.00	5

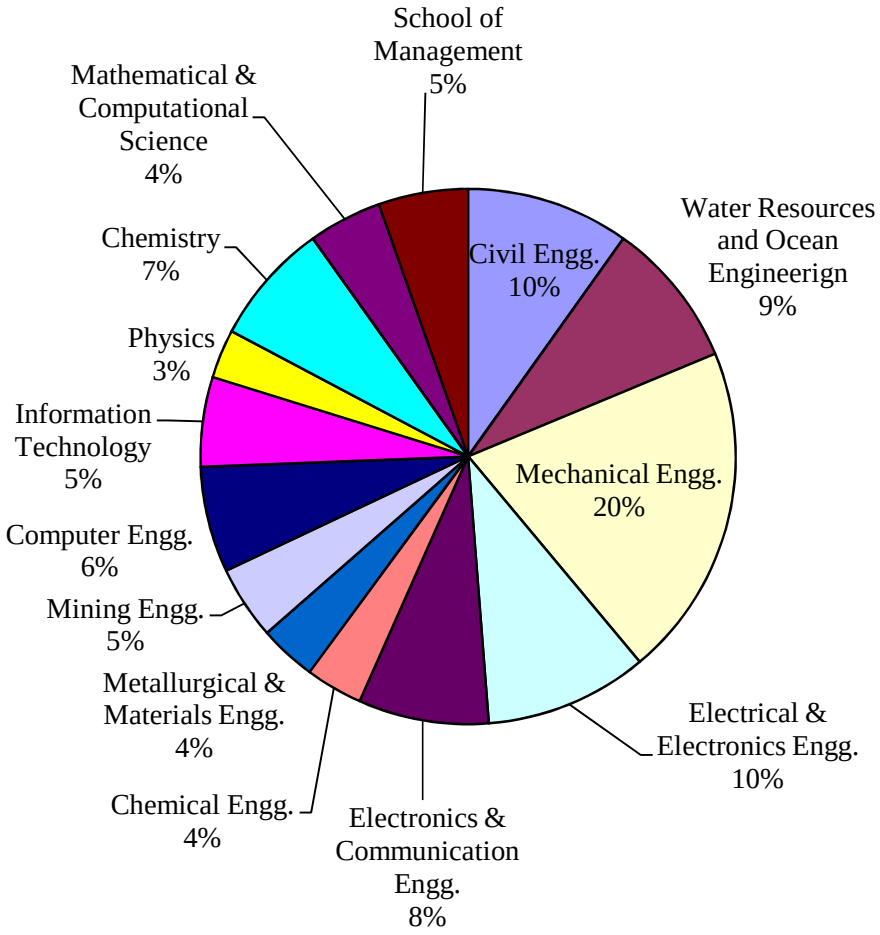
12.	Thermal Engineering	17	15	2	0	17	100.00	3
13.	Power & Energy Systems	26	21	5	0	26	100.00	6
14.	VLSI Design	28	27	1	0	28	100.00	5
15.	Communication Engineering	20+1*	20	1*	0	20+1*	100.00	2
16.	Chemical Plant Design	9	7	0	0	7	77.78	0
17.	Industrial Biotechnology	19	18	1	0	19	100.00	2
18.	Industrial Pollution Control	10	8	2	0	10	100.00	1
19.	Process Metallurgy	10	8	1	0	9	90.00	1
20.	Materials Engineering	16	14	2	0	16	100.00	2
21.	Nanotechnology	6	6	0	0	6	100.00	0
22.	Computational Mathematics	20	19	1	0	20	100.00	2
23.	Computer Science and Engineering	29	27	1	0	28	96.55	5
24.	Computer Science and Engineering - Information Security	25	21	4	0	25	100.00	6
25.	Information Technology	23	20	1	1	22	95.65	5
26.	Master of Computer Applications	86	73	9	3	85	98.84	20
27.	Master of Business Administration	23	19	3	1	23	100.00	0
28.	Master of Science (Chemistry)	25+1*	22	3	1*	25+1*	100.00	5+1*
29.	Master of Science (Physics)	23	15	8	0	23	100.00	5
		657+3*				645+3*		



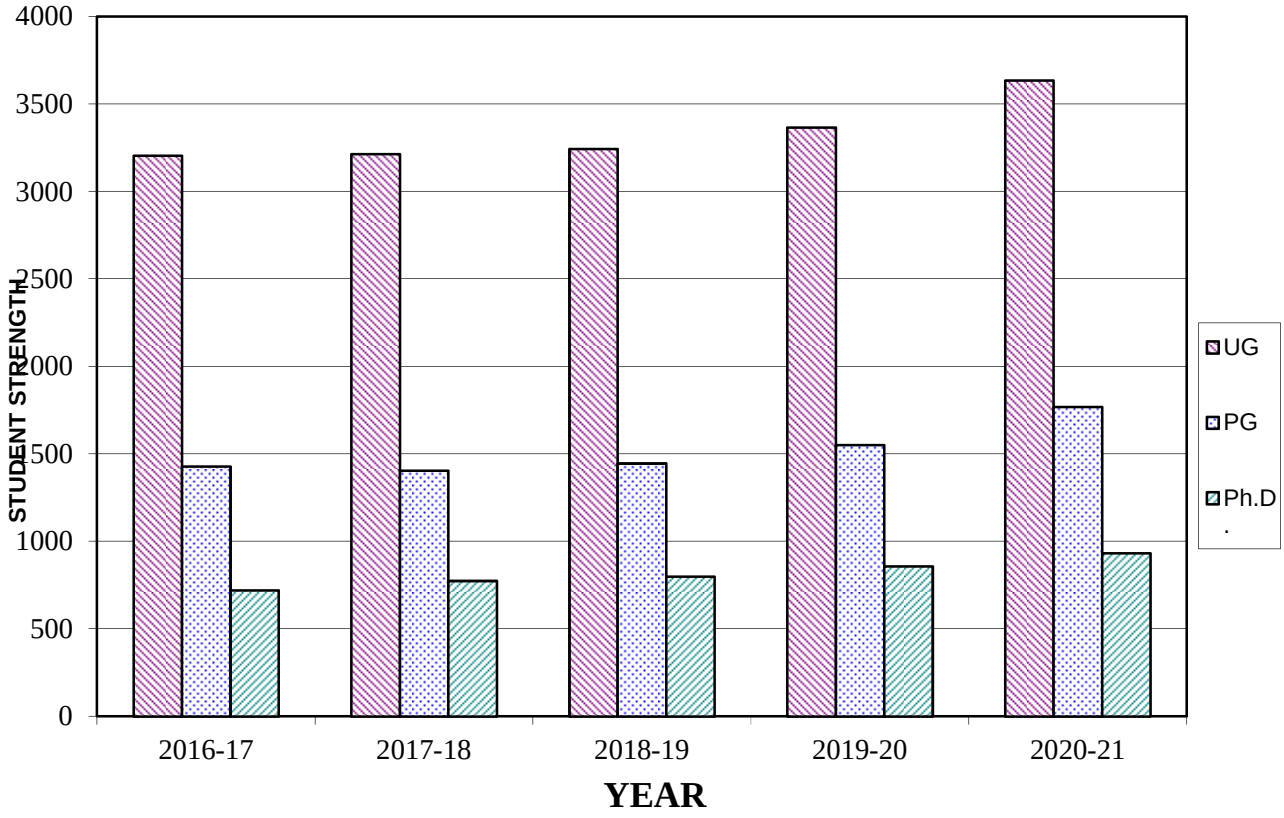
Pie chart showing discipline wise B.Tech. admissions 2020-21



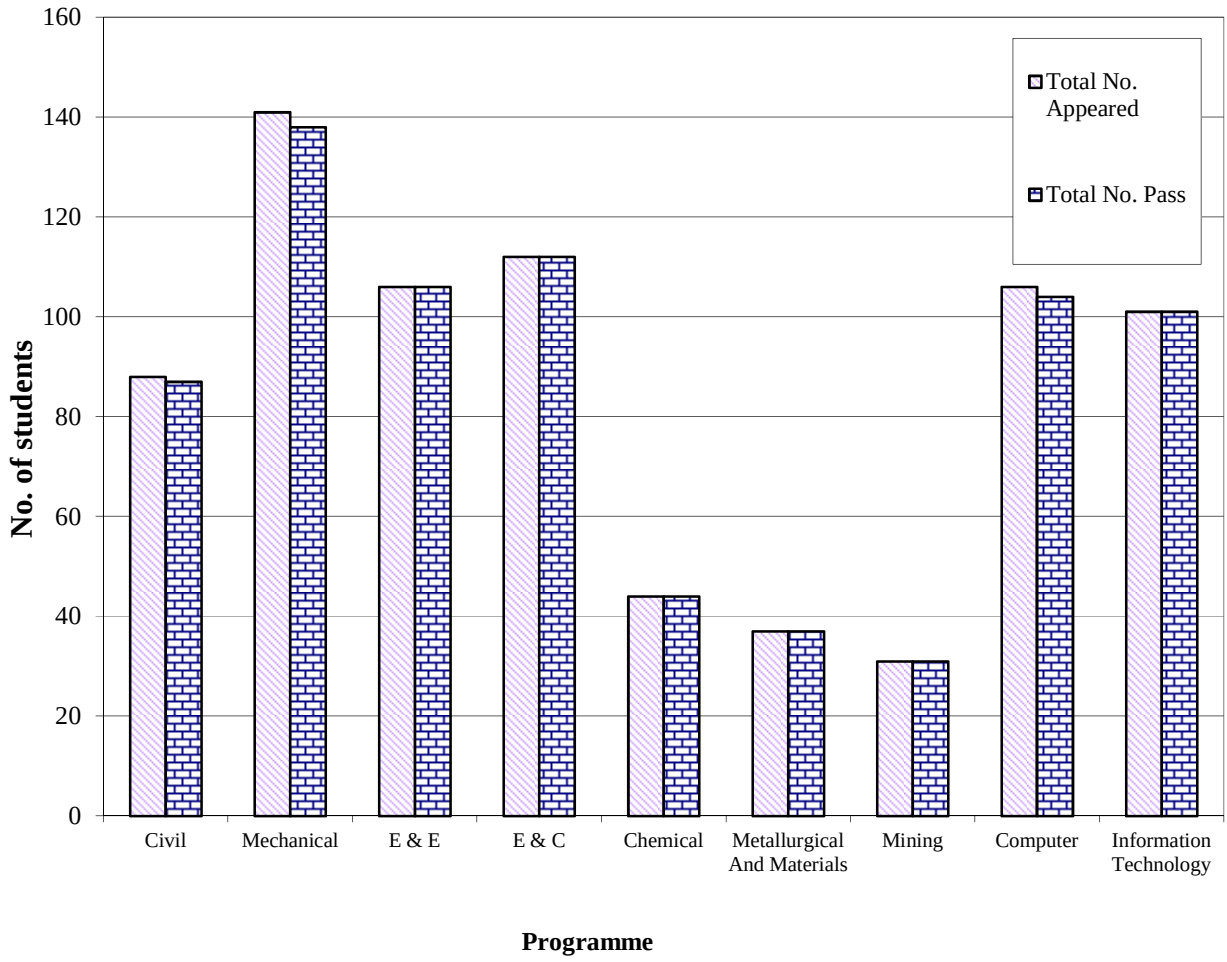
Pie chart showing discipline wise M.Tech. admissions 2020-21



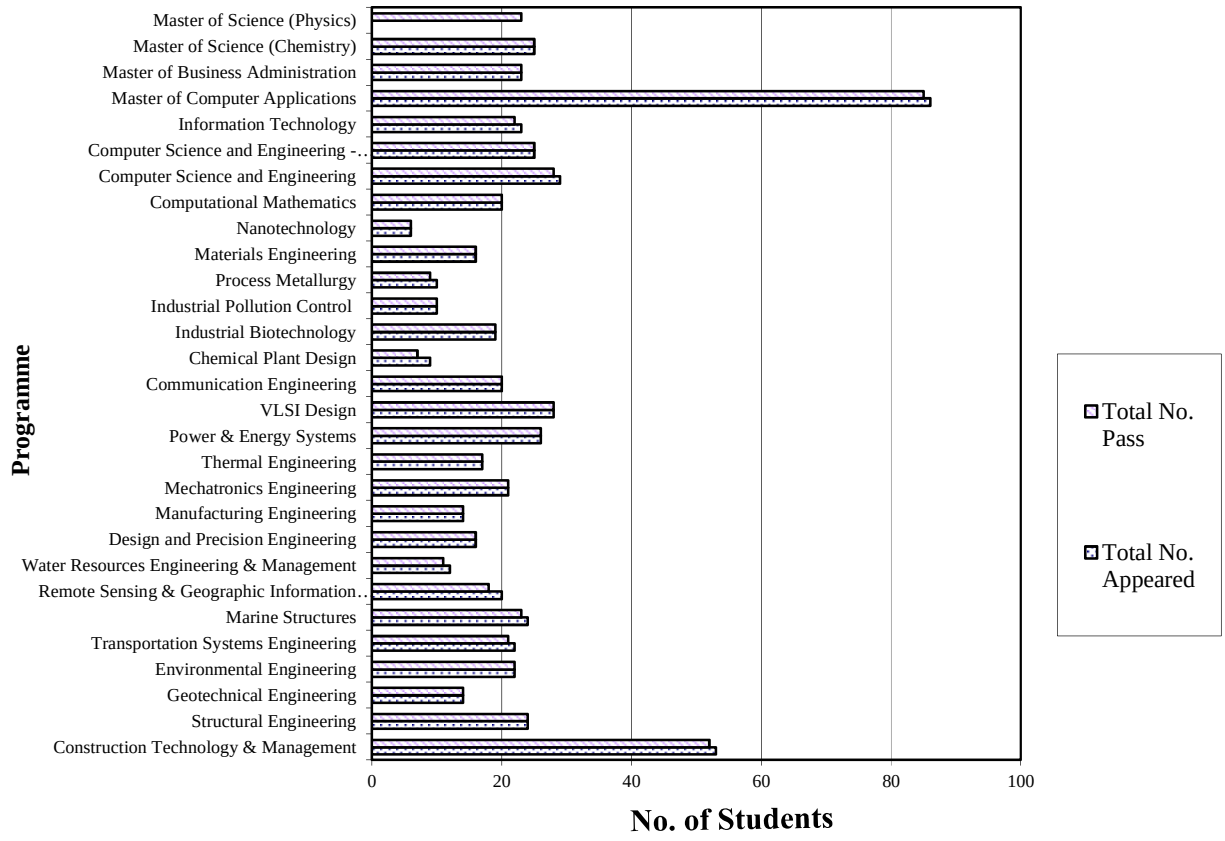
Pie chart showing discipline with Ph.D. admissions 2020-21



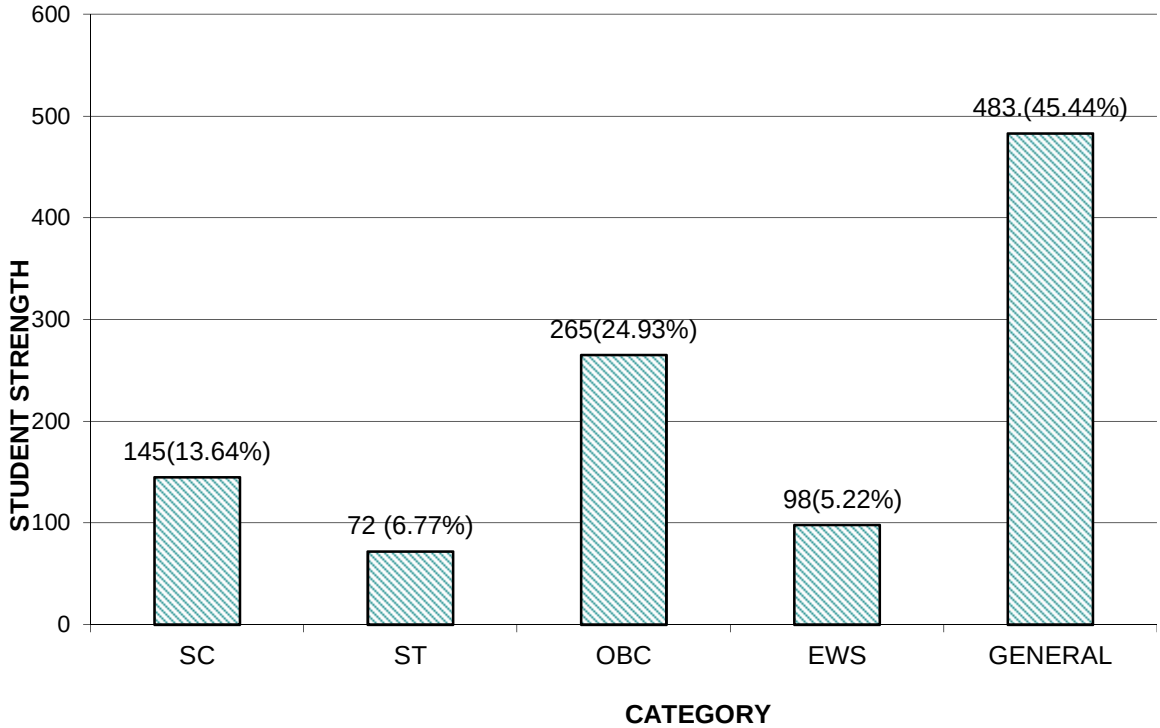
Growth enrolment UG/PG/Ph.D. students during last 5 years 2016-2021



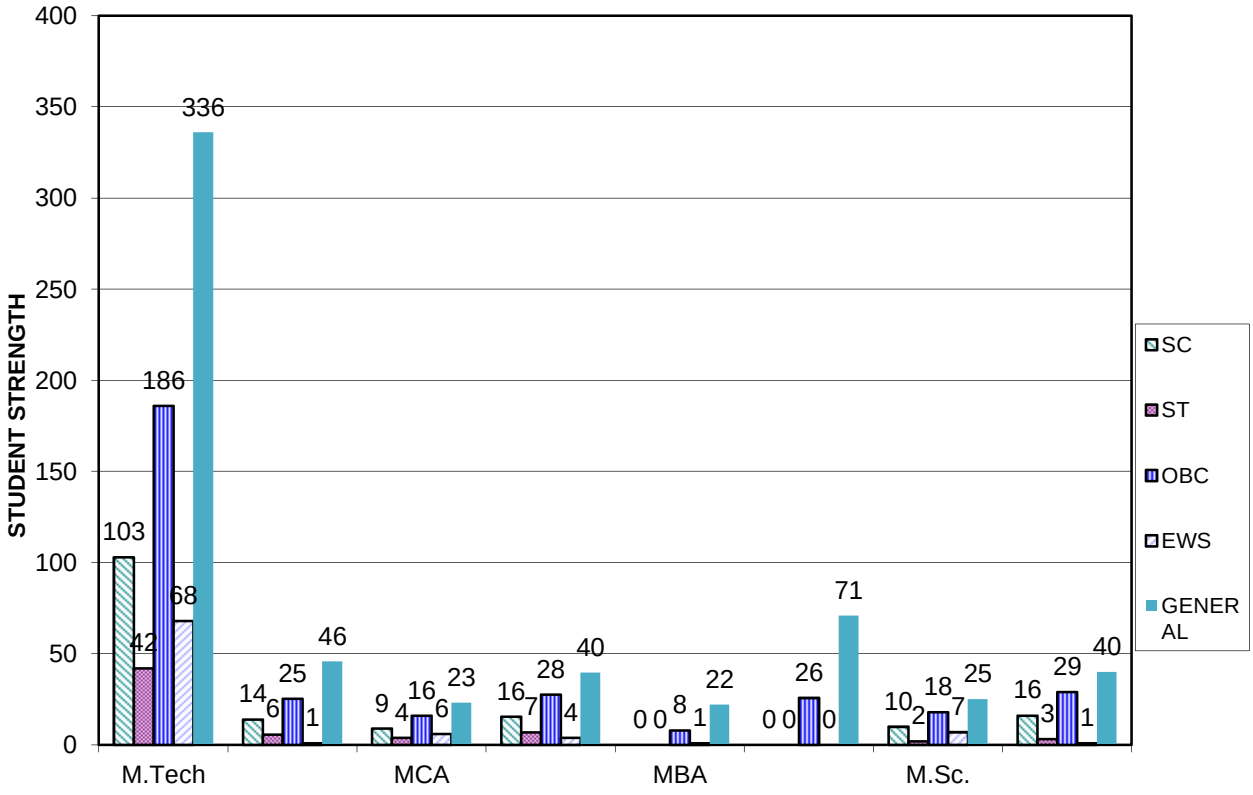
Examination Results 2020(UG)



Examination Results 2020 (PG)



Category wise details of UG admissions 2020-21



Category wise details of PG admissions 2020-21

Ranks securedby the B.Tech./M.Tech./MCA/MBA/M.Sc. (Physics & Chemistry) Examination held in April/May, 2020

B.Tech.

Sl. No.	Branch	Reg. No.	Name of the Student
1	CHEMICAL ENGINEERING	16657616CH38	SWATHI BHAT 1) Institute Medal 2) Mohan V Hosur Gold Medal 3) 1986 Batch Gold Medal
2	CIVIL ENGINEERING	16606616CV137	SANJAY NAYAK 1) Institute Medal 2) Prof. M. N. Shivshankar Gold Medal 3) Dr. R.K. Yaji Gold Medal 4) 1986 Batch Gold Medal
		16637016CV217	K LASYA REDDY 1) Institute Medal 2) Prof. M. N. Shivshankar Gold Medal 3) Dr. R.K. Yaji Gold Medal 4) 1986 Batch Gold Medal
3	COMPUTER SCIENCE AND ENGINEERING	16600416CO254	SAMYAK JAIN 1) Institute Medal
4	ELECTRONICS & COMMUNICATION ENGINEERING	16624716EC133	S ASHWIN HEBBAR 1) Institute Medal 2) 1986 Batch Gold Medal
5	ELECTRICAL & ELECTRONICS ENGINEERING	16652416EE103	ADITYA RANGARAJAN 1) Institute Medal 2) Prof. M.R. Shenoy Memorial Prize 3) Prof. K. M. Hebbar Gold Medal 4) 1986 Batch Gold Medal
6	INFORMATION TECHNOLOGY	16655016IT221	JAIN MOKSH MUKESH 1) Institute Medal
7	MECHANICAL ENGINEERING	16611616ME138	MADHU JAYAPRAKASH NAYAK 1) Institute Medal 2) 1986 Batch Gold Medal 3) Prof. Shuichi Torii Gold Medal
8	METALLURGICAL & MATERIALS ENGINEERING	16630016MT15	HARSHIT RANJAN 1) Institute Medal 2) Karthik Alloys Gold Medal 3) Prof. H. V. Sudhaker Nayak Gold Medal 4) SMIORE Gold Medal 5) 1986 Batch Gold Medal
9	MINING ENGINEERING	16662216MN05	AYUSH SINGH 1) Institute Medal 2) Hutti Gold Mines Medal

POST GRADUATES

Sl. No.	Branch	Reg. No.	Name of the Student
1	Marine Structures	182113MS020	PATCHAVA MAHENDRA NAIDU 1) Institute Medal
2	Remote Sensing & Geographic Information System	182563RS008	LIYA MARY S 1) Institute Medal
3	Water Resources Engineering & Management	182520WR007	MANIKANDAN S 1) Institute Medal
4	Chemical Plant Design	182388PD003	GOURAV YADAV 1) Institute Medal
5	Industrial Biotechnology	182253IB014	SAMI ULLAH BHAT 1) Institute Medal
6	Industrial Pollution Control	182089PC007	POOJA S 1) Institute Medal
7	Construction Technology & Management	182409CM027	PRATIKSHYA PATI 1) Institute Medal
8	Environmental Engineering	182185EN003	AKSHATA A VASTRAD 1) Institute Medal
9	Geotechnical Engineering	182026GT012	SURYA N R 1) Institute Medal
10	Structural Engineering	182104ST006	ASWATHY SHAJI 1) Institute Medal
11	Transportation Engineering	182084TS012	KAKUMANU TANUSHA 1) Institute Medal
12	Computer Science & Engineering	182022CS006	ANUBHAV JAIN 1) Institute Medal
13	Computer Science & Engineering – Information Security	182286IS012	NISHANT RAJ 1) Institute Medal
14	Power & Energy Systems	182186PS025	SURENDER E 1) Institute Medal
15	Communication Engineering	182551CE017	POOJA ANAND 1) Institute Medal
16	VLSI Design	182188VL023	THOTA SESHASAI 1) Institute Medal
17	Information Technology	182035IT005	ASHLEY ANOOP 1) Institute Medal
18	Computational Mathematics	182245MA019	VAIKUND SUDHARSAN 1) Institute Medal
19	Design and Precision Engineering	182583DP016	SRINIVASA G A 1) Institute Medal
20	Manufacturing Engineering	182458MF005	BEERAKA SRINIVASULU 1) Institute Medal
21	Mechatronics Engineering	182562MC017	SARANYA S R 1) Institute Medal

22	Thermal Engineering	182087TH013	BHATT SANKET BHAVIN 1) Institute Medal 2) Dr. B. S. Samaga Award
23	Materials Engineering	182440ML015	SREERAG M P 1) Institute Medal 2) Prof. K R Hebbar Gold Medal
24	Nanotechnology	182337NT003	DARSHAN C 1) Institute Medal
25	Process Metallurgy	182351PM006	RAHUL CHANDRASEKHAR 1) Institute Medal 2) Smt. Sarojini Pillay Gold Medal 3) Prof. K. L. Bhat & Prof. P. Prasad Rao Gold Medal

Master of Computer Applications - 2020

Sl. No.	Branch	Reg. No.	Name of the Student
26	Master of Computer Applications	174083CA065	SHILPI PANDEY 1) Institute Medal 2) Dr. Saroja R Hebbar Gold Medal

Master of Business Administration -2020

Sl. No.	Branch	Reg. No.	Name of the Student
27	Master of Business Administration	185018SM005	DEEPSHIKHA ROY 1) Institute Medal

Master of Science – 2020

Sl. No.	Branch	Reg. No.	Name of the Student
28	Chemistry	186046CY016	RASHEE JOHREE 1) Institute Medal 2) Prof. G. H. Kulkarni Gold Medal
29	Physics	186007PH018	RESHMA DEVI P 1) Institute Medal 2) K. Subbarayappa Gold Medal

9. Ph.D.PROGRAMMES & DOCTORATES AWARDED

PH.D. PROGRMMES – EXISTING & PROPOSED

DEPARTMENT OF CIVIL ENGINEERING

EXISTING SPECIALIZATION:

Construction Tech. and Management, Environmental Engg. Geotechnical Engg., Structural Engg., Transportation Engg. Earth sciences.

DEPARTMENT OF CHEMICAL ENGINEERING

EXISTING SPECIALIZATION:

Chemical Engineering-Process Dynamics and Control, Process Modelling and Simulation, System Identification, Subspace Identification, Process Systems Engineering, Process Optimization, Renewable Energy.

PROPOSED SPECIALIZATION:-

Computational Fluid Dynamics (CFD), Multi Phase Flow, Microfluidics, Nano Technology, Bioenergy, Process Dynamics and Control.

DEPARTMENT OF CHEMISTRY

Membrane technology, Medicinal Chemistry. Nanomaterials, Polymer chemistry, Organic electronics, Photocatalysis, Supercapacitors, Thermoelectrics, Nanofluids, Materials for energy and environmental applications, Carbon nanotubes, Biomass conversion, Corrosion science, Green chemistry. Electrochemistry, Nanocoating, Computational chemistry etc.

PROPOSED SPECIALIZATION:-

Enzyme technology

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING:

EXISTING SPECIALIZATION:-

Computer Networks, Software Engineering, Distributed Computing, Data Management, Information Security, High Performance Computing, Computer Vision, Cloud Computing, Image Processing, Speech Processing, Mobile computing

PROPOSED SPECIALIZATION:

Graph Theory, Graph Algorithms, Big Data Analytics, Internet of Things (IoT), Network-on-Chip (NoC) – 2D, 3D, Wireless, and Photonic., Broad Area: Testing and Fault-Tolerance, Hardware Security, Formal Verification, and Cyber-Physical Systems, Expanded Area: Computer Systems and Architecture, ComputationalGeometry, Machine Learning, and Distributed Systems, Cloud Computing, FOG Computing, Internet of Things (IoT) Security, Blockchain, Serverless

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

EXISTING SPECIALIZATION

Digital VLSI Design, Analog and Mixed Signal Design, Digital Signal Processing, Speech, Audio,
Image and Video Processing, Digital Communication, Error Control Coding, Free Space Optics, RF MEMS, Microwave and RF Circuits, Wireless Sensor Networks, High Frequency Electronics,

Semiconductor Devices, Embedded Systems, Reconfigurable Computing.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EXISTING SPECIALIZATION

Power Systems, Distributed Generation, Energy Systems, Power Electronics & Drives, Renewable Energy, High Voltage Engineering, Flexible AC Transmission System (FACTs), Control Systems, Power System Protection, Smart Grid & Sensor Networks, Machine Learning.

DEPARTMENT OF INFORMATION TECHNOLOGY

EXISTING SPECIALIZATION

Affective Computing, Big Data Analytics, Blockchain Technologies, Cloud/Edge/Fog Computing, Cloud Security, Computer Networks, Cyber Security, Databases, Data Mining, Deep Learning Applications, Distributed Computing, Future Internet Architecture, Healthcare Informatics, High Performance Computing, Information Retrieval, Information Security, Internet of Things, Mobile Software Engineering, Natural Language Processing, Network Security, Semantic Web Technology, Social Multimedia/Social Network Analysis, , Software Engineering , Web Services, Wireless Sensor Networks.

PROPOSED SPECIALISATION:-

(i) B.Tech in AI proposed and approved for AY 2021-22
(ii) Geoscience and Spatial Data Mining, Graph Analytics

DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES

EXISTING SPECIALIZATION

Computational Systems, Ill-posed equations, Functional Analysis, Real Analysis, Fixed Point Theory, Graph Theory: Coloring of Graphs, Graph Algorithms, Wireless Networks, Radial Basis Functions Based Methods for Fractional Differential Equations, Fluid Dynamics, Number Theory & Cryptography, Numerical Analysis, Graph Theory, Optimization, Fluid Dynamics, Computer Applications, Image processing, Spectral Analysis, Wavelets and Signal Processing, Complex Dynamics, Reliability Engineering, Stochastic Processes.

PROPOSED SPECIALISATION:-

Operator Algebra, Nonlinear Analysis, Broadcast Labeling of Graphs, Graphs & Biological Networks, Spectral Methods for Discontinuous Solutions, Machine/Deep Learning Methods for the Solution of Differential Equations, Generalized Inverses, Real-world Crypto Protocols, Quantum-safe Cryptography, IoT security

DEPARTMENT OF MECHANICAL ENGINEERING

EXISTING SPECIALIZATION

Thermal Engineering
Manufacturing Engineering
Design and Precision Engineering
Mechatronics Engineering

DEPARTMENT OF MINING ENGINEERING

EXISTING SPECIALIZATION

Rock Mechanics and Ground Control, Drilling and Blasting, Mine Planning, Environmental Management, Waste Management, Reliability and Safety Engineering.

PROPOSED SPECIALISATION:-

Occupational Ergonomics

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

EXISTING SPECIALIZATION

Process Metallurgy, Physical Metallurgy, Mechanical Metallurgy, Materials Engineering, Nanotechnology, Biomaterials, Tissue Engineering, Corrosion and coating

DEPARTMENT OF PHYSICS

EXISTING SPECIALIZATION

Solid State Physics, Materials Science, Theoretical Physics, Electromagnetics, Photonics, Compound Semiconductor thin films, Theoretical investigation of strongly correlated systems and solar cells, Cosmology and Early Universe

SCHOOL OF MANAGEMENT

EXISTING SPECIALIZATION

Strategic Management, International Business, Technology Management, Organizational Behaviour, Human Resource Management, Marketing, Corporate Finance, Capital Markets, Behavioural Finance, Development Economics, International Economics, Agricultural Economics, Rural Development, Applied Econometrics, Operations Management, Information Systems, E-Governance, English Studies, Translation, Comparative Literature, Music and Other related areas

PROPOSED SPECIALISATION:-

(i) Literature and Environment
(ii) Digital Humanities

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

EXISTING SPECIALIZATION

(i) Coastal Engineering
(ii) Water Resources Engineering
(iii) Remote Sensing and GIS Applications

DOCTORATES AWARDED

DEPARTMENT OF CHEMICAL ENGINEERING

1. Mr. Ajay Sundar" Evaluation of photothermal and RB220 dye decolorization potential of biosynthesized cobalt oxide nanoparticles from an endophytic fungus *Aspergillus nidulans*" 2020, Dr. Raj Mohan B.
2. Mr. Basavaraj S. Nainegali ´"Studies on Selective Extraction and Purification of Bioactive Compounds from Kokum (*Garcinia indica*) fruits using Alcohol based Aqueous Two-Phase Systems.", 2020 Dr. I. Regupathi & Dr. Prasanna B.D.
3. Ms. Deepika D. "Synthesis and characterization of hallow core-shell silica nanoparticles as drug delivery vector", 2020, Dr. P.E. Jagadeeshbabu.
4. Ms. Irfana Shajahan **"**A Study on Sintering behaviour of Praseodymium doped ceria based SOFC electrolytes" 2020, Dr. Hari Prasad Dasari.
5. Mr. Kishor Kumar M.J. "Metal oxide reinforced/decorated polymers as high permittivity dielectrics for energy storage devices", 2020, Dr. Jagannathan T.K.
6. Mr. Mugunthan E. "Photocatalytic degradation of diclofenac using different mixed oxide catalysts", 2020, Dr. M.B. Saidutta & Dr. P.E. Jagadeesh Babu.
7. Ms. Shankramma "Photocatalytic degradation of dyes from mixed dye contaminated water using visible light

active Bismuth ferrite @ TiO_2 and Bismuth ferrite @ Polyaniline heterostructured nanocomposites" 2020, Dr. Vidya Shetty K.

DEPARTMENT OF CIVIL ENGINEERING

DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. of PhD Awarded (including those for which viva has been successfully completed):- 08

1. Ningappa A., "Influence of Aging Condition on Performance of Fine Aggregate Matrix", 2021, (Supervisor: Dr. Suresha S.N.)
2. Basavana Gowda S N, "Potential Use of Processed Lateritic fine aggregates in Cement Mortars and Concretes for Sustainable Development", 2020 (Supervisors: Dr. C. Rajasekaran & Prof. Subhash C Yaragal)
3. Vajreshwari Umachagi, "Structural seismic response control using passive control devices", 2020, (Supervisor: Dr. Katta Venkataramana)
4. Hepsiba Niruba C, "Evaluation of Graphene Oxide and Reduced Graphene Oxide for the Removal of Selected Halogenated Phenols from Water" 09/06/2020 (Supervisor: Dr. Basavaraju Manu)
5. Priyanka B A., "Experimental Investigation Of Superpave And Cement Treated Aggregate Base Mixtures For Long Life Asphalt Pavements", 2020, (Supervisor: Prof. A. U. Ravishankar)
6. L Durga Prashanth, "Laboratory Investigations on The Effect of Rejuvenators in Reclaimed Asphalt Pavement Based Stone Mastic Asphalt Mixes", 2020, (Supervisor: Prof. A. U. Ravishankar)
7. Amulya S., "Laboratory Investigation on Lateritic and Black Cotton Soils Stabilised with GGBS and Alkali Solutions", 2020, (Supervisor: Prof. A. U. Ravishankar)
8. Priyanka B A., "Experimental Investigation of Superpave and Cement Treated Aggregate Base Mixtures for Long Life Asphalt Pavements", 2020, (Supervisor: Prof. A. U. Ravishankar)

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

UPTO 31ST MARCH 2020: 34
DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. Awarded:10

1. Bheemappa Halavar (Reg.No. 148004 CS14F06) "Design of Power and Performance Optimal 3D-NoC Architectures",02-05-2020, Dr. BasavarajTalawar
2. Sachin Dattatraya Patil (Reg.No. CS13F01) "Mitigating the Bufferboatproblem to reduce Internet Transport Latency", 03-06-2020, Dr. Mohit P Tahiliani.
3. Routhu Srinivasa Rao (Reg.No: 158009CS15FV13) "Study of Website Phising and their Countermeasures " 11-06-2020 , Dr. Alwyn Roshan Pais
4. D. Venkata Naga Siva Kumar (Reg.No. 155119 CS15FV04), "Precision and Privacy Preserving Multi-Keyword search over Encrypted Data" , 12-06-2020, Dr. P. SanthiThilagam
5. Ashwin Kumar (Reg.No: 135014CS13P01)"Context Aware Datacenter Laod Balancer" 29-06-2020, Dr. Annappa B.
6. Amit Praseed (Reg.No. 165003CS16F01) "Modelling Behavioural Dynamics for Application Layer DDoS attack Detection", 10-08-2020, Dr. P. SanthiThilagam
7. Nagarathna B Chittargi (Reg.No. 155112CS15F09), "Speech Processing Approaches towards Characterrization and Identification of Dialects", 21-08-2020, Dr. Shashidhar G Koolagudi
8. Manjunath Mulimani (Reg.No. 155098CS15FV06), "Acoustic Scene Classification using Speech Features", 18-11-2020, Dr. Shashidhar G Koolagudi

9. Khymling (Reg.No. 155034 CS15FV5) "FPGA Based Simulation Acceleration On-Chip Networks", 01-12-2020, Dr. BasavarajTalawar
10. Prabhu Prasad B M (Reg.No. 155113CS15F10), "Hardware - based Acceleration of Network-on-Chip simulation using FPGAs", 29-12-2020, Dr. Basavaraj Talawar

DEPARTMENT OF CHEMISTRY

DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. Awarded (including those for which viva has been successfully completed):- 09

(FOR PERIOD OF REPORT ONLY)

1. Syed Ibrahim G.P 'Synthesis and characterization of some hydrophilic polysulfone based membranes for sustainable water purificationnt", 2020, Dr. Arun M. Isloor.
2. Viprabha K, Design, Synthesis and Investigation on Optoelectronic Properties of Thiophene based Heterocycles,2020, Dr. Udaya Kumar D.
3. Akshatha R Shetty, "Electrofabrication of Ni-based alloy coatings for better performance of corrosion protection and water electrolysis" 2021, Dr. A.C. Hegde

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DETAILS OF PHD'S AWARDED

UPTO 31ST MARCH 2020:- No. Awarded (including those for which viva has been successfully completed):-39

DURING PERIOD 1ST APRIL 2020 TO 31ST MARCH 2021:- No. Awarded (including those for which viva has been successfully completed):-11

(FOR PERIOD OF REPORT ONLY)

1. Karuna Kumari Eerapu, "Object Extraction from Remotely Sensed Aerial Images", 25th January 2021, Dr. Shyam Lal and Dr. A. V.Narasimhadhan.
2. Deepa Puneeth, "Data Aggregation and secured Routing in Wireless Sensor Networks", 5th January 2021, Dr. Muralidhar Kulkarni.
3. Deepu S.P., "A Digital Hearing Aid ASIC with Efficient 18-band ANSI S1.11 Filter Bank and Dynamic Range Compression Algorithms", 31st December 2020, Dr. Ramesh Kini M. and Dr. Sumam David.
4. Gottam Hanumantha Rao, "Low voltage, Low power Integrated Continuous time filters for Low frequency applications", 11th December 2020, Dr.Rekha S.
5. K. Sravani, "Design of High Throughput Digital Circuits Using Novel Asynchronous Pipeline Methods", 19th November 2020, Dr. Rathnamala Rao.
6. Rajesh Gogineni, "Sparse and Variational Models for Pan-Sharpening of Multispectral Images", 17th November 2020, Dr. Ashvini Chaturvedi.
7. Shilpa Kamath S., "Intra Prediction Strategies for Lossless Compression in High Efficiency Video Coding", 6th November 2020, Dr. Aparna P.
8. Jayaram Reddy, "Widely Tunable Bandwidth Ultra Low Power Continuous Time Filters for Biomedical", 12th October 2020, Dr. Laxminidhi T.
9. Yajunath Kaliyath, "Design of an Inverter-based High Gain OTA, and its application in Delta Sigma Modulators and Class-D Amplifiers for audio applications", 10th August 2020, Dr. Laxminidhi T.
10. Puneeth Kumar T. R., "Applications of Metamaterial Inspired Structures in Design of Circularly Polarized Antennas", 8th July 2020, Dr. Krishnamoorthy K.
11. Abhishek M. B., "Experimental Analysis of CPS Perspective for Water Monitoring and Distribution", 16th June 2020, Dr. N. Shekar V. Shet.

DEPARTMENT OF ELECTRICAL &

ELECTRONICS ENGINEERING

DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. Awarded (including those for which viva has been successfully completed):-06

1. Santhosh Kumar Goud, "Islanding Detection Using Computational Intelligence Techniques in a Smart Distribution Network", 28th May, 2020, Dr. DN Gaonkar.
2. Hemachandra Gudimindla, 'Design of Adaptive Robust Controllers for Renewable Energy Sources Integrated Smart Grid Systems', 11th June, 2020, Dr. KM Sharma.
3. Mr. Nagaraj C (Reg. No. EE13F02), "Investigations on Power flow control and Power Quality Improvement in Renewable Energy Sources Integrated Smart Grid", 08th July, 2020, Dr. KM Sharma.
4. Prakash Pawar, (EE14FV10), 'Development of Advanced Smart Energy Management Framework Integrated with Optimization Techniques and Prediction Models for Demand-side Consumers Based on IoT Platform', 20th Nov., 2020, Prof. K.P. Vittal.
5. Mohan (EE14F04), 'Multiple-terminal Grid Interconnected Offshore Wind Farms: Development of Transient Behavioural Simulation Models and Protection Schemes', February, 2021, Prof. K.P. Vittal.
6. Roopa Viswadev Damodaran (177EE012), 'Efficient Control of Power Converter Interfaces for Solar Grid Tie Inverters', January, 2021, Prof. BV Perumal.

DEPARTMENT OF INFORMATION TECHNOLOGY

UP TO 31ST MARCH 2020: 22
DURING PERIOD 1ST APRIL 2020 TO 31ST MARCH 2021: 6

1. Ashwin T S "Development of Unobtrusive Affective Computing Framework for Students' Engagement Analysis in Classroom Environment" May 2020, Prof. G. Ram Mohan Reddy.
2. Karthik N, " An Efficient Trusted Framework for Context Aware Sensor Driven Pervasive Applications and Their Integration using Ontologies" May 2020, Prof. Ananthanarayana V S
3. Rathinaraja J, " An Efficient Mapreduce Scheduler for Cloud Environment" May 2020, Prof. Ananthanarayana V S
4. Gokul S. Krishnan, "Predictive Analytics Based Integrated Framework for Intelligent Healthcare Applications" September 2020, Dr. Sowmya Kamath S
5. Sakthi Murugan R, "An Efficient Framework for Information Retrieval from Linked Data" Feb. 2021, Prof. Ananthanarayana V S
6. Sanjay S Bankapur, "Computational Analysis of Protein Structure and its Subcellular Localization using Amino Acid Sequences" Feb. 2021, Dr. Nagamma Patil

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

Upto 31st March 2020:- 35
During Period 1st April 2020 To 31st March 2021;- 07

(FOR PERIOD OF REPORT ONLY)

1. K.Kanagaraj, NITK, Weighted regularization methods for ill-posed problems, 2020, Prof Santhosh George
2. A. Vinoth, "A Study on EP and Hypo-EP Operators", 2020, Dr. P. Sam Johnson
3. Chaitanya G., "On Dynamics of Continuous Functions", 2021, Dr. V. Murugan
4. Niranjan P K, "Radio k-coloring and k-distance coloring of Graphs", 2020, Dr. Srinivasa Rao Kola.

5. Febin I.P., Title: Perceptually inspired variational retinex methods for enhancing and restoring images, 2021, Dr P Jidesh.
6. Savitha G., "Restoration, Enhancement and Analysis of Lung Nodular Images for Prompt Detection of Abnormalities", 2020, Dr Jidesh P, and Dr B R Shankar.
7. Sujatha V Shet, "Efficient Domination in Cartesian Product of Graphs and its Critical Aspects", 2021, Dr. A. Senthil Thilak & Prof. S.S. Kamath

DEPARTMENT OF MECHANICAL ENGINEERING

Number of Doctorates awarded (1st April 2020 to 31st March 2021) - 17

1. Jeane Marina D Souza, "Co-operative Search with Multiple Quadcopters Using Downward Facing Camers", 2020, Dr. Guruprasad K R.
2. Thimothy Harold Gonsalves, "Dynamic Behaviour Of Hybrid Shaft Rotor-Bearing System Of An Aero Gas Turbine Engine", 2020, Prof. G C Mohan Kumar and Dr. Ramesh M R.
3. Mallikarjuna.B, "Effect Of Process Variables On Residual Stress And Microstructure In Laser Additive Manufacturing Of γ-TiAl Alloy", 2020, Dr. Srikanth Bontha and Prof. Prasad Krishna.
4. Thippeswamy L. R, "Experimental Investigations On Single/Two Phase Carbon Dioxide Based Natural Circulation Loops", 2020, Dr. Ajay Kumar Yadav.
5. G. Bala Narasimha, "An Experimental Investigation on Properties of Cu-Al-Be-X Shape Memory Alloys for Smart Structure Applications", 2020, Prof. S.M. Murigendrappa.
6. Gajanan M Naik, "Effect of Equal Channel Angular Extrusion on Microstructure Mechanical Properties and Corrosion Behavior of Wrought AZ-Mg Alloys", 2020, Prof.Narendranath S.
7. Abhinaba Roy, "Investigation on WEDM characteristics of TiNiCu shape memory alloys", 2020, Prof.Narendranath S.
8. Vipin Allien J, "Dynamic Analysis of Sandwich Composite Beam with Magnetorheological Fluid Core", 2020, Dr. Hemantha Kumar and Prof. Vijay Desai.
9. Mithun Vijay Kanchan, "Investigations on the dynamics of flexible filaments in viscous fluid", 2020, Dr. Ranjith M.
10. Vishweshwara P S, "Inverse Estimation of Multi-parameters Using Bayesian Framework Combined with Evolutionary Algorithms for Heat Transfer Problems", 2020, Dr. N. Gnanasekaran and Dr. Arun M.
11. Nagamadhu M, "Mechanical and Thermomechanical Properties of woven sisal fibre reinforced biodegradable composites", 2020, Prof. G C Mohankumar and Dr. P Jeyaraj.
12. Praveen T R, "Grain refinement and surface modification technique by equal channel angular pressing and laser shock peening on magnesium alloy", 2020, Dr. H Shivananda Nayaka.
13. Ramesh S, "Severe Plastic deformation of copper-Titanium alloys using multi-axial cryo-forging", 2020, Dr. H Shivananda Nayaka.
14. Vishwas M, "Performance Evaluation of Flexible Jute-Natural Rubber composites For Impact Behaviour" 2020, Dr. sharnappa Joladarashi and Prof. S M Kulkarni.
15. Rameshbabu N, "Development And Characterization Of Al-Si Based Functionally Graded Material Through Directional Solidification", 2020, Dr. Ramesh M R.
16. Libin P Oommen, "Experimental studies on magnetic field assisted combustion of hydrocarbon fuels in a multicylinder spark ignition engine under liquid phase and gas phase operation", 2021, Dr. Kumar G N.
17. Praveen Sheony, "Experimental investigation and modeling of Magnetorheological Elastomer for torsional vibration isolation", 2021, Prof. K V Gangadharan.

DEPARTMENT OF MINING ENGINEERING

During the 1st April 2020 to 31st March 2021: No. Awarded - 07

1. Jeripotula Sandeep Kumar - "Evaluation of Human Body Vibration in Indian Surface Coal Mines and Prediction of Health Risk Based on Health Guidance Caution Zone (HGCZ)", March 2021, Dr. M. Aruna and Prof. Govinda Raj
2. Gayana B C- "Utilization of Iron Ore Waste and Tailings in Concrete Pavements" October 2020, Dr. K. Ram Chandar.
3. Shubhanand Rao P- "Development of Thermal Efficient Non Fired Bricks Using Iron Ore Tailings and Perlite" March 2021, Dr. K. Ram Chandar
4. Harish Kumar N S - "Improvement of Shovel and Dumper Availability in Indian Surface Mines using Reliability Analysis" February, 2021, Dr. R. P. Choudary and Prof. Ch S N Murthy.
5. Balaraju Jakkula - "Investigation on Performance of Load Haul Dampers in Underground Mines and Improvement of its Availability and Utilization using Reliability Analysis" February, 2021 Prof. M. Govinda Raj and Prof. Ch S N Murthy.
6. Ch.Vijayakumar - "Prediction of rock properties and specific energy using sound levels produced during diamond drilling" February, 2021, Prof. Harsha Vardhan and Prof. Ch S N Murthy.
7. Vijay Kumar S -"Experimental Investigation on Assessment and Prediction of Temperature during Rotary Drilling" September 2020, Dr. B. M. Kunar and Prof. ChSN Murthy.

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Up to 31st March 2020:- 57
During period 1st April 2020 to 31st March 2021:- 03

(FOR PERIOD OF REPORT ONLY)

1. Prashant Huilgol, "Microstructural Investigations on Hot-Dip Alumininized and Subsequent Diffusion Treated AISI 321 Stainless Steel", 2020, Guide: Prof. Udaya Bhat K., Prof. K. Rajendra Udupa.
2. Shamitha C., "Synthesis and Characterization of $ZnMn_2O_4$ and PVDF/Ca-Al LDH Nanofibers for Sustainbale Energy Applications", 2020, Guide: Prof. S. Anandhan.
3. Nandana M. S., "Influence of Retrogression and Re-aging Treatment on the Microstructure, Mechanical and Fatigue Crack Growth Behavior of Aluminium Alloy 7010", 2020, Guide: Prof. Udaya Bhat K.

SCHOOL OF MANAGEMENT

DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. Awarded (including those for which viva has been successfully completed):- 04

(FOR PERIOD OF REPORT ONLY)

1. Navyashree G. R., "'Information and Communication Technology and Export Performance of Firms: A Study of Food Processing Industry in India', 2021, Dr. Savita Bhat
2. Sovanjeet Mishra (155144HM15F06) "An empirical investigation of drivers and outcome of employer branding". Successfully defended PhD. Thesis work on 31st August 2020. Supervisor: Dr. S. Pavan Kumar
3. Tanupriya, "Mimesis of Sexuality: A Select Literary Study of Autobiographies by Transgender Individuals" 21-05-2020, Dr Dhishna P
4. Rajesh R Pai "A Select Study of Mobile Health Applications in Indian Context",

Viva voce on 19/May/2020. Dr.Sreejith A

DEPARTMENT OF PHYSICS

UPTO 31ST MARCH 2020:- No. Awarded (including those for which viva has been successfully completed):- 46

DURING PERIOD 1ST APRIL 2020 TO 31st March 2021:- No. Awarded (including those for which viva has been successfully completed):- 7

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

Upto 31st March 2020: 97
During period 1st April 2020 to 31st March 2021 : 06

1. Sanjay Shekar N.C., Modeling Evapotranspiration using Remotely Sensed Spatial Contextual Information, Dr. Lakshman Nandagiri.
2. Arun Kumar Yadav, Shoreline Dynamics in Response to river sediment: A Case Study, Dr. B.M.Dodamani, Dr. G.S. Dwarakish.
3. V. Venkateshwarlu, Gravity Wave Damping by Stratified Porous Structures, Dr. Debabrata Karmakar.
4. N. Ramachandra Rao, Buckling Analysis of offshore Pipeline with various Buckle Arrestor Configurations under Static Axial Load, Dr. Vadivuchezhian K.
5. Konstantin J Sylus., A Frame work for ground water quality modelling in the Coastal Aquifer of Nethravathi and Gurupur river confluence, Dr. H. Ramesh.
6. Diwan Mohaideen M.M., Soil Moisture Variability and Hydrological Impact Assessment of Land Cover Change, Dr. K. Varija.

10.0 HUMAN RESOURCES

10.1 STAFF POSITION

Teaching Staff Number	
Professors	78
Associate Professors	70
Assistant Professors (REGULAR)	85
Other staff, A.P.D. & System Manager	02
Contract Faculty Asst. Professor Grade – II	43
	278

Non-Teaching Staff

Administrative Officers	23
Technical supporting staff	50
Non-technical supporting staff	59
	132

THE STAFF

(A) Administrative Staff

Director: (Head of the Institution)

K Uma Maheshwar Rao, Ph.D.

Dy. Director

Ananthanarayana V S, Ph.D.

Dean (Academic)

A Nityananda Shetty from (01.10.2019)

Dean (Planning and Development)

Subhash C Yaragal, Ph.D. from (1.8.2018)

Dean (Faculty Welfare)

A H Sequeira, Ph.D. (till 15.3.2020)
M S Bhat, Ph.D, from (16.3.2020)

Dean (Alumni Affairs & Institutional Relations)

K Panduranga Vittal, Ph.D. from (1.9.2018)

Associate Deans (PG&R)

Vidya Shetty, Ph.D. from (29.10.2018)

Associate Dean (PG&R)

Ashvini Chaturvedi, Ph.D. from 26.10.2018.

Dean (Student Welfare)

Jagannatha Nayak,(Ph.D.) from 15.10.2018

Dean (Research & Consultancy)

U. Shripathi Acharya, Ph.D.from (30.11.2018)

ACADEMIC STAFF (TEACHING)

Department of Water Resources and Ocean Engineering

Professors:

N. Lakshman, Ph.D., (I.I.Sc., Bangalore)
Subba Rao, Ph.D. (Mangalore University),
G.S. Dwarakish, Ph.D. (Anna University)
Mahesh A, Ph.D. (IIT Bombay)
Kiran G. Shirlal, Ph.D. (NITK),
Amba Shetty, Ph.D. (NITK) HOD till 24.3.2021
P.C. Deka, Ph.D. (I.I.T. Guwahati)
B.M. Doddamani, Ph.D. (NITK) H.O.D. from 25.03.2021

Associate Professors

K Varija, Ph.D. (IISc. Bangalore)
H.Ramesh, Ph.D. (NITK)
Manu, (Ph.D. NITK)
Nasar T, Ph.D. (IIT, Madras)

Assistant Professors:

K. Subrahmanya, Ph.D. NITK
Pruthviraj U., Ph.D. (NITK)
K. Vadivuchezhian, Ph.D. (IIT Madras)
Debabrata Karmakar, Ph.D., (IIT Kharagpur)
Shwetha Hassan Rangaswamy, Ph.D. (IISc, Bangalore) (Contractual)

Department of Chemical Engineering

Professors:

Gopal Mugeraya, Ph.D. (I.I.Sc. Bangalore) on deputation to NIT Goa as Director from 15.07.2017
M.B. Saidutta, Ph.D. (I.I.T. Bombay)
B. Raj Mohan., Ph.D. (I.I.T., Kharagpur)
K. Vidya Shetty, Ph.D. (NITK)

Associate Professors:

Hari Mahalingam, Ph.D. (Singapore)
Prasanna B.D., M.E. (Ph.D. NITK) HOD from 04.09.2019
I Regupathi, Ph.D., (Anna University, Chennai)
P.E. Jagadeeshbabu, Ph.D. (Anna Univ. Chennai)
S. Gangamma, Ph.D. (IIT, Bombay)
Keyur Raval, Ph.D. (Aachen Den University)
Hari Prasad Dasari, Ph.D. (Korea Institute of Science and Technology, Korea)

Assistant Professors:

Jitendra Pal S., Ph.D. (IIT Delhi)
D.Ruben Sudhakar, Ph.D. (IIT Madras)
B. Ashraf Ali, Ph.D. (IIT Madras)
Jagannathan T K, Ph.D. (IIT Madras)

Contractual

Chinta Sarkar Rao, Ph.D. (IIT, Madras)
Mahesh Kumar Poddar, Ph.D., (IIT Guwahati) (Contractual)
Vaishakh Nair, Ph.D. (IIT, Madras)

Department of Civil Engineering

Professors:

R. Shivashankar, Ph.D. (A.I.T. Bangkok)
K.N. Lokesh, Ph.D. (Geology) (Gulbarga University)
M.C. Narasimhan, Ph.D. (IIT Madras)
Katta Venkataramana, Dr.Eng. (Kyoto University, Japan)
A.U. Ravi Shankar, Ph.D (Univ. of Roorkee)
K. Swaminathan. Ph.D. (I.I.T. Bombay) HOD till 21.4.2021
Varghese George, Ph.D. (I.I.T. Bombay)
S. Shrihari, Ph.D. (Univ. of Roorkee)
Sitaram Nayak, Ph.D. (I.I.Sc. Bangalore)
Subhas C. Yaragal, Ph.D. (IISc. Bangalore)
K.S. Babunarayan, Ph.D. (NITK)
B.R. Jayalekshmi, Ph.D. (NITK) HOD from 22.4.2021

Associate Professors:

Sunil B.Malegole, Ph.D. (NITK)
Basavaraj Manu, Ph.D. (IIT, Bombay)
Suresha S N, Ph.D. (NITK)
Arun Kumar Thalla (IIT Rourkee), Ph.D.
Bibuti Bhushan Das, Ph.D., (IIT Bombay)
Gangadhar Mahesh, Ph.D. (Hongkong)
A. S Balu, Ph.D. (IIT Madras)
C.P. Devatha, Ph.D. (IIT Roorkee)

Assistant Professors:

Prashanth M.H., Ph.D. (IISc, Bangalore)
Raviraj H. Mulangi, M.E., Ph.D., (IISc, Bangalore)
C Rajasekaran, (IIT Madras)
Adani Azhoni, Ph.D. (IIT, Delhi)
T Palanisamy, Ph.D.
Sreevalsa Kolathayar, Ph.D., (IISc, Bangalore)

Contractual

Babloo Chaudhary, Ph.D., (Kyoto, Japan)
Anupama Surenjan, Ph.D., (IIT, Madras)
J Vijaya Vengadesh kumar, Ph.D.(IIT, Madras)
Sreekumar M, Ph.D. (IIT, Bombay)
Vinoth S, Ph.D. (Anna University, Chennai)
Mithun Mohan, Ph.D.(IIT Roorkee)
Pavan G S, Ph.D. (IISc, Bangalore)
Sridhar G, Ph.D. (IIT, Madras, & NUS. Singapore (Joint Degree)

Department of Computer Science Engineering

Professors:

K. Chandrasekaran, Ph.D. (J.N.T.U.)
P Santhi Thilagam, Ph.D. (NITK)
Annappa,Ph.D (NITK, Surathkal)

Associate Professors

Vani M., M.Tech. (NITK, Surathkal)
Alwyn Roshan Pais, Ph.D. (NITK) HOD till 14.02.2021.

Shashidhar G Koolagudi, Ph.D.(IIT Kharagpur) HOD -15.02.2021
Manu Basavaraju, Ph.D. (IISC, Bangalore)

Assistant Professors:

Saumya A. Hegde,Ph.D. (NITK)
B.R. Chandavarkar, Ph.D. (NITK)
Mahendra Patap Singh, Ph.D. (I.I.T.Kharagpur)
Jeny Rajan, Ph.D. (University of Antwerpen, Belgium)
Mohit P. Tahiliani, Ph.D. (NITK)
Basavaraj Talawar, Ph.D. (IISC Bangalore)
M Venkatesan, Ph.D. (VIT University, Vellore)

Contractual

Biswajit Bhowmik, Ph.D. (IIT Guwahati)
Sourav Kumar Pandey, Ph.D. (NIT, Rourkela)

Department of Chemistry

Professors:

A. Nityananda Shetty, Ph.D. (Mangalore Univ.)
A. Chitharanjan Hegde, Ph.D. (Mangalore Univ.)
B. Ramachandra Bhat, Ph.D. (Mangalore Univ.)
Krishna Bhat, Ph.D. (Mangalore Univ.)
Arun Mohan Isloor, Ph.D. (Mangalore University) HOD-11.08.2018

Associate Professors:

Udaya Kumar D., Ph.D. (NITK, Surathkal)
Darshak R. Bhai Trivedi, Ph.D. (Bhavnagar University)

Assistant Professors:

Sib Sankar Mal, Ph.D. (JUB Germany)
Beneesh P. B., Ph.D. (University of Kerala)
Debashree Chakraborty, Ph.D. (IIT Kanpur)
Saikat Dutta, Ph.D. (University of Iowa, USA)
Vijayendra S Shetti, Ph.D. (IIT, Bombay)
Lakshmi Vellanki, Ph.D. (IIT, Bombay)

Department of Electronics And Communication Engineering

Professors:

S. Sumam David, Ph.D. (I.I.T. Madras)
Muralidhar Kulkarni, Ph.D. (JMI – New Delhi)
M. Shankarnarayan Bhat, Ph.D. (I.I.Sc., Bangalore)
John D'Souza, Ph.D. (I.I.T.Kharagpur)
U. Sripati Acharya, Ph.D., (I.I.Sc., Bangalore)
Laxminidhi T., Ph.D. (IIT, Madras) HOD till 15.4.2021
Ashvini Chathurvedi, Ph.D. (MUM Malaysia) from 16.04.2021
Neelavar Shekar Shet, Ph.D. (NITK)

Associate Professors:

M. Ramesh Kini, Ph.D. (NITK)
Deepu Vijayasenan, Ph.D. (EPFL, Swizerland)

Assistant Professors:

Rekha S., Ph.D.
Kalpana G. Bhat, M.Tech. (Karnataka University)
Aparna P., Ph.D. (NITK)
B. Nagavel, M.Tech.
Krishna Moorthy K., Ph.D. (IIT, Bombay)
Prashantha Kumar H, Ph.D. (NITK)
Raghavendra B S, Ph.D. (IISC, Bangalore)
A V Narasimhadhan, Ph.D. (IISc), Bangalore
Pathipati Srihari, Ph.D. (Andhra University)
Shyam Lal, Ph.D. (BIT Ranchi)
Ratnamala Rao, Ph.D. (IIT Madras)
Prabhu K, Ph.D. (NIT, Tiruchirapalli)

Contractual

Sushil Kumar Pandey, Ph.D. (IIT, Indore)
Sandeep Kumar, Ph.D. (Indian School of Mines Institute, Dhanbad)
Mandeep Singh, Ph.D. (IIT, Roorkee)
Nikhil K S, Ph.D. (IIT, Madras)

Department of Electrical And Electronics Engineering

Professors:

Udayakumar R.Y., Ph.D. (IIT Bombay) on deputation to MNIT, Jaipur as Director from 08.10.2016
K. Panduranga Vittal, Ph.D. (Mangalore Univ.)
Shubhanga K.N., Ph.D. (IIT, Bombay), HOD from 29.05.2019
Gururaj S. Punekar, Ph.D. (IIT, Kharagpur)
Venkatesa Perumal, Ph.D. (IIT Delhi)

Associate Professors:

Jora M. Gonda, Ph.D. (NITK)
K. Rajagopal, M.Tech. (I.I.T. Kharagpur)
Vinatha U., Ph.D. (NITK, Surathkal)
K. Manjunatha Sharma, Ph.D. (NITK)
Dattatraya N. Goankar, Ph.D. (IIT, Roorkee)
Debashisha Jena, Ph.D. (NIT Rourkela)
Parthiban, Ph.D. (IIT, Roorkee)

Assistant Professor :

Iddya Raghavendra Rao M.Tech. (Mangalore Univ.)
Nagendrappa H., Ph.D. (Canada)
Tukaram Moger, Ph.D. (IISC, Bangalore)
Girisha Navada, M.Tech. (University of Calicut)
Karthikeyan, Ph.D. (NIT, Thiruchirapalli)
R Kalpana S, Ph.D. (IIT, New Delhi)
Y Suresh, Ph.D. (NIT Rourkela)
Krishnan C M C, Ph.D. (Ghent University, Ghent, Belgium)
Shashidhara Mecha Kotian, Ph.D. (NITK, Surathkal)

Contractual

Yashawanth Kashyap, Ph.D. (IIT, Mandi)
B Dastagiri Reddy, Ph.D. (NIT, Tiruchirapalli)
Arun Dominic D, Ph.D.(IIT Roorkee)
Padmavathi L, Ph.D. (IIT Madras)
Vignesh Kumar V, Ph.D. (NIT, Tiruchirapalli)
Ravi Raushan, Ph.D. (IIT (ISM), Dhanbad)
Dharavath Kishan, Ph.D. ((NIT, Tiruchirapalli)
Md Waseem Ahmad, Ph.D. (IIT, Kanpur)
Prajof P, Ph.D. (IIT, Bambay)

School of Management

Professors

A.H. Sequeira, Ph.D., (Mysore University)
K.B.Kiran, Ph.D. (Mangalore Univ.)
Shashikantha K., Ph.D. (University of Hyderabad)

Associate Professors:

S. Pavan Kumar, Ph.D., (IIT Kharagpur) HOD from 02.09.2018.
Sheena, Ph.D., (University of Calicut)
Ritanjali Majhi, Ph.D.(BIT, Mersay)
Rajesh Acharya H, Ph.D., (University of Hyderabad)
Dhishna P, Ph.D., (University of Pondicherry)
Pradyot Ranjan Jena, Ph.D. (IIT Kanpur)

Assistant Professors:

Bijuna C. Mohan, Ph.D. (NITK, Surathkal)
Rashmi Uchil, Ph.D. (NITK, Surathkal)
Suprabha K. R, Ph.D., (VTU)
Gopalakrishna B V, Ph.D., (University of Mysore)
Sreejith A, Ph.D. (IIT, New Delhi)
Savita Bhat, Ph.D. (IIT, Bombay)

Contractual

Rofin T M, Ph.D. (IIT, Kharagpur)

Department of Information Technology

Professors:

Ananthanarayana V.S., Ph.D. (I.I.Sc. Bangalore)
G. Ram Mohan Reddy, Ph.D. (Edinburgh, U.K.)

Associate Professors:

Jaidhar C D, Ph.D. (NIT, Tiruchirapalli)

Assistant Professors:

Dinesh Naik, M.Tech. (VTU, Belgaum)
Geetha V., Ph.D. (NITK)
Biju R. Mohan, Ph.D. (NITK) HOD from 19.8.2019
Sowmya Kamath S., Ph.D. (NITK)
Nagamma Patil, Ph.D. (IIT, Roorkee)
Anand Kumar M, Ph.D.

Contractual

Kiran M, Ph.D. (NITK, Surathkal)
Bhawana Rudra, Ph.D. (IIT Allahabad)
Shrutilipi Bhattacharjee, Ph.D. (IIT, Kharagpur)

Department of Mathematical & Computational Sciences

Professors:

A. Kandasamy, Ph.D. (I.I.T. Bombay)
Suresh M. Hegde, Ph.D. (Delhi Univ.)
Santhosh George, Ph.D. (Goa University)
Murulidhar N.N., Ph.D. (I.I.T. Bombay)
Shyam Srinivas Kamath, Ph.D. (Karnataka Univ.) HOD-16.08.2019
B.R. Shankar, Ph.D. (I.I.Sc., Bangalore)

Associate Professors:

Sujatha D Achar, M.Sc. (Karnataka University) retired on 31.07.2020
R. Madhusudhan., Ph.D. (IIT, Roorkee)
P. Sam Johnson, Ph.D. (Alagappa University)
D. Pushparaj Shetty, Ph.D. (IIT Delhi)
V. Murugan, Ph.D. (IIT, Madras)
Chandhini G, Ph.D. (IIT, Madras)

Assistant Professors:

Vivek Sinha, Ph.D (IIT, Bombay)
Jidesh P., Ph.D. (NITK)
Satyanarayana Engu, Ph.D., (IIT Madras)
Vishwanath Kadaba Puttanna, Ph.D., (NITK)
Kedarnath Senapati, Ph.D.
Srinivasa Rao Kola, Ph.D. (IIT, Kharagpur)
A Senthil Thilak, Ph.D. (NIT, Tiruchirappalli)
Jothi Ramalingam, Ph.D. (Queensland University of Technology, Brisbane, Australia)

Contractual

Falguni Roy, Ph.D. (IIT, Kharagpur)

Department of Mechanical Engineering

Professors:

T.P. Ashok Babu, Ph.D. (I.I.T. Delhi)
G.C. Mohan Kumar, Ph.D. (IIT, Chennai)
H. Suresh Hebbar, Ph.D. (I.I.T. Delhi)
Prasad Krishna, Ph.D., (Univ. of Michigan, Ann Arbor, USA)
Satyabodh M Kulkarni, Ph.D. (I.I.Sc., Bangalore) HOD -04.02.2021
Gangadharan K.V., Ph.D. (I.I.T., Madras)
Ravi Kiran Kadoli, Ph.D. (IIT, Madras)
Vijay Desai, M.E. (Ph.D. NITK)
Narendranath S., Ph.D. (IIT, Kharagpur)
Shrikantha S Rao, Ph.D. (NITK), HOD till 03-02-2021
S.M. Murigendrappa, Ph.D. (I.I.T., Bombay)

Associate professors

Mervin A. Herbert, Ph.D. (I.I.T., Kharagpur)
Kumar G.N., Ph.D. (IIT, Delhi)
Subhaschandra Kattimani, Ph.D. (IIT, Kharagpur)
Jeyaraj P, Ph.D., (IIT Madras)
Hemantha Kumar, Ph.D., (IIT, Madras)
Ramesh M.R, Ph.D., (IIT, Roorkee)
Sathyabhama A., Ph.D., (NITK)
Shrikanth Bontha, Ph.D. (Wright State)
Arun M, Ph.D. (University of Greenwich, London, UK)
Guruprasad K.R., Ph.D. (I.I.Sc., Bangalore)
Shivananda Nayak H., Ph.D. (IIT Roorkee)
Veershetty Gumtapure, Ph.D. (IIT, Madras)
Navin Karanth P., Ph.D. (NITK)
Anish S, Ph.D. (IIT, Madras)
Sharnappa Joladarashi, Ph.D. (IIT, Madras)

Assistant Professors

Vasudeva M., Ph.D. (I.I.T. Bombay)
Sudhakar Jambagi, M.Tech. (Persuing Ph.D. at IIT Kharagpur)

Ajay Kumar Yadav, Ph.D. (I.I.T. Kharagpur)
Mrityunjay R. Doddamani, Ph.D. (NITK, Surathkal)
N. Gnanasekaran, Ph.D. (IIT, Madras)
Arumuga Perumal D, Ph.D. ((IIT Guwahati)
Somasekhara Rao Todeti, Ph.D., (IISc Bangalore)
Ranjith M., Ph.D., Dong-A University, Busan, South Korea
Poornesh Kumar Koorata, Ph.D.(Inha), Unioversity of Korea

Contractual
Saurabh Chandraker, Ph.D. (NIT, Rourkela)
Parthasarathy P, Ph.D. (Karlsruhe Institute of Technology, Germany)
Arun Kumar Shettigar, Ph.D. (NITK)
Mruthyunjaya Swamy K B, Ph.D.(IIT, Kharagpur)
Pramod K, Ph.D. (IIT, Bombay) resigned 15.06.2020 (AN)
Ranjeet Kumar Sahu, Ph.D. (IIT, Madras)
A S S Balan, Ph.D. (IIT, Madras)
P S Suvin, Ph.D. (IISc., Bangalore)
Khyati Verma, Ph.D. (IIT, Delhi)

Department of Mining Engineering

Professors:

V. Rama Sastry, Ph.D. (B.H.U. Varanasi)
C.H. Suryanarayana Murthy, Ph.D. (IIT Kharagpur)
M. Govinda Raj, Ph.D. (Mangalore University)
Harsha Vardhan, Ph.D. (Indian School of Mines Dhanbad)

Associate Professor:

M. Aruna, Ph.D. (University of Dhanbad) HOD from 20.4.2021
Karra Rama chandar, Ph.D. (NITK) HOD till 19.4.2021

Assistant Professor:

Anup Kumar Tripathi, Ph.D. (IIT, Madras)
Bijay Mihir Kunar, Ph.D. (IIT, Kharagpur)
Sandi Kumar Reddy, Ph.D. (NITK)

Department Of Metallurgical & Materials Engineering

Professors:

K. Narayan Prabhu, Ph.D. (Mangalore Univ.) HOD -13.01.2020
Jagannatha Nayak, Ph.D. (NITK)
Udaya Bhat, Ph.D. (I.I.Sc., Bangalore)
Anandan Srinivasan, Ph.D. (I.I.T., Kharagpur) HOD till 12-01-2020

Associate Professor:

Kumkum Banerjee, Ph.D. (IIT Kharagpur)
Ravishankar K.S., Ph.D. (NITK)
Mohammad Rizwanur Rahman, Ph.D., (Keio University, Japan)
Subray R. Hegde, Ph.D. (University of Canada)
Preetham Kumar G V, Ph.D. (IIT, Madras)

Assistant Professor:

Shashi Bhushan Arya, Ph.D. (IIT, Bombay)
Saumen Mandal, Ph.D. (IIT, Kanpur)
Rajasekaran B, Ph.D. (IIT, Madras)

Contractual
Selvakumar Murugesan, Ph.D. (IIT, Kharagpur)
Sumanth Govindarajan, Ph.D. (IISc, Bangalore)

Department of Physics

Professors:

H.D. Shashikala Ph.D (Osmania Univ.)
Udayashankar N.K., Ph.D. (I.I.Sc. Bangalore)
M.N. Satyanarayan, Ph.D. (I.I.Sc., Bangalore)

Associate Professor:

Nagaraj H.S., Ph.D. (Mangalore University),

Ajith K. Madam, Ph.D. (University of Hyderabad) HOD from-11.03.2020

Assistant Professors:

Partha Pratim Das, Ph.D. (University of Cineinnati Elec Engg.)
Deepak Vaid, Ph.D. (USA)
T. K. Shajahan, Ph.D. (IISC, Bangalore)
Kartick Tarafder, Ph.D. (Jadavpur University)

Contractual

Sreenath V, Ph.D. (IIT, Madras)

ADMINISTRATIVE AND OTHER STAFF

Registrar:

Ravindranath K., M.A. (Mangalore University)

Joint Registrar:

Ram Mohan Y, M.Com. (Mysore), LL.B. (Mangalore University)

Assistant Registrars

Soumen Karmakar, (MBA)
Bansod Pritam Ramesh, (M.Com, MBA)
Gaurav Chowdhury, (MBA)
Priyanka Dattanand Amadalli, (M.Sc.)
Harish M Shetty (Officiating)

Resident Engineer i/c:

Mohamod Firoze Khaza

Medical Officer:

Dr. B. Srimathi, M.B.B.S. (Mysore Univ.)

Medical Officer:

Dr. M.L. Balabhaskara

Professor Incharge Hostel Affairs:

A C Hegde, Ph.D. till 04.02.2021
P C Deka, Ph.D. from 05.02.2021 to 28.04.2021
Debashish Jena, Ph.D. from 3.5.2021 to 13.07.2021
Rajmohan, Ph.D. from14.07.2021

NITK ENGG. COY N.C.C.

Officer Commanding:

Col. MG HS Rajan

Associated NCC Officer Incharge (ANO):

P Sam Johnson, Ph.D.
Shivananda Nayak, Ph.D.

Professor Incharge (Security)

Rajesh Acharya, Ph.D. From 15.06.2018

Security Officer on contract:

Ramprasad Bhat

Chief Vigilance Officer:

A. Kandasamy, Ph.D.

Central Public Information Officer (CPIO):

Soumen Karmakar, Asst.Registrar (Admin)

OTHER SECTIONS

Career Development Centre Professor:

Vijay Desai, Ph.D.

Industry Institute Partnership Cell Professor I/c.:

Prasanna B.D., Ph.D. till 10.11.2019
Subray R Hegde, Ph.D. from 11.11.2019

SC/ST Cell

Veershetty Gumpature, from 15.06.2018

OBC Cell

Annappa, Ph.D.(NITK) till 11.11.2020
I Regupathi, Ph.D. from 12.11.2020

Assistant Physical Director (Sr. Scale):

A. Shivaram, M.P.Ed. (Mangalore Univ.)
(I/c. Physical Director)

SAS Officer:

Hem Prasad Nath, Ph.D. (Nagpur University)

Manoj Kumar, Ph.D. (Techno Global University)

Librarian:
Mallikarjuna Angadi, Ph.D. (Gulbarga University).

Asst. Librarian

Anasuya Chakari, M.A. M.Lib.Sc. (Karnataka University)

Iranna M Shettar (M.Lisc. M. Phil)

Central Computer Centre Chairman / System Manager:

S S Kamath, Ph.D till 01.08.2019

Ramesh Kini,Ph.D – 02.08.2019

System Manager

P G Mohanan, M.Tech. (Cochin University)

Senior Scientific Officer:

Vijayakumar Ghode, M.Tech.

NITK - Science & Technology Entrepreneurs' Park

OSD :-

Venkatesa Perumal, Ph.D. from 30.8.2019

R&D Centre on Roofing Tiles
Faculty incharge – Dean (R&C)

Centre for Continuing Education Chairman

Arun Kumar Isloor, Ph.D.

Dakshina Kannada Nirmithi Kendra Cordinator:

K.S Babu Narayan, Ph.D.

Project Manager:

Kalbavi Rajendra Rao, B.E. (Mangalore Univ.)

NON-ACADEMIC STAFF (NON-TEACHING) as on 31.3.2020

Sl. No	Name of the Posts	In Position
1	Registrar	1
2	Librarian	1
3	Joint Registrar	1
4	Assistant Registrar (Admin)	1
5	Assistant Registrar (Accounts)	1
6	Assistant Registrar (Academic) (Officiating)	1
7	Assistant Registrar (A/cs) (Purchase)	1
8	Assistant Librarian	2
9	Technical Officer	8
10	SAS Officer	2
11	Senior Scientific Officer	1
12	Medical Officer	2
13	Executive Engineer	1
14	Senior Superintendent	2
15	Superintendent	4
16	Private Secretary	1
17	Assistant (SG -I)	9
18	Senior Assistant	6
19	Junior Assistant	8
20	Assistant (SG-II)	14
21	Stenographer (SG-I)	4
22	Assistant Engineer (SG-I)	12
23	Assistant Engineer (SG-II)	5
24	Technical Assistant	7
25	Technical Assistant (SG-I)	1
26	Technical Assistant (SG-II)	7
27	Technician (SG-I)	3
28	Technician (SG-II)	2
29	Technician	13
30	Office Attendant (SG-I)	2
31	Office Attendant (SG-II)	4
32	Senior Office Attendant	1
33	Lab Attendant	2
34	Office Attendant	2
	Total	**132**

11.0 FACILITIES/AMENITIES

11.1 Hostels

Due to continued ravage of 'COVID-19 Pandemic' across the country, NITK Hostels could not be opened for Odd and Even Semester (Academic Year 2020-21).

NITK Hostel Trust is continuing with extreme financial crisis to meet the salary of its Mess Employees and House Keeping workers (as per the Labour Act of Govt. of India). NITK Hostels are managed by NITK Surathkal Hostel Trust (NITKSH Trust), and it has to be self-maintained, other than the support of 50% salary of the Mess employees, by the Institute. Following to this adverse situation, as approved by the competent authority NITK Students Hostel Trust has decided to collect a nominal amount ` 5000/- (Rupees five thousand only) from each student even for Even semester in the line of Odd semester, who are presently on the rolls of NITK Hostels.

All present inmates of NITK Hostels are informed to make the payment of `10,000/- during admission of even semester of academic year 2020-21 in IRIS portal provided, towards Hostel Establishment Fee for entire academic year. This is to meet the minimum salary of Mess workers
and House-Keeping Team (only 70 % of actual payment to be done by the Hostel Authority).

The M. Tech, Ph. D and IV B. Tech students joined Hostel for completing their Project work. 640 male students were accommodated in PG New, Mega Tower II and 240 girl's students were accommodated in Girls Hostel IV, V Hostel Block

The three messes are operated in Aravali Hostel (NITK Hostel), Sahyadri (VII Hostel) and Girls Hostel (outsource- Aditya Caterers).

Prof. Paresh Chandra Deka is working as a Professor in-charge Hostel Affairs NITK Hostels. Presently, the following faculty members are rendering their services as wardens in different Hostel Blocks as mentioned against their names:

Paresh Chandra Deka, Ph.D.	Professor in-charge Hostel Affairs
Harsha Vardhan, Ph.D.	Warden (Finance)
S Pavan Kumar, Ph.D.	Warden, Karavali (I Hostel)
Gopalakrishna B. V, Ph.D.	Warden, Aravali (II Hostel)
Ranjeet Kumar Sahu, Ph.D.	Warden, Vindhya (III Hostel)
Yashwant Kashyap, Ph.D.	Warden, Satpura (IV Hostel)
Sharanappa Joladarashi, Ph.D.	Warden, Nilgiri (V Hostel)
Debabrata Karmakar, Ph.D.	Warden, Pushpagiri(PG Hostel)
Saumen Mondal, Ph.D.	Warden, Sahyadri(VII Hostel)
A.V Narasimhadhan, Ph.D.	Warden, Trishul (VIII Hostel)
Kiran M, Ph.D.	Warden, Trishul (VIII Hostel)
N. Gnanasekaran, Ph.D.	Warden, Everest (Mega Tower I)
Ajay Kumar Yadav	Warden, Everest (Mega Tower I)
Pushparaj Shetty D, Ph.D.	Warden, Everest (Mega Tower I)
Shashi Bhushan Arya	Warden, Himalaya (Mega Tower II)
Sandeep Kumar, Ph.D.	Warden, Himalaya (Mega Tower II)

Darshak R Trivedi, Ph.D.	Warden, Kailash (Mega Tower III)
Shyam Lal, Ph.D.	Warden, Kailash (Mega Tower III)
(Mrs.) Suprabha K R., Ph.D.	Warden, Ganga & Netravathi (GHI & V)
(Mrs.) Savita Bhat, Ph.D.	Warden, Yamuna (GH III Hostel)
(Ms) R Kalpana, Ph.D.	Warden, Yamuna (GH III Hostel)
(Ms) Chandhini G, Ph.D.	Warden, Sharavathi (GH-IV)
Debashisha Jena, Ph.D.	Warden, Out-reach & Extra Curricular Activities
Manoj, Ph.D.	Students' Welfare

*Prof. D*r. Karanam Uma Maheshwar Rao, Director is Ex-Officio President of NITKS Hostels. He being the President for hostels will be giving guidance to the Council of Wardens time to time for the smooth administration and function of the hostel activities.

11.2 CENTRAL COMPUTER CENTER

CCC has contributed in designing, building and maintaining an IT infrastructure for the Institute adequate to the academic needs, by providing quality IT services to support teaching, learning, research and innovations. CCC maintains the campus network backbone connectivity and internet connections on 24x7 basis. The CCC occupies the building opposite to the Silver Jubilee Auditorium. CCC was established in 1995 as a service providing/supporting facility that augments to the computing facilities in the teaching departments.

CCC is currently headed by Dr Ramesh Kini (Dept. of ECE). CCC has the following permanent staff associated to it. One Systems Manager, One Senior Scientific Officer, Two Technical Officers, Two Assistant Engineers (SG1), One Technician (SGII) and One Junior Assistant. CCC also has an Office Clerk, 2 Helpers, One Sweeper and One House Keeper working on contract basis.

Chairman, CCC seeks the guidance of the CCA Committee in important decisions.

NITK has a Campus wide LAN reaching academic buildings, residences and hostel rooms through wired and wireless networks. The campus backbone services are provided with about 20 kms of 12 core OFC using 1 Gbps and 10 Gbps backbone to the different buildings and broad band to the residences. Departments, Residences (through the broadband), Directorate (and administrative net), Guest houses and Hostels are individually connected to the core switch. The hostel networks are integrated into the academic network of NITK sharing the Internet bandwidth of the Institute.

The first stage of the campus network was done in 1999 and the second stage of expansion was done in 2006 with the TEQIP funds. The Third Stage including Core Network Expansion and the Campus WiFi is completed in 2016 at a total cost of about Rs 6.78 crores. The expanded network including the Core Switches, Firewall, Backbone switches and the Campus Wi-Fi equipments are under warranty and maintenance of BSNL for 5 years.

The Wi-Fi network is provided as an extension of the wired networks in the different buildings. The WiFi expansion Phase 1 was carried out with 744 Ruckus R500 Indoor access points, 40 Ruckus T300 Outdoor access points, 5 Ruckus H500 wall switches, 89 Netgear 24 port 10/100/1000Mbps PoE switch with 4 SFP ports and other active and passive network components. Subsequent WiFi expansion (Phase 2) to the new CSE building and LHC-C were carried out with 97 Ruckus R510 Indoor Access Points, 4 Ruckus T300 Outdoor Access Points and 11 PoE switches.

NITK has 5Gbps Internet bandwidth - 2Gbps from National Knowledge Network and 4 Gbps from BSNL. The total cost (recurring) for the 4Gbps bandwidth and broadband facility to the campus is Rs.82,46,000/-. Currently, this is being upgraded to 10Gbps for an approximate cost of Rs 1.8 Crores. The WAN switch upgrade for this purpose is underway.

The NITK Data centre housed in the CCC Ground Floor acts as an integration hub of OFC/backbone. It houses Internet connections to BSNL & NKN, associated networking equipments and sufficient hardware to handle the critical backbone network services.

Main servers are connected to the data centre network. Critical services are accessible from inside and outside the network. CCC Uses Virtualisation with Blade Servers with VMWare, Dell Servers with Proxmox virtualisation environment / Ubuntu System containerisation environment.

NITK Website updates are entrusted with the CCC apart from the webserver maintenance. The domains of NITK (nitk.ac.in and nitk.edu.in) are also controlled by CCC.

CCC has coordinated the upgrade of Matlab license based on Total Academic Head Count. National Institute of Technology Karnataka Surathkal now offers a campus-wide license to MATLAB, Simulink, and companion products. All faculty, researchers, and students are eligible to download and install these products on their university computers as well as their personally-owned computers.

The ground Floor of CCC is reserved for the upcoming Data Centre with Smart Racks. The second floor houses the Skill Development Centre with VDI (thin clients) and a backend server established by the NITK Alumni. The first floor hall of CCC with about 90 Desktop computers is available for general purpose computing & browsing. The computers of CCC are used to support First year Computational Practice Labs, General Purpose Learning & Internet access, On-Line tests (Training & Placement) & various co-curricular and other student activities.

The network infrastructure facility management of NITK is outsourced. Comprehensive onsite AMC is available for the Network switches. There is a helpdesk number 0824 2473085. There is also a rate contract with the firm to facilitate any immediate need of network alterations within a limit. The process of placing the Campus backbone and WiFi (first phase) for annual maintenance is underway.

The facility has a 200KVA Diesel generator that was established in 1994 and two 20KVA, one 15 KVA online UPS systems and one 10 KVA UPS, procured later for providing backup power during the changeover. One 15 KVA UPS systems provide the power backup to the CCC LAN and one 5 KVA Online UPS. This is being reassessed to accommodate the needs of the HPC Cluster, Skill Developed Centre and the New devices of the Data Centre.

The institute is working in the online mode since March 2020. CCC ensures that the network and the devices are working round the clock to support this. Appropriate number of VPN logins and captive portal logins are being provided as needed.

List of Laboratories in the Department

1. CCC LAN with 90 Desktops
2. Skill Development Centre with 150 thin clients supported by a Server for Virtual Desktop
3. General Purpose Servers in the Data Centre and Virtual Servers on demand.
4. Matlab TAH based Licensing for the Campus

11.3 LIBRARY

The Institute has a modern Central Library and continues to offer automated library services to its clientele. This Library functions as an important and vital component of the Institute information systems. Located centrally in the main building area of the Campus and it can accommodate more than 500 students/users at a time. The collection of books is 135536 including Book-Bank books, 9603 online e-Books, subscribes 249 print journals for all the disciplines and access to 12104 online journals and 24 databases (Full text and bibliographic). The total area is 2758.56sq.meters including the extended floors as an additional space for reading hall.

The Central Library has received "Highest User Award for IEL online (IEE Explore)" in 2015 amongst INDEST-AICTE Consortium Level 2 member's category

Library space and ambience, timings and usage, availability of a qualified librarian and other staff, library automation, online access, networking, etc

Carpet area of library (in m2)	2758.56sqm.
Reading space (in m2)	1800 sqm.
Number of seats in reading space	700
Number of users (issue/return /renewal book) per day	500
Number of users (reading space) per day	700
Timings: During working day, weekend, and vacation	Monday to Saturday 8.00 a.m. to 12.00 midnight Sunday: 8.00 a.m.to 4.00 p.m. Vacation: 09:00 a.m. to 6:00 p.m. General Holidays: 9.00 a.m. to 12.00 noon
Number of library staff	12 (Permanent Staff) 15 (Temporary Staff) 5 (Trainees)
Number of library staff with degree in Library	10
Management Computerization for search, indexing, issue/return records Bar coding used	YES

1. Genesis and Growth:

NITK Central Library established in the year 1960 is provided with modern facilities and offers automated library services to its clientele comprising of about 6000 users namely undergraduate and postgraduate students, research scholars, faculty members and supporting staff of various departments of the institute. NITK library also gives the facility of institution membership to educational institutes and industries located in and around Mangalore. This Library is located in an independent building with a carpet area of 2759 sq meters in the centre of the Campus and it can accommodate more than 500 students/users at a time. At present, the library has a collection of around 1,35289 books besides subscribing to around 249 National and International Print Journals and 12104 eJournals (Including Full-text Databases)

2. Infrastructure:

The Central Library has Wi-Fi connectivity with more 25 personal

computers in Digital Reading Room Section. The Library day-to-day operations are automated and issue and return of all the books are done through computers. The computer terminals provided at the counter near entrance and can be used to gain information regarding status of any document and other particulars of any book/collection. The Library activities have been computerized using the Koha software. A bar coded system of issue and returning books is currently in use.

3. Library Automation Programme

The Library Automation Programme is completed. The details of books available in this Library are stored in the computer. The information about the document can be retrieved in the Library. User can search the book by Author, Title, and Call Nos. or by part of the title and subject. Circulation of books is computerized and circulation is done by BARCODE System. At present 12 terminals are on use for Students and Staff. To access the information, we are using Koha Software Version. Up-to-date information about Books, Periodicals, and Back Volumes of periodicals are available on OPAC in the computer. All computers are under LAN System.

4. On-line Services:

Library is a member of "eShodhSindhu: Library Consortium for Higher Education Institutes" (MHRD). It provides full text resources like IEL online, Science Direct, Springer Link, Indian Standards of all branches of Engineering, Engineering index etc.

Library is a member of NIT – Consortium. It facilitate subscription to the full text resources like Springer, Taylor & Francis, etc.

5. Digital Library:

A separate "Digital Library" (Digital Reading Room) unit has been established under funding from TEQIP Phase-I with resources being shared with other NIT's, IIT's and industries. The Digital Reading Room is exclusively used for the online access of eJournals and other eResources Subscribed by the institute and provided through consortiums.

Some of the services available in the Digital Library are:

- Collection and Development of Library materials in Digital Form.
- Books search facility using Web Online Public Access Catalogue (WebOPAC).
- Online eJournal Access through various consortiums.
- Technical reports of Bureau of Indian Standard (BIS) in Digital Form.
- Patent Database Search facility.
- Resource sharing with other premier Institute Libraries (IITs NITs DELNET, etc.).
- Suitable infrastructures to use the digital information.
- INTRANET and INTERNET Based Service.
- eBooks/ eJournal Facility
- Library Website / Facebook page updates.

6. Book-Bank:

General Book-Bank for all students consists of multiple copies of textbooks. The books are lent to all students for home reading for 15 days. Every year multiple copies are added to the Book-Bank. In addition to this, there is a separate Book-Bank facility for SC/ST students also. There are 30,049 books available in all branches in Book-Banks of this Library. Automation of Book-Bank book is completed and the circulation of books is being done by using BARCODE System.

Special collection for SC/ST students - Students can borrow up to 5 books from Book-Bank for a period of one semester. The Library issues a circular in the beginning of every semester and the eligible students may apply to avail as per the schedule announced by the Library.

7. Following facilities have already been introduced in the Library:

- Automated Check-In and Check-Out Facility
- CD-ROM and Online Service
- Reprographic Units
- Digital Library
- Book-Bank
- Networking of Library Services
- Link other libraries (NIT, IIT Libraries)
- Member of eShodhSindhu Consortium
- Internet based Library Services

8. Borrowing Privileges and Renewal:

User Types	Items	Period of loan
Teaching Faculty	15 books	1 semester
Research Scholars	5 books	1 semester
UG/PG students	4 books	30 days
Supporting Staff	4 books	30 days
Corporate Industries	5 books	30 days

Books may be renewed for further period provided no other reader has reserved for the book. The renewal request should come, before the expiry of due date. No more than three consecutive renewals shall be allowed. Librarian in the interest of the library service can demand the return of any library materials from any user before expiring the due date. Students have to return the books on or before the due date. A fine of Rs.1.00 per book per day will be levied, if the books are not returned within the expiry date.

Services provided by the Library:

- Open Access System
- New Arrivals updates through eMail.
- Newspaper Display
- Selective Dissemination of Information and Current Awareness Service (SDI and CAS)
- Online and eMail based SDI & Alert Service
- Book-Bank facility
- Digital Library
- Inter Library Loan Service
- Reprographic services
- Web Online Public Access Catalogues
- CD-ROM data base access
- Request based Bibliography/ Literature Search Service
- Practical and Apprenticeship training for diploma and degree student of Library and Information Science
- eJournals access through Consortiums.

Other Activities:

For fresher of U.G. and P.G. courses, Library conducting Orientation Classes in the beginning of the academic year.

Library conducts hands-on training and User Awareness Programs regularly.

The Library compiles list of "New Arrivals" Monthly, shared with users through eMail and Website.

The Library provides training programme to the LIS Graduates & Diploma Students of the Government Polytechnics for Women, Mangalore and Apprentice Training programme is also conducting.

Library is also providing the SDI Service (Selective Dissemination of Information) on the various on-going Research Projects sponsored by the NITK, D.S.T., C.S.I.R. and other Research Organization etc. Under-Graduates, Post-Graduates and Research Scholars are also making use of these services for their project works. Seminars and Information Retrieval Services by using Computer.
Services to Industries, Educational Institutions, Government Establishments, the neighboring Govt. Departments, Educational Institutions and Industries are using this Library services quite often.

Membership fee of Rs.10.000/- (5 cards) introduced to the industries and several industries are members to this Library.

The Library has an Inter Library Loan facility with leading Institutions and G.O.I. Establishment.

Research Publications

1. Mr. Iranna M. Shettar:

Document Type	Total
International Journal	2
National Journal	1

International Journal

Shettar, Iranna M., and Hadagali, Gururaj S. "Collaboration Trends in National Institute of Technology Karnataka (NITK), Surathkal, India: An Analysis Based on Network Mapping" Library Philosophy and Practice (e-journal), No. 4573, pp 1-17, May 2020. URL: https://digitalcommons.unl.edu/libphilprac/4573

Hadagali, Gururaj S.; **Shettar, Iranna M**; Lokesh Shashtri and B Ramesh Babu. " A Scientometric Analysis of Global literature on Hydroxychloroquine based on SCOPUS." Library Philosophy and Practice (e-journal), No. 5145, pp 1-30, February 2021. URL: https://digitalcommons.unl.edu/libphilprac/5145

National Journal

Shettar, Iranna M., and Hadagali, Gururaj S. "Coronavirus: A Scientometrics Study of World Research Publications." International Journal of Information Dissemination and Technology, DOI: 10.5958/2249-5576.2020.00002.3, Vol.10, no.1, pp 8-16, March 2020.

11.4 LABORATORIES

DEPARTMENT OF CHEMICAL ENGINEERING:-

Testing & Quality Control Lab :

Flame Photometer, Tinto meter, Turbidity meter, C.O.D. Digester, Brook Field Viscometer, Flue Gas Analyser, Trinocular microscope, Bomb calorimeter, Conductivity meter, Spectro photometer, B.O.D. incubator, Noise Level Meter, Water Purification system.

Project Lab I & IA:

Ultrasonic water Bath, Muffle furnace, Peristaltic pump, Ultrasonic Sonicator, UV Ozone Cleaner, Continuous homogeniser.

Project Lab II:

Horizontal laminar flow work station, Gel document, spectro photo meter, Eppendorf centrifuge.

Computer Simulation Lab:

Ansys CFD, Aspenplus, MATLAB, Design Expert.

Project Lab III:

Deep Freezer, Centrifuge, UV solid sampler, centrifuge, Microscope.

Heat Transfer Lab:

Jacketed vessels, Shell and tube heat exchanger, double pipe heat exchanger, Thermal conductivity of solids apparatus, High volume sampler, Portable gas sampler, Plate heat exchanger, Stack monitoring kit, Fluidized Bed Combustor (IIT Madras), Deep Freezer.

Project Lab IV :

Ultra Sonic water bath, Auto clave, Stirred Cell Membrane Unit, U V Irradiated membrane filtration Unit.

PROJECT LAB V:

Flash point apparatus, Viscometer - (Redwood & Saybolt), Eddy current drive with motor & accessories, Ozone Generator, Jacketed vessels, Generator - 10 KVA, Ozone Monitor/TLA

Biotechnology Lab:

Laboratory Centrifuge, Digital Refractometer, Orbital shaker, Hi-Anaerobic system, Autoclave (vertical), Compound Microscope, Microwave Oven, Lyophilizer, Gel Electrophoresis, Continuous Homogenizer, Lab Bioreactor with variable Volume Fixtures, Brook Field Viscometer, Tangentail Flow Filtration with ultrafiltration Module, Temp Controlled Digital Density Meter, Spectrophotometer, Incubator - shaker, Horizontal laminar flow work station, ultrasonic processor,

Project Lab V:

Elgi Centrifuge, Electric oven, Muffle Furnace, Surface tension meter, Membrane testing System, Peristaltic pump, Incubator - shaker , Vortex Mixer, rotating disc contactor, Continuous membrane filtration unit, Ice Flaker.

Fermentation Lab:

Colony Counter, CO_2 Incubator, Microwave Digestion System, Muffle furnace, Incubator - shaker, High speed cooling centrifuge, Freeze dryer, C.O.D Analyser, Pestle & Mortar, Pellet Press, Slow Speed Cutting Machine, Vacuum Cleaner, ionic conductivity source meter.

Advanced Instruments Lab:

Electrochemical Workstation, cell ,C-Electrode, Gel Electrophoresis, Bio Sensor, Mini Protean Tetra cell, Trinocular microscope tifac, Spectrophotometer, Total organic carbon analyser, Graphite furnace and hydride generator, Ultrapure water generator, AAS, Electrophoresis, High Performance liquid Chromatograph, Gas chromotography-Mass spectrophotometer, Ion Chromotography, High speed refrigerated cooling centrifuge

Immunology Lab:

Micro Centrifuge, Power Pack for southern & Northern blots, Automated microplate reader, Western Bolt unit, Photometer for PCR Work, Polymeraze Chain Reaction Machine.

Mass Transfer Lab:

Liquid Extraction in Packed Bed, Vertical Tube Evaporator, Packed Distillation Column, Absorption in Packed Tower, Spray Tower, Fluidized Bed Dryer (With air circulation) Model No.MT – 18, Wetted Wall Column (with air circulation), Batch Crystallizer, Forced Draft Tray Dryer, Diffusivity Measurement, Counter current leaching, Cross current leaching, Steam Distillation, Vapor liquid equilibrium, Surface evaporation, Liquid Extraction in Packed Bed.

Process Control & Reaction Engg:

Batch reactor, RTD in tubes plug flow reactor, RTD in packed bed, RTD in CSTR, Reactor combination of PFR and CSTR, Magnet pump, Multi range conductivity meter, Digital online, Process control loop trainers, Non-interacting tank, Time constant of Pressure Vessel & mercury meter, Constant temperature bath

Heat Transfer Lab:

Shell and Tube Heat Exchanger, Electrically Heated Boiler, Parallel flow

/ counter fliow/Double pipe heat exchanger, Pool Boiling Heat Transfer Apparatus Forced Convection Heat Transfer , Natural Convention Heat Transfer Model, Stefan Boltzmann apparatus, Thermal conductivity of insulating Powders, Thermal conductivity of liquids, Horizontal Condenser & Vertical Condenser Steam, Heat Transfer through coils, Natural and forced convection in air, Heat Transfer through packed bed apparatus, Transient heat conduction-constant heat flux, Transient heat conduction-constant temperature, Heat Transfer through vertical barre and finned tube heat exchanger, Plate heat exchanger, Spiral plate heat exchanger, Heat losses by combined convention and radiation (for cylinder & sphere).

Fluid Mechanics Lab:

Flow through pipes and fittings, Flow through office meter, Flow through rotameter, Flow through fluidized bed, Flow through Packed bed, Flow through venturi meter, Flow through Notches, Flow through coils, Characteristics of a centrifugal pump, Pitot tube, Open orifice, Annulus.

Particulate Technology Laboratory:

Ball mill, Sieve Shaking Machine, Screen effectiveness, Air permeability, Jaw crusher, Air elutriation, Batch sedimentation, Leaf filter, Drop weight crusher, Attrition mill, Jaw Crusher, Vibrator

Environmental Immunology laboratory:

Kinetic plate reader, universal plate reader, deep freezer, cooling centrifuge, CO_2 incubator, hot air oven, Gel electrophoresis units, minivol samplers, microbial samplers.

Systems and Control Laboratory:

Heating and Cooling Circulator, Crystallizer, Lab scale Wastewater Treatment Set up.

Energy & Catalysis Materials Laboratory:

Dilatometer, Ionic conductivity meter, Fume hood, Hot air Oven, Tubular and horizontal Muffle furnaces, High temperature Muffle furnace, Pellet presser, Low speed cutting machine, CO Gas analyzer. Electric Agate mortar and pestle.

DEPARTMENT OF CIVIL ENGINEERING

TRANSPORTATION ENGINEERING LABORATORY:

Marshall stability machine, Centrifuge extractor for bitumen, Servo controlled fatigue testing machine, Gyratory compactor.

Transportation Design Studio:
Video cameras, Radar Guns, Computing facility.

Earthquake Engineering Laboratory:
Small shake Table and computing facility

Concrete Materials Laboratory:
2000 kN Compression Testing Machine, Accelerated Curing Tank, Pelletizer, Rebound Hammer, PUNDIT UPV-Tester, Setting Time of Concrete Apparatus, Equipment for testing rheological characteristics of SCC, Carbonation Chamber.

Structural Engineering Laboratory:
100kN OHT (Manual), 200 kN Testing Frame, 50 kN Testing Frame, Column Testing M/c,

Environmental Engineering Laboratory:
Gas Chromatography, HPLC, Atomic Absorption Spectrophotometer, High volume air sampler.

Soil Mechanics Laboratory:

Compaction Test, Triaxial Testing Machine, Consolidation set up. CBR testing mould.

Advanced Asphalt Characterisation and Rheology Laboratory:

Modular Compact Rheometer system, Pressure Aging Vessel, Rolling Thin Film Oven, Rotational Viscometer, and Capillary Viscometer system.

Bio- Concrete lab funded by DST - SERB

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING:-

UG lab-1

- HP 73Compaq P-IV computers with TFT Monitors - 64
- Lenovo think center M93P – 1
- HP LaserJet 1010 -1
- Lenovo Think Centre M920t MT-01
- Dell OptiPlex 9020 MT
- LAN – 100/1000 Mbps , Seamless Wi-Fi connectivity with WAPs

UG lab -2

- Dell OptiPlex 9010 - 55
- Dell OptiPlex 5070 - 8
  Canon LBP2900 -1
- LAN – 100/1000 Mbps , Seamless Wi-Fi connectivity with WAPs

UG lab-3

- Dell OptiPlex 5070 – 52
- Dell OptiPlex 5070 MT – 06
- Lenovo Think center M92T computer system – 02
- HP Elitedesk 800G1 Tower-01
- HP laser jet 1020 plus – 01
- HP Photo Flat Bed Scanner – 01
- LAN – 100/1000 Mbps , Seamless Wi-Fi connectivity with WAPs

UG lab – 4

- Dell OptiPlex 9010 – 05
- Dell OptiPlex 9020 MT with accessories-02
- HP laser jet 1020 plus – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

I M.Tech Lab

- HP DeskJet Core i5 with accessories – 37
- Lenovo Think Centre M910T Tower Desk – 09
- Dell 9010 - 13
- Dell OptiPlex 9020 MT- 03
- HP LaserJet P1007- 01
- HP LaserJet M1005 – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

PG Project Lab

- Dell OptiPlex core I7 computer with accessories – 05
- Lenovo Think Centre M910T-Tower Desktop – 27
- Dell OptiPlex 9010 - 01
- Canon LBP2900 - 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

PG Project Lab (211)

- Lenovo Think Centre M910T-Tower Desktop – 03
- Lenovo Think Centre M92T-Tower pc computer system – 07
- Dell OptiPlex 9010 - 15

Research lab -1

- Dell OptiPlex 9020 MT with accessories(3342) – 04
- Dell OptiPlex 9020 MT with accessories(3745) – 04
- Lenovo Think Centre M910T-Tower Desktop – 01
- HP Elitedesk 800G1 Tower-02
- Dell OptiPlex 9010 – 05
- HP HPLJM1319-F – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

Research lab – 2

- Dell OptiPlex 9020 MT with accessories(3342) – 03
- Dell OptiPlex 9020 MT with accessories(3745) – 07
- Dell OptiPlex 9010 – 03
- Lenovo Think center M910T-Tower Desktop – 03
- HP Elitedesk 800G1 Tower-01
- HP LaserJet 1010 – 01

- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

Image processing lab

- Lenovo workstation (D3043) with accessories – 19
- Dell workstation T1910- 02
- Dell Workstation (7820 Tower Model) – 01
- Dell OptiPlex 9010-01
- HP LaserJet 1010 – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

ISEA lab

- Dell High End Workstation (DT Precision 5820) - 02
- Dell Precision 5820 Workstation - 02
- Lenovo workstation(P700) – 07
- Lenovo think station S30 workstation with 24" LCD monitor - 01
- Lenovo Think Centre S-20 & D 20 workstation (2703) - 02
- Dell OptiPlex 9020MT Desktop – 04
- Dell OptiPlex 9010 – 01
- Canon LBP2900 – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

DATA CENTRE LAB- Server Class

- IBM E Server with accessories – 01
- Dell High End Server T610 – 01
- Dell power Edge Server R420 - 02
- Dell power Edge Server R720 – 01
- Dell power edge server T630 – 03
- Dell Server PE 730XD – 01
- Dell Server (R740) – 01
- C-Boston Sys- 5038K-j-KNL Development Workstation – 01
- Dell R7 power edge R7404 rack server – 03
- Dell EMC Switch 54112T – 01
- KVM Switch 8 port VGA – 01
- C-NVIDIA DGX P2787 – 01
- LAN – 100/1000 Mbps, Seamless Wi-Fi connectivity with WAPs

DEPARTMENT OF CHEMISTRY:-

Membrane and Separation Technology Laboratory:-

Membrane distillation unit, Surpass electrokinetic analyzer, Membrane bio reactor, Digital weighing balance, Sonicator, Membrane testing skids, Contact angle analyzer etc. Dr. Arun M. Isloor

Synthetic Organic Chemistry and Catalysis Lab :–

Rotavapor, Oven, Vacuum Pumps, Electronic Balance, Fume Hood etc. – Group Leader: Beneesh P B

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING:-

High Voltage Testing Laboratory:-
100 kV impulse generator, HV standard capacitor, 5 kV Insulation tester, Oil test kit.

Electric Machines and Drives Laboratory-
DSP based drive control units V/F controls, Machine design software (speed, motorpro), Filed analysis software (MAXWELL 3DFS Rexroth INDRAMAT drive unit with AC servo motors

Power Electronics Laboratory –
DSPACE – rapid prototyping unit, Converter / Inverter modules, power Device (SCR, IGBT, GTO) modules

Virtual Instrumentation Laboratory-
NIDAQ systems, PXI1010 units with High Voltage measurement unit, NI-ELVIS stations, LABVIEW softwares, dSPACE 32xx rapid prototyping platform

Embedded Systems Laboratory
OSEK RTOS, KEIL RTOS, KEIL IDE for 805x, ARM, CODEWARRIOR IDE for 68HCXX, TI DSC Code composer Studio for 28XX MOTOROLA, INTEL,ARM,PIC DSC/MC units

Industrial Automation Laboratory –
Distributed Control Systems [YOKOGAWA CS1000], PLC ROCKWELL RSLOGIX%))), ABB RTU232.

Digital System Design Lab –
BASYS2 and BASYS3 kits supporting XILINX SPARTAN 2/3e FPGA, Analog Discovery 2 Kits supporting MSO Functionalities

Micro Grid Laboratory-
10 kW wind solar hybrid system (2 wind turbines of 3.2 kW each and 3.6 photovoltaic system) capable of operating in grid connected and islanding mode of operation with charge controllers and Inverter. 1.2 kW fuel cell bases experimental system.

Analog Electronics Laboratory:-
Comprises of trainer kit based systems to understand linear and nonlinear configuration of operational amplifier (IC 741) and Timer (IC 555) based circuits

Digital Electronics Laboratory
Comprises of trainer kit based systems to understand functioning of basic and universal logic gates, Combinational circuits and sequential circuits.

Signals & Systems Laboratory –
MathWorks based computational platform to model and characterize the continuous and discrete time signal and system characteristics in time and frequency domain.

DSP Laboratory-
On using MathWorks based computational platform to write the code and uses of Simulink to understand the application of signal transformation in linear and nonlinear mixing, in typical communication systems such as AM, FM process. Understanding of Phase look loop (PLL) functioning, Approximation of Ideal filter responses using FIR and IIR filters

Dept. Computer Lab. –
60 desktop computers in the Dept. Computer Lab.

Power Systems Laboratory –
Scale-down model of 4-machine power systems, NI-based ADC and DAC cards for real-time data acquisition, Industry grade packages: EMTDC/PSCAD, MATLAB, LabVIEW software's and in-house developed power system stability analysis package, MatSim.

Electric Power Quality Laboratory:-
Experiments based on MathWorks computational platform and uses SIMULINK to understand the nature of real time power quality events. Also, experiments based on hardware realization of loads that cause power quality problems and demonstration of operation of custom power device, Equipment: Power Quality analyzer

Control Systems Laboratory-
Experiments related to DC motor speed control are carried out using trainer kits. Even simulation exercises are done to verify the experimental results.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Analog Electronics Lab:-
Digital Storage Oscilloscope, Function Generator, DC Regulated Power Supply Analog/Digital IC Tester.

Digital Electronics Lab:-
Digital Trainer Kits, Analog/Digital IC Tester.

Research Lab for Ph. D. Students:-
Workstations, PCB Prototype Machine (LPKF), Chemical Free Through Hole Plating System, Access to all design tools available in the department.

Communication Lab:-
Digital Storage Oscilloscope, Function Generator, DC Regulated Power Supply, Microwave X band benches, Antenna Trainer, Outdoor FSO Link Setup (Lightpoint), Wireless Comm Trainer Kits (2 set ups), Workstations, LD Driver, LD Module, PD Module, Power Meter, Fibre Optic Power Source, Optical Fibre Trainer, LD Modulator (Transmitter), FORX-200m (Receiver), Fiber Optics Kits, Wireless

Sensor Network Professional Kit with Tools, Qualnet Network Simulator, Qualnet Network Simulator Tools, Wireless digital communication training system, (Wi-Communication-T), Outdoor free space optic (FSO) link. RF Equipments, 3GHz Spectrum Analyzer, RF Training Kit, RF Signal Generator, Vector Network analyzer 40GHz & Accessories, 3GHz Network Analyzer, 100MHz Mixed Signal Oscilloscope, 80MHz Function/Arbitrary Waveform Generator, Digital Multimeter 6.5 digit Triple Output DC Regulator Power Supply, Electronic Instrumentation Training Kit, Digital Source meter with Safety universal Test Lead kit, Microwave experiment kits.

Software:
ADS 10 User Licence, Optsim 5 User Licence.

VLSI Lab:-

Workstations, Cadence Design suite,, Synopsys EDA Tools, Mentor Graphics Tools, Xilinx Tools, TCAD Tools, FPGA Boards.

DSP Lab:-

Dell OptiPlex 9020 x64-based PC(s), MATLAB with various Toolboxes, ModelSim, XILINX Vivado Design Suite, SDSoC, Virtex VI Embedded Kits, Xilinx Virtex VI FPGA DSP Development Kit with High Speed Analog, Avnet Spartan – 6/O MAP Co-processing development kit, Avnet Digilent Zed Boards, Zynq-7000 EPP ZC702 Evaluation Kit, Digilent Nexys 4 Kits,Digilent Nexys Video Kit & accessories, Digilent Zybo ZynqTM-7000 Development Boards, STM32F407 Discovery Kits, DE10 Standard Boards, DE1-SoC Altera Cyclone V SoC Development Kits, Digital & Analog Discovery Kits, MSP 430 Lunch Box Kits.

Microprocessor & Embedded Systems Lab: -
Workstations, Cadance ORCAD PSPICE A/D, PCB design tools, Matlab, Simulink, ARM based code development tools, Microcontroller Kits, NETSIM SW.

Network Management Lab: -
Foundry N/w's Fastlron Edge X424 Switches.

R&D Lab (Research Lab for Ph. D. Students):
Workstations, Access to all design tools available in the department.

Centre for Excellence for Wireless Sensor Networks: -
Work stations, WSN Design kits, Sensors, Exata Software: Network Simulator/Emulator, E9000B – Special Product Configuration Total ADS Standard University License Bundles, W1450M Systemvue Media Systems Vue University License Bundles.

Stochastic Modeling Imaging and Learning (SMILE) Lab:-
Workstations, Access to all design tools available in the department.

DEPARTMENT OF INFORMATION TECHNOLOGY

Digital Design Lab-I:-
DIGITAL IC TRAINER Model -UDT 4004-20, DIGITAL IC TESTER MME-DIT 2040-1

Digital Design Lab – II:-
DIGITAL IC TRAINER Model – ML 555T-20, DIGITAL IC TESTER MME-DIT 2040-1

Research Laboratory:-
Desktops: HP Compaq 8300 Elite MT PC -2, Dell Optiplex 9020 MT core i7-3, Lenovo Workstation E-1225V5-1, Dell Optiplex 5050 -2, HP Prodesk 600G5 MT-7 Cameras: Hikvision 2 MP-2

Internet Technology Laboratory:-
Desktops: HP Compaq 8300 Elite MT PC - 1, Dell Optiplex 9020 MT core i7-3, HP Prodesk 600G5 MT-7, C-Net gear

RN626X Ready NAS, Cameras: Hikvision 2 MP-2

Post Graduate Lab–I:-
Desktops: HP Elite Desk 800 G1 TWR -5, Dell Optiplex 9020 MT core i7- 7, Dell Optiplex 5050 -10, HP Prodesk 600G5 MT-14, Cameras: HIKVISION make 4 MP Dome IP Camera -2

Post Graduate Lab – II:-
Desktops: HP Elite Desk 800 G1 TWR -2, Dell Optiplex 9020 MT core i7-3, Dell Optiplex 5050-4, HP Prodesk 600G5 MT-24, Cameras: HIKVISION make 4 MP Dome IP Camera -2

Project Laboratory:-
Desktops: Dell Optiplex 5050- 37, Dell Optiplex 9020 MT core i7-1, HP Prodesk 600G5 MT-1, Cameras: Dlink DCS4602 VE (Vigilance Full HD Outdoor Vandal Proof POE) Dome Camera-2

Undergraduate Lab-I: -
Desktops: Dell Optiplex 5050 – 16, Lenovo Think M90(5498-PR1)-28, HP Compaq 8200 Elite MT PC-2, HP Prodesk 600G5 MT-27, Cameras: HIKVISION make 4 MP Dome IP Camera -3, Dlink DCS4602 EV Full HD-1, MIC Systems: KQ-SRS-1112 Infrared Sound Field Reinforcement System-1

Undergraduate Lab -II:-
Desktop: HP Compaq 8200 Elite MT PC-3, HP Compaq 8300 Elite MT PC-11, HP Elite Desk 800 G1 TWR -5, DELL Optiplex 9020-3, Dell Optiplex 5050-1, HP Prodesk 600G5 MT-27, Workstations: Dell Precission T1700-2, Cameras: Dlink DCS4602 VE (Vigilance Full HD Outdoor Vandal Proof POE) Dome Camera-2

Network Switch Room:-
Dell Optiplex 5050-3, Servers : Dell Power Edge R420 (Batch - 3L22HY1, 4K22HY1)-2, HP SR 638181-371 ML-350 E5645-1, IBM P Series P270 8202 4EC SERVER-1, NVIDIA DGS Station -1, TYRONE CAMARERO DS 400TG-1, Dell Power Edge R730XD 2U Rack server -2, Dell Power Edge R540-1, NETGEAR READY NAS RN316/6BAY 4TB Surveillance HDD, Hikvison 16 CH 2 SATA NVR-1

NITK RDL IoT & Data Analytics Lab:-
RDL & IoT Kit Memsic Classroom Kit-1, Memsic WSN Professional Kit-1,PCI DIOT I/O Interface Kits-20

High Performance Computing Lab

DEPARTMENT OF MECHANICAL ENGINEERING

1. **Advanced Dynamics Lab:**
   Experimental Modal Analysis, Forced Vibration Analysis, Tuned Impulse Hammer, Minishaker with controller, Modal Analysis Software, Vibration Analyzer, Rotor test setup

2. **Wind tunnel laboratory:**
   subsonic wind tunnel, force balance

3. **Advanced Manufacturig Laboratory:**
   3-D Printing, Fused Deposition Modeling based 3-D Printer, Material Extrusion, Single Screw Extruder

4. **Smart structures laboratory:**
   Free and focred vibration setup with controller, Impact hammer, Tri-axial accelerometer, Electrodymnamic shaker, Analyzer, closed loop controller, force sensor, impedence head

5. **Refrigeration and Air-conditioning Research Laboratory:**
   Micro heat pipe test rig, Vapour pressure determination test rig, Thermoelectric refrigeration test rig, Condenser pressure variation VCR test rig, Vortex tube refrigeration test rig, Air engine test rig, Weather simulation chamber & Window air conditioner test rig, two Stage VCR test rig with intercooler.

6. **Turbomachinery Laboratory:**
   Low speed compressor cascade test facility, Low speed turbine cascade test facility, Centrifugal blower test rig.

7. **Polymer composites lab:** vartm facility

8. **Advanced fluid mechanics Lab:** Desiccant analysis test rig.

9. **Tribology Laboratory**:
Metallurgical Sample Saw, High Temperature Tubular furnace, Ball mill, Disc Polishing Machine, Microscope, Pin on Disc Tribometer.Nano indenter with AFM attachment, Microwave heat treatment setup.Tumbler Ball milling setup, Micro Oven Heat Treatment Setup.

10. **List of Software in CAD/CAM Laboratory:**

1.	Pro Engineer CREO	50 Users
2.	Autocad	50 Users
3.	Ansys15.0	25 Users
4.	AnsysV10.0	10 Users
5.	MSCAdams	50 Users
6.	MSCatran	50 Users
7.	MSCastran	50 Users
8.	MSCMarc	50 Users
9.	MSCytran	50 Users
10.	CatiaP3	10 Users
11.	CATIAnovia	05 Users
12.	CATIADelmi	05 Users
13.	CATIAPLMExpress	05 Users
14.	LMS AMESim(Multi-domain system Simulation)	05 Users
15.	Unigraphics With Advanced Machining Module	05 Users
16.	Deform (Design Environment For FORMing	01 User
17.	Autodesk Moldflow	25 Users
18.	SimPACK (MBD Software)	25 Users
19.	MasterCAM	02 Users
20.	HyperWorks	05 Users
21.	RobotKit	02 Nos.
22.	ANSYS research license	(1 No)

11. **Materials Characterization Laboratory:**
Vacuum Arc Melting Furnace, Image Analyzer, Universal Testing Machine, Wire Electro Discharge Machine, Vickers Hardness Tester, Double headed Rolling Machine, High Temperature Microwave Furnace

12. **Vibration and Condition Monitoring Laboratory:**
Electromagnetic shaker (100kgf, 50kgf, 25kgf), Horizontal slip table, VTS electro-dynamic shaker (25lbs), Gauss meter, Electro magnets (1.5 Tesla), Impact hammer, Single and tri-axial accelerometers, Data acquisition system(NI, HBM), Microphone and SLM, MicroEpsilon Laser displacement pickups, ADAMS, NASTRAN, PATRON, MARC, DITRON, ANSYS, Devitron, Labview. Accelerometer (1+1)

13. **Robotics Laboratory:**
Lego Robotic Kit, Firebird, Basic Electronic Components, DC Motors, Connecting Pins, Wires, LEDs Berg Strip, and Bread Board, Quadcopter kit, Wall Following Robot.

14. **Metrology Laboratory:**

A. Linear Measurements

1. Vernier Caliper
2. Vernier Depth Gauge
3. Vernier Height Gauge

B. Micrometer

4. External Micrometer
5. Internal Micrometer

a. Jaw Type Inside Micrometer
b. Caliper Type Inside Micrometer

6. Depth Micrometer
7. Bench Micrometer
8. Digital Micrometer
9. Telescopic Gauge

C. Measurement Using Slip Gauge

10. Calibration of Micrometer, Vernier Caliper,
11. Calibration of Height Gauge, Snapgauge, Ring Gauge and Plug Gauge.
12. Measurement of Mean Distance between Surface and Spacing between Holes.
13. Measurement of Dovetail Angle and Checking the Taper Angle of Taper Plug Gauge.
14. Checking An Angle Plate.
15. Study On Limit And Position Gauges

D.Linear and Angle Measurement

16.Combination Set.

E.Angle Measurement

17. Universal Bevel Protracter
18. Sine Bar

F. Flatness And Straightness Measurement

19. Clinometer

G. Screw Thread Measurement

20. Screw Pitch Gauge
21. Screw Thread Micrometer
22. Effective Diameter Measurement Using Two Wire And Three Wire Method.

H. Gear Tooth Measurement

23. Vernier Gear Tooth Caliper
24. Tooth Span Micrometer

I. Study On Opto-Mechanical Instruments

25. Tool Makers Microscope
26. Measurement Using Comparator

J. Surface Roughness Measurement

27. Surface Roughness Meter (SJ 301)

15. **Microsystems Laboratory:**
MEMS Sensors Scanning Tunneling Microscope, Self Build Kit, Atomic Force Microscope, Comsol and Intellisuite (Courtesy : NMDC), Sugar Toolbox and MATLAB (Institute Network)

16. **Heat Transfer Laboratory:**
Free convection heat transfer, Heat transfer through composite walls, Water cooling tower, Shell and tube heat exchanger, Measurement of thermal conductivity of metal rod, Measurement of thermal conductivity of solids, Computerized vapour, compression refrigeration test rig, Peristaltic pump model, Air conditioning test rig, Vapor compression refrigeration test rig, Heat pipe demonstrator, Heat transfer through extended surfaces, Measurement of emissivity of metal surfaces, Heat transfer through lagged pipe, Heat transfer through Forced convection, Computerized Air conditioning test rig,. Boiling heat transfer apparatus, Film and Drop wise condensation, Ice plant tutor,. Parallel flow heat exchanger,. Plate Heat exchanger,. Heat pump setup, Fluidized Bed system, Refrigerator, Natural convection, Critical Heat flux apparatus, Humidifier-Dehumidifier

17. **Machine Dynamics and Vibration Laboratory:**
Kinematics of Epicyclic Gear, Kinematics of Cam Mechanism, Kinematics of Gear Train, Kinematics of Slider Crank Mechanism, Spring Mass System, Transmissibility Apparatus, Free Vibration of beam, Experimental Modal Analysis.

18. **CNC, Pneumatic and Electro Pneumatic Laboratory:**
Trainer Lathe, Trainer Milling Machine, Electro Pneumatic Trainer Kit with Cylinders and Control valves

19. **IC Engine Research Laboratory:**
MMM Vertical 4- Stroke Diesel Engine, Textool 2- Stroke Vertical Diesel Engine, Textool 4- Stroke Vertical Diesel Engine, Valve and Port Timing Diagrams, (a) Compression Ratio of given IC Engines, (b) Morse Test, Computerized multi-cylinder MPFI Gasoline engine, Computerized Single cylinder DI Diesel Engine, Exhaust Gas Analyzer, Hydrogen fuelled SI Engine test rig, CRDI Diesel Engine test rig, Kirloskar Diesel Engine test rig, Five gas analyzer

20. **Fuels Laboratory:**

Boys gas Calorimeter set(Calorimeter+ gas flow meter (0-1000ml), Redwood viscometer No.1, Saybolt Viscometer, TAR Viscometer (Redwood viscometer No.2, Instech Calorimeter, Flash point tester(Close-up), Barometer with room temperature no. 597,. Digital weighing machine (0-10grams), Saybolt Viscometer(old),. Bomb Calorimeter, Cleveland Flash & fire

point apparatus, Weighing machine (0-2 kg), Flash and Fire point Tester

21. **Theory of Machines Laboratory:**
Spring mass system, Whirling shaft apparatus, Motorised gyroscope apparatus, Digital weighing machine (0-50kgs), Physical balance, Dead weight tester(0-35kg), Digital dead weight tester(0-60kg), Digital dead weight tester(0-250kg), Planimeter set, Thermo-Hygrograph H-10/100%, Computerised Emission test set up, Single stage spur gear, Single stage spur gear with intermediate, Two stage spur gear, Three stage spur gear, Three speed and reverse gear, Worm gear, Bevel gear, Rack and quadrant gear drive, Reversing gear, Epicyclic gear (sun & planet), Cycloidal motion, Internal rolling gear drive, Internal gear and pinion drive spur gear.

22. **Automotive Electronics Laboratory:**
IRIS CAR (Lab Car), with Breakout box, ECU, Injector Box, Wire harness, Communication Module, DC Power Supply, Function Generator, Oscilloscope, Cut Section Models.

23. **Stress Analysis Laboratory**
Poloriscope, Strain measurement setup, Strain Indicator and Recorder.

24. **Fracture and Fatigue Laboratory**
Fatigue setup

25. **Applied Solid Mechanics:**
Workstation with GPU

26. **Solidification simulation laboratory:**
Quick Cast casting sumulation software

27. **Solar Energy Laboratory**:
Solar Air Heater, Pyranometer And Pyrheliometer

28. **Vehicle Dynamics Laboratory**:
Damper Testing Machine, Quarter Car Suspension Test Rig

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

1. Data Structures Lab
2. Digital Electronics Lab
3. Software Engineering Lab
4. Networking Lab
5. Database Management System Lab
6. Internet Technology Lab

DEPARTMENT OF MINING ENGINEERING:-

Rock Mechanics Laboratory:
Rock cutting machine, Compression testing machine, Schmidt hammer, Slake durability index apparatus, point load strength index apparatus, P-wave velocity apparatus, Losangele's machine, Other rock testing facilities.

Drilling Laboratory:
Jack hammer drilling set-up, Air compressor, Modified lathe machine for rock cutting, horizontal and vertical coring amchines.

Blasting Laboratory:
Minimates, Minimate plus, High speed video camera, VOD monitor, Laser profile, WIPFRAG software.

Mine Environmental Engineering Laboratory:
Water pollution monitoring kit, Respirable dust sampler, Manometer, Crossing point temperature, Digital Methanometer, CO detector, Psychomotor, Sound level meter, Gas testing set up, Exhaust gas analyzer, Multi gas detector

Mineral Processing Laboratory :
Jaw Crusher, Roller Crusher, Rod Mill, Ball Mill, Bond' Work Index Setup, Electro Magnetic Sieve Shaker, Riffle Sampler, Jigging Machine, Wilfly's Table, Automatic Mineral Separator, Spiral Classifier, Density Separator Hydro Cyclone, Davis Tube Tester, Electro Magnetic Drum Separator-Wet, Electro Magnetic Drum Separator- Dry, Froth Floatation Cell, Sampling / Crushing / Grinding - Integrated Unit, Turbo Mixer, Micro Mill, Vacuum

Filtration Unit, Disc Mill, Pot Mill, Double Deck Vibratory Screen Model, Infrared Drier, Spiral Concentrate, Sieve ShakerDrier, Spiral Concentrate, Sieve Shaker

Mine Surveying Laboratory:
Prismatic Compass, Surveyor Compass, Vernier Theodolite,Micro-Optic Theodolite, Dumpy level, Auto level, Digital level, Total station, Handheld GPS,DGPS.

Mine Planning and Design Laboratory:
Surpac, Minex, Sirovision, Jk Sim blast softwares, rocscience softwares

Mine Pollution Laboratory:
Water quality analyzer, High volume air sampler, Respirable dust sampler, Sound level meter, Opacity meter, Point sampler, Beta attenuation meter, Weather monitoring station

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

Extractive Metallurgy Lab:
Crushers, Ball mill, Floatation cells, C&S analyzer, Sieve analyzer

Testing of Materials Lab:
UTM, Instron, Wear testing machine, Hardness testers, NDT, Fatigue testing machine

Physical Metallurgy Lab:
Metallography, Microhardness, Image Analyser, Dilatometer

Ceramics & Polymer Lab: Ceramics & Polymer Lab

Heat treatment Lab: Heat treatment furnaces, Thermal cycle furnaces

Metal Finishing Lab: Plating facilities

Foundry lab:
Induction furnace, Permeability meter

Scanning Electron Micoscope Lab:
Scanning Electron Microscope with EDAX

Casting Research Lab:
Data logger, Hot stage microscope, Contact Angle Analyser, Image analyzer, Instron tensile tester, Quenchometer, Stereo microscope, 2D Surface Profiler, Solid Cast Software, Ultrsonicator, Ultrasound velocity meter, Thermal property analyser , DAGE bond tester

Powder Metallurgy & Nano technology Lab:
Thermolyne High Temperature Furnace, Density Measurement Kit, Incubaters – Ecogain veries, Hot Air Oven.

Transmission Electron Microscope Lab:
Transmission electron microscope, GATAN ion milling unit.

Metal Processing Lab:
Rolling mill, Precision cutting machines, 250 ton Hydraulic press

Corrosion Lab:
Potentiostat and Impedance analyser

Coating lab:
PVD facility, electron beam deposition set up. DC sputtering setup

FTIR Lab:
FTIR Spectrometer, Four probe resistivity measurement system, USB Oscilloscope

XRD Lab:
X-ray Diffractometer

Ceramic & Thin Film Lab:
UV Ozone Cleaner, Ultrasonic Atomizer, Scratch Tester, Spi Coater, Probe Sonicator, Vacuum Oven, Screen Printer, Stretching Machine with Compressor, Four Probe & Two Probe, Glass Cutter, Fume Hood.

DEPARTMENT OF PHYSICS

UG Laboratory: Experimental Kits (7 expt.s of 5 sets each)

PG Laboratory: Experimental Kits (8 expt.s of 2 sets each)

- **PG Laboratory II**: Experimental Kits (8 expt.s) Vacuum Coating Unit (2 no.s)

Research Laboratories:

Thin Film Laboratory:

- XRD
- Keithley Source Meter
- Keithley Multimeter
- Sputtering Unit
- Physical Deposition Unit
- Spray Pyrolysis Unit
- LCR Meter Vacuum coating system

Optoelectronics Laboratory:-

- Optics Inc SD2000 spectrometer (UV vis spectra)
- Lux meter (Lutron)
- UVC Ozone Cleaning Unit
- Thermal evaporator
- Clean air flow bench
- OLED measurement system
- Keithley Sourcemeter (model 2400).
- Jobin Yvon spectrometer with a CCD based detector or a silicon photodiode (SM1PD2A Mounted UV Enhanced Silicon Photodiode, 200-1100 nm Cathode Grounded)
- Optical power meter (Ophir Optronics, model NOVA II with PD300-UVdetector)
- Keithley 6485 Picoammeter
- Tektronix DMM 4040 6-1/2 Digit Precision Multimeter
- Agilent 34972A LXI Data Acquisition/ Switch unit
- Multioutput DC power supply model LQ6324
- Agilent E4980A Precision LCR meter 20 Hz to 2 MHz
- Tektronix TDS 2002B Two channel Digital Storage Oscilloscope 60 MHz 1GS/s
- DH-3 UV-Vis-NIR Calibrated Light Source (Ocean Optics)
- RF Probe Station
- ISO BRUKER Precision Cutting Machine Q-switched Nd-YAG laser; Model GCR -170 from Spectra – Physics, USA.

Crystal Growth Laboratory & Nano materials Laboratory:

- Solution growth system for crystal growth
- High temperature furnace
- Magnetron sputtering system
- Thin film coating unit
- Fume Head Vacuum deposition system-Thermal, DC, RF coating system.

Material Processing Laboratory:

- CLEMEX Microhardness Tester
- Physical vapour deposition
- Polishing Machine
- Muffle furnace (Max Temp 1000^{0}C)
- Low speed Diamond saw cutting Blade
- Abbe refractometer
- Analytical balance and Density kit
- High temperature furnace
- P H Meter
- U V Visible spectrometer
- Incubator
- Ultra sonicator
- Computer Interfaced Microhardness Tester Density kit

Materials Research Laboratory:

- Electrochemical Workstation (Bio-Logic SP150) (2 Nos)
- Mbraun Glove Box
- Neware battery analyzer
- Kiethly 2 probe and 4 probe measurement systems
- Ocean Optics UV-Vis spectrometer
- DC Spectrum Analyzer
- Muffle Furnace
- Weighing Balance
- Battery Crimper set up
- Sputtering Unit
- Spin Coater
- Spray Pyrolysis unit
- Vacuum Oven
- Hot air oven
- Photoluminescence Spectrometer
- XRD

Computational Physics Laboratory:

- Dell server (power edge),

Software: VASP, Mathematica, Gaussian and Maple

Nonlinear dynamics and Biophysics:- Dell server power edge

Functional Nanostructured Materials Research Laboratory (FNMRL):

- Hot air oven
- Bench-Top Centrifuge
- Weighing Balance (0.1mg precision)
- Photocatalytic reaction chamber

Ultrasonicator

Low Dimensional Physics Lab:
Sputtering, Impedance analyser, SMU, dc probe station, etc.

SCHOOL OF MANAGEMENT

Computer laboratory:
SPSS & AMOS, Palisade Decision Tools Suite, CMIE Prowess Database,CRISIL Research Reports, SAS JMP

Itell Language Laboratory:
Software from, Logitech Solutions Itell catering 500+1 user

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

Hydraulics Laboratory:
Flow Measuring Units
Pumps , Water meters
Calibration Devices
Turbines
Hydraulic Machines
Pressure Gauges Valves
Tilting flume
Pipe bursting unit
Ultrasound flow meter
Pressure Gauge Tester

Strength of Materials Laboratory:
Universal Testing Machine U.T.M 5 T, 40 T, 100 T, 200 T (Electronic)
Hardness Testing M/c
Torsion Testing M/c
Hardness Testing M/c
Fatigue Testing M/c
Impact Testing M/c

Marine – Geotechnical Laboratory:

Consolidation Apparatus
Direct Shear Apparatus
Photo Elastic Bench
Corrosion Measurement Voltage system
Optical Microscope

Wave Mechanics Laboratory:
Regular Wave Flume [50 X 0.71 X 1.1 m] – 3 No.s
Digital Storage Oscilloscope with software
Wave probe with software

Hydraulic Measurement Laboratory:
Ultrasonic Testing Kit
Electronic Balance
Granular Matrix Soil Moisture SensoDigital Soil Moisture and Temperature Recorder
Tipping bucket rain gaugeBasic Hydrology Unit

Remote Sensing & GIS Laboratory:
Computer systems: 20 No.s
Printer, scanner
Stereoscopes
Ground truth Radiometer
Digital Planimeters
Aerial & Satellite Imagery
ARCPAD GPS, Garmen GPS
DGPS
Total station
Software's : ERDAS- Imagine, ARCGIS, ENVI 5.4
Open Source GIS
R software

Computer Laboratory:
Computer systems: 10 Nos
Ground water Modelling Software (GMS),
Water Management Software (WMS);
Aqua Chem software
SWAT CUP
MATLAB
Scanner, Laser printer

Computational Hydrodynamics Laboratory
Computer systems: 10 Nos
Open Source REEF 3D
MATLAB
MIKE 21 software
SACS software

Advanced Structural Mechanics Lab
Fretting Wear Testing Machine

Structural Dynamics Lab
Shake Table
Building models
Accelerometers
LVDT
Ship/sloshing tanks
Load cells

Experimental Stress Analysis Lab
Strain Rosette
Stress gaugeMeasurement of Shear number
Temperature Compensation
Rectangular delta

Unmanned System Research Laboratory
3D Modelling with Aerial Imaging
Octocopter with multispectral Imaging
Open source Simulation for Design
Underwater Remotely Operated Vehicle
Marine Surface Vehicle for inspection
Thermal and RGB Inspection Unit
Open Source Fluid Structure Interaction Setup

Offshore Renewable Energy & Simulation Laboratory
High Performance Server
Desktop Computer (5 No's)
Data Acquisition System (DAQ)
Wave Probes Sensors
Wave Force Sensor
Accelerometer and Inclinometer Sensors

11.5 WORKSHOPS/MAJOR EQUIPMENTS IN THE DEPARTMENTS

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING :-

Lathe, Shearing machine, Drilling machine, Grinding machine

DEPARTMENT OF CIVIL ENGINEERING

Departmental Mini Workshop:-
Lathe, shearing machine, drilling machine, Grinding machine

DEPARTMENT OF MECHANICAL ENGINEERING

Machine Shop - I:
Center Lathe, Heavy duty Center Lathe Geared head Center Lathe, Shaping machine, Universal Milling Machine, Heavy duty piller type drilling machine, Light duty piller type drilling machine, Pedestal grinding machine, Capston Lathe.

Machine Shop - II:

Surface Grinding Machine, Cylindrical Grinding Machine, Capstan Lathe, Horizontal Milling Machine with Vertical attachment, Broaching Machine, Light Duty Shaper, Heavy Duty Shaper, Slotting Machine, Planner, Cutter Grinding Machine, Heavy Cylindrical Grinding Machine, CNC Milling Centre, CNC Turning Centre, Heavy Duty Shearing Machine, Hydraulic Press, Heavy Duty Radial Drilling Machine, Hydraulic Radial Drilling Machine, Universal Milling Machine, Centre Lathe, Hydraulic Compressor. High speed drilling machine, Shearing Machine.

Carpentry Shop:
Wood turning lathe, Circular saw, Carpentry bench vise and table

Fitting Shop:
Bench vise with table, Surface plate, Anvil Power Tool,5. Drilling set and accessories, Saber saw, Jig saw, Hot air gun, Tappers, Nibbler, Shearing machine, Grinding machine, Circu lar saw, Impact wrench, Battery operated drill, Blower, Eccentric sander, Router machine, Wood planner, Jig saw, Hammer drilling, Core cutter drilling machine

Sheet Metal Shop:
Soldering table, Bench vise, Shearing machine

- **Welding laboratory:**

Metal inert gas welding, Resistance spot welding, Tungsten inert gas welding

- **Foundry laboratory:**

  Sand sieving machine, Aluminium meting furncace

MAJOR EQUIPMENTS IN THE DEPARTMENTS

DEPARTMENT OF CHEMICAL ENGINEERING

Gas Chromatograph
Refrigerated Centrifuge
Quartz Immersion well Reactor
Electro Spinning equipment
Bench Top Fermentor
Particle Size Analyser
Freeze Dryer
Gel Documentation
Thermogravimetric Analyser
HPLC
LC –MS
ICP –OES
FPLC
Fermenter
Real time Polymerize chain reaction machine
biosafety cabinet level II

DEPARTMENT OF CHEMISTRY

FTIR, UV Visible, Single Crystal XRD, Electrospinning of Nanofibers, Electrochemical work stations, Surpass electrokintetic analyzer, 3D printer, Contact angle analyzer, Gel permeation chromatography, Fume hoods, TGA, DSC etc.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

- HP Desktop Computer Systems - Core I7, 8GB RAM, 500GB Hard disk
- HP Prodesk 600 G3MT Desktop Computers – Intel Core i5, 8GB RAM, 1TB Hard disk
- IBM E Server with accessories
- Dell High End Server T610
- Dell power Edge Server R420
- Dell power Edge Server R720
- Dell power edge server T630
- Dell Server PE 730XD
- Dell Server (R740)
- C-Boston Sys- 5038K-j-KNL Development Workstation
- Dell R7 power edge R7404 rack server
- Dell High End Workstation (DT Precision 5820)
- Dell Precision 5820 Workstation
- Lenovo workstation(P700)
- Lenovo think station S30 workstation with 24” LCD monitor
  Lenovo Think center S-20 & D 20 workstation.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

1. HP Desk top computers for the Dept. Computer Lab. 59 numbers, 38 lakhs.
2. Four phase Asymmetric H-Bridge Converter Input AC Voltage 415V Output AC, Current – 10A , 95,000.
3. Three-phase squirrel cage Induction machine with Dynamometer loading arrangement. 5 set ups for the Electrical machines lab., 97,000. Dr. U Vinatha.
4. AC Grid Source IT7625, 300V/36A/4500VA, Make: ITECH, 11 Lakhs.
5. MD03034 Mixed Domain Oscilloscope, Differential probes, Current probes, Make: Tektronix, 11 Lakhs.

MECHANICAL ENGINEERING:

- Vacuum Arc Melting Furnace, Image Analyzer, Universal Testing Machine, Wire Electro Discharge Machine, Vickers Hardness Tester, Double headed Rolling Machine
- Electromagnetic shaker (100kgf, 50kgf, 25kgf), Horizontal slip table, VTS electro-dynamic shaker (25lbs), Gauss meter, Electro magnets (1.5 Tesla), Impact hammer, Single and tri-axial accelerometers, Data acquisition system(NI, HBM), Microphone and SLM, MicroEpsilon Laser displacement pickups, ADAMS, NASTRAN, PATRON, MARC, DITRON, ANSYS, Devitron, Labview

- Lego Robotic Kit, Firebird, Basic Electronic Components, DC Motors,Connecting Pins, Wires,LEDs Berg Strip, and Bread Board, Quadcopter kit, Wall Following Robot
- Micro heat pipe test rig, Vapour pressure determination test rig,Weather simulation chamber & Window air conditioner test rig, Thermoelectric refrigeration test rig, 2 Stage VCR test rig with intercooler, Condenser pressure variation VCR test rig, Vortex tube refrigeration test rig, Air engine test rig
- MEMS Sensors, Scanning Tunneling Microscope, Self Build Kit, Atomic Force Microscope, Comsol and Intellisuite (Courtesy : NMDC), Sugar Toolbox and MATLAB (Institute Network)
- Free convection heat transfer, Heat transfer through composite walls, Water cooling tower, Shell and tube heat exchanger, Measurement of thermal conductivity of metal rod, Measurement of thermal conductivity of solids, Computerized vapour compression refrigeration test rig, Peristaltic pump model, Air conditioning test rig, Vapor compression refrigeration test rig, Heat pipe demonstrator, Heat transfer through extended surfaces, Measurement of emissivity of metal surfaces, Heat transfer through lagged pipe, Heat transfer through Forced convection, Computerized Air conditioning test rig, Boiling heat transfer apparatus, Film and Drop wise condensation, Ice plant tutor, Parallel flow heat exchanger, Plate Heat exchanger, Heat pump setup, Fluidized Bed system, Refrigerator, Natural convection, Critical Heat flux apparatus
- Kinematics of Epicyclic Gear, Kinematics of Cam Mechanism,Kinematics of Gear Train,Kinematics of Slider Crank Mechanism,Spring Mass System,TransmissibilityApparatus,Free Vibration of beam,Experimental Modal Analysis
- Trainer Lathe, Trainer Milling Machine, Electro Pneumatic Trainer Kit with Cylinders and Control valves
- MMM Vertical 4- Stroke Diesel Engine, Textool 2- Stroke Vertical Diesel Engine, Textool 4- Stroke Vertical Diesel Engine, Valve and Port Timing Diagrams, Compression Ratio of given IC Engines (b) Morse Test, Computerized multi-cylinder MPFI Gasoline engine, Computerized Single cylinder DI Diesel Engine, Exhaust Gas Analyzer, Hydrogenfuelled SI Engine test rig, CRDI Diesel Engine test rig, Kirloskar Diesel Engine test rig
- Boys gas Calorimeter set (Calorimeter+ gas flow meter (0-1000ml), Saybolt Viscometer, Redwood viscometer, TAR Viscometer (Redwood viscometer , InstechCalorimeter, Flash point tester(Close-up), Barometer with room, temperature no.597, Digital weighing machine (0-10grams),Saybolt Viscometer (old), Bomb Calorimeter, Cleveland Flash & fire point apparatus, Weighing machine (0-2 kg)
- Spring mass system, Whirling shaft apparatus, Motorised gyroscope apparatus, Digital weighing machine (0-50kgs), Physical balance, Dead weight tester (0-35kg), Digital dead weight tester (0-60kg), Digital dead weight tester(0-250kg),Planimeterset, Thermo-Hygrograph H-10/100%,Computerised Emission test set up,Single stage spur gear,Single stage spur gear with intermediate,Two stage spur gear,Three stage spur gear,Three speed and reverse gear,Wormgear,Bevelgear,Rack and quadrant gear drive, Reversing gear,picyclic gear (sun & planet),Cycloidal motion, Internal rolling gear drive,Internal gear and pinion drive spur gear
- IRIS CAR (Lab Car), with Breakout box, ECU, Injector Box, Wire harness, Communication Module,DC Power Supply,Function Generator, Oscilloscope, Cut Section Models

- Center Lathe, Heavy duty Center Lathe, Geared head Center Lathe, Shaping machine, Universal Milling Machine, Heavy duty piller type drilling machine, Light duty piller type drilling machine,Pedestal grinding machine,CapstonLathe
- Surface Grinding Machine, Cylindrical Grinding Machine, Capstan Lathe, Horizontal Milling Machine with Vertical attachment, Broaching Machine, Light Duty Shaper, Heavy Duty Shaper, Slotting Machine, Planner,Cutter, Grinding Machine, Heavy Cylindrical Grinding Machine, CNC Milling Centre,CNC Turning Centre,Heavy Duty Shearing Machine,Hydraulic Press, Heavy Duty Radial Drilling Machine, Hydraulic Radial Drilling Machine, Universal Milling Machine, Centre Lathe,Hydraulic Compressor
- Wood turning lathe, Circular saw, Carpentry bench vise and table
- Bench vise with table, Surface plate, Anvil, Power Tool, Drilling set and accessories, Saber saw, Jig saw, Hot air gun, Tappers, Nibbler, Shearing machine, Grinding machine, Circular saw,Impact wrench, Battery operated drill, Blower, Eccentric sander, Router machine, Wood planner, Jig saw, Hammer drilling,Core cutter drilling machine
- Soldering table, Bench vise, Shearing machine
- Subsonic wind tunnel
- Experimental Modal Analysis, Tuned Impulse Hammer, Modal Analysis Software, Forced Vibration Analysis, Minishaker with controller
- Moulding facility
- Pin on Disc Tribometer, Metallurgical Sample Saw, High Temperature Tubular furnace, Ball mill, Disc Polishing Machine, Microscope, sigma Z blade mixer
- Free and focred vibration setup with controller, Impact hammer, Tri-axial accelerometer, Electrodymnamic shaker, Analyzer, closed loop controller, force sensor, impedence head
- Low speed compressor cascade test facility,Low speed turbine cascade test facility, Centrifugal blower test rig
- Desiccant analysis test rig
- 3-D Printing, Material Extrusion, Fused Deposition Modeling based 3-D Printer, Single Screw Extruder

DEPARTMENT OF MINING ENGINEERING

Differential Global Positioning System (DGPS)
Total Station
Triaxial accelerometer SV 38 V along with a data logger SV106 (Manufacture: Svantech)
Permanent License for Virtual Nanolab with Quantum wish Toolkit for Nanotechnology Simulation (Software) (Manufacture: M/s. Integrated Microsystems)

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

Name of the Equipment

Dynamic Control Angle Analyzer
Form Talysurf Intra with Ultra Software with accessories
Digital Image Analysis System
Camera Adopter
Heating Stage Temperature upto 1500°C (Furnace)
Jeol Model SEM
Tensile Testing Machine fully Computerized
Melt Flow Indexer
Dage 4000 Plus Bond Tester & Image Capture System
Joel High Resolution Transmission Electron Microscope (TEM)
EDS System for Jeol TEM
Bottom Mount Camera (TEM)
Jasco FTIR Spectrometer
Portable Quenchanct Test System with Quench Probe & Thermocouple
Heating Furnace
Universal Testing Machine of 30 KN Capacity with Accessories
Salt Spray Bath
Shimadzu Micro Vickers Hardness Tester
Magnetic Sputtering PVD Unit
Scratch Hardness Tester Linear Tester
Low Temperature Ion Milling System

with Accessories for TEM
Tensile Tester with Accessories
SP-150 Potentiostat Galvanostst
Chassis along with accessories
Trinoculor Reflected Light
Microscope with Digital Camera
Differential Scanning Calorimeter

11.6 HOSPITAL, POST OFFICE, SHOPPING CENTRE

Hospital: One Health Care Center with the services of regular doctors and visiting expert doctors is available. Medical Shop is also available in the Health Care Center.

Post Office: Post Office is available within the Campus.

Banks: Two banks (SBI and Canara Bank) are functioning within the Campus. Four ATMs (2 of SBI and 2 of Canara bank) are available at different locations within the campus.

Shopping Centers: Two Shopping Complexes are available within the campus accommodating about 15 shopping rooms which includes Saloon, Beauty Parlors, Printing and Xerox, Vegetable outlet, Bakery, Tailoring, Cloth Shop, Milk parlors, food outlets etc.

Physical education & Facilities: Full-fledged Gymnasium facility, sports grounds for out-door games, Sports complex for in-door games are available within the campus.

11.7 PHYSICAL EDUCATION

Physical Education: Department of Physical Education and Sports of this Institute has got excellent Sports infrastructures and facilities provided here is considered as one of the best among all NITs as well as among other Institutions and Universities of this State. Standard, well maintained play fields for all major games like, one 400Mts. Track for Athletics, One 75 Yards Boundary Cricket field with 3 playing pitches, One 70 yards boundary Cricket field with a matting wicket, 2 standard size Football fields, 2 Hockey fields with 2 pairs of goalposts & boards, 2 concrete Basketball courts with FG boards and Flood Light facilities, 1 Basketball concrete court at Girls Hostel with flood lights, 2 Volleyball courts with flood light facility, 4 Tennis courts, 2 Ball Badminton, 2 Throwball, 2 Kho-Kho, 2 Kabaddi, 2 Tennikoit courts are available for use. Provision is also there to put Two Handball court with goal posts and one Baseball field with all bases and other required amenities. An old Sports Complex is with 3 Badminton courts and 4 TT tables on cement flooring with proper Lighting system, kept open for 16 hours a day on all 365 days for students use. Weight training hall with Multi Gym, Mini Gym, Individual stations for all sorts of exercises, Weight Lifting and Power Lifting Barbell sets, Fitness equipments like Treadmill Joggers, steppers, Rowing Machines, Exercise cycles, Peck Decks and Abdominal shapers are open for use of everyone even during early mornings and late evenings. New Sports complex is having a multipurpose hall with wooden flooring accommodating 3 Badminton courts or one Volleyball court, another multipurpose hall with synthetic flooring can accommodate one each Badminton and Volleyball courts or 3 Kabaddi Courts, another indoor games hall used as yoga and aerobic dance hall as well as Table tennis hall with 8 TT Tables, another indoor games hall to be used for Chess, Carom, Bridge like games, another hall is with 3 squash courts(Construction of playing fiber glass walls pending), another hall meant for Gym with sophisticated fitness equipments like Multi Gym, Treadmill Joggers, mini gym, Exercise Cycles, Rowing machines, Hack squats, Cable cross, Smith Machines, Peck Decks, Cardio Gyms, weight lifting platform and Weight lifting/Power lifting Barbell sets. This Gym is equipped with separate equipments for exercising different parts of the body. Sports Complex also houses space for playing Kabaddi on

already procured synthetic mat, 2 Indoor Cricket pitches with bowling machine, dressing rooms for different sports, Store rooms, Office rooms, Snooker and Billiards room with Tables, 2 stages of 20mts x 10mts size facing 2 large grounds for functions of any kind may accommodate thousands of spectators. Enough number of wash rooms are there on either side of the Sports Complex. Above all these, like a jewel on the Crown, an international standard Swimming Pool of 50 x 21 Mts., 8 lane with anti wave lane markers, Olympic type take off boards and diving facilities with 3 Platforms of 1, 3 and 5 meters height are ready for use in this Institute.

GAMES & SPORTS FACILITIES:

All students, staffs and residents in and around the campus are freely permitted to utilize all Play ground and Gym facilities available in the Institute. Admission to Swimming Pool is free to all students of this Institute. Staffs, residents of the Campus, family members of the staff and staff + students of the campus schools are charged with nominal fee to use the Pool. High quality and standard Sports/Games equipments/articles are provided to students and staffs of this Institute who use these play field facilities, except some personal articles like Tennis, Shuttle Badminton and TT Rackets. Opportunity to all students, staffs and other residents of the campus have been provided to participate in different level of competitive Sports and Games, by organizing Inter-Class, Inter-Branch, Inter Year and Campus open tournaments(Competitions) in all most all games for both sections. Girls Block Hostel has been provided with a Basketball, Volleyball, Tennikoit, Kho-Kho and Badminton courts, 2 TT Tables, 4 Carom Boards and Gym with some fitness equipments including a Mini Gym. Arrangements have been made to provide TT Tables, Carrom Boards and a set of Cricket stumps and Bats to each Blocks of Boys Hostels. Volleyball, Throw ball and Badminton courts have been laid near Staff Recreation Club for the use of staff members. TT, carom and Chess like indoor games with required sports articles were also provided for staff club.

All those who get selected to represent the Institution and participate in any of the tournament will be provided with Institute Uniforms (Colors) and all expenditures during participation of that team will be met by the Institute. In addition, Football and Hockey team members will be provided with Stockings and Shin Guards, Cricket team members will be provided with white Pants, Shirts and Caps. All students and Officials who participate in Inter NIT or University tournaments will be provided with Institute Track Suits. All students who represent this Institution in Sports and Games will be provided with Shoe subsidy of Rs.800-00 per year.

11.8 STAFF QUARTERS

245 numbers of Faculty Quarters (which includes 48 dwelling units in Type V and Type VI Apartments) and 176 numbers of Non –faculty staff quarters (which includes 56 dwelling units in Type – III and Type – VI apartments) are available in the campus.

12. STUDENT ACTIVITIES

GAMES AND SPORTS

STUDENTS ACTIVITIES:

All students, staffs and community in and around the campus are free to use the playing, training and coaching facilities available in the DPES of this Institute. Staff of the DPES are ready to provide instruction, teaching, coaching and training facilities to all interested peoples in and around the campus. This year due to pandemic Covid – 19 very few students were present in the campus. Institute teams in Cricket and Football were selected from the students available in the campus, by conducting selection tournament/trials. Since there were no tournaments held these teams could not participate in any of the tournaments. Sporting and Fitness activities were permitted in the campus strictly following guidelines issued by GOI/GOK time to time.

13. RESEARCH, DEVELOPMENT & CONSULTANCY PROJECTS

13.1 R & D PROJECTS (ONGOING & SANCTIONED)

DEPARTMENT CHEMICAL ENGINEERING

1. Development and Demonstration of solid oxide electrolysis cell technology for co electrolysis of CO_2 and H_2O for the production of syngas sponsored by SERB - IMPRINT II India. Principal investigator: Dr. Hari Prasad Dasari: Chemical Engg at the cost of 95.45 Lakhs.(Period 07/03/2019 to 31/03/2022)
2. Project Impact of maternal diabetes on pre implantation embryo development- Non invasive approach to assess embryo quality using oxygen consumption, SERB – Dr. Keyur Raval, amount 50.4 lacs, 01-04-2018 to 31-03-2021
3. Development of sustainable technology to produce oxalate depleted starch from Taro corms sponsored by ASTDF Secreatariat, SERB, Govt. of India. Principal Investigator: Dr. Prasanna D. Belur, at the cost of 28.16 lakhs (1/2/2018 to 31.1.2021)
4. Selective Extraction and purification of Commercially Valuable Pigment melanin from Cephalopod ink and its industrial effluent' Sponsored by SERB, Govt. of India. Principal investigator: Dr. I. Regupathi & Dr. Prasanna B.D., Chemical Engg. at the cost of Rs. 49,78,800. (Period 26/03/2019 to 25/03/2022)
5. Development of Electrospun ceria-based nanofibers for diesel soot oxidation activity SERB _ CRG -425 (Rs 34,50,000) PI : Dr. Hari Prasad Dasari ; 24 December 2020 to (36 months)
6. Received a grant under SERB-TARE Scheme for the project titled "Algal Biorefinery using Spirulina Model to Integrate Wastewater Utilization and Biofuel Production" jointly by NMAMIT, Nitte (Dr. Venkatesh Kamath) and Dr. I. Regupathi- Duration: Three years (Nov 2020 to Nov 2023)
7. Integrated Photocatalytic and Membrane Bioreactor Process for Effective Removal of Emerging Contaminants and Disinfection-DST Joint Research Grant under Water Technology Initiative (WTI) sanctioned to Prof. Vidya Shetty K for collaborative Research Project with IIT Bombay Total funding: 72.32 lakhs NITK (Rs.22.8 lakhs) ; IITB (Rs.49.5 lakhs) Duration: Three years (Sanctioned in January 2021 and Started from 2nd March 2021)

DEPARTMENT OF CIVIL ENGINEERING

1. Socio-Economic and Institutional Barriers of Climate Change Adaptation Sponsored by ICSSR under IMPRESS. Principal Investigator: Dr. Adani Azhoni (2019 - 2021).
2. Socio-Economic and Environmental Trade-offs in Managing the Land River Interface Sponsored by Department of Biotechnology, Govt. of India under TaSE. Principal Investigator: Dr. Adani Azhoni (2019 - 2021)
3. Development of Effluent Treatment Techniques for Cashew Nut Shell Liquid Effluent, Phenalkamine Condensate and Development of Method for Stabilising Colour of Cashewnut Shell Liquid, Private Industry, Principal Investigator: Dr. Basavaraju Manu (2019-2020)
4. Development of Countermeasures to Mitigate Earthquake-induced Damage of RM Breakwater, Principal Investigator: Dr. Babloo Chaudhary (2020-2022)
5. Small Scale and Sustainable Household Wastewater Recycling S3HWR, Dr. Arun Kumar Thalla [2018-2022]

6. Strength, serviceability and hazard assessment of Global Vipassana Pagoda considering as-built information and in–situ material properties. Sponsored by Global Vipassana Foundation Trust, Mumbai. Principal Investigator: Dr. Pavan G S (2021 - 2024)
7. "Development of an innovative marine bacteria based cement-electrolyte battery for cathodic protection of reinforced concrete as a low power operator" sponsored by DST – SERB, New Delhi form 2020 – 2023 (3 years) PI- Dr. T Palanismay.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

1. Information Security Education and awareness Phase-II-sponsored by DIT MCIT, PI: Dr. Alwyn Roshan Pais Co-PI: Dr. P. SanthiThilagam, at the cost of 2.7 crore(Approx.), 2015-2020
2. Development of Tool for Detecting of Application Layer Distributed Denial of Service Attacks on Web Applications-- sponsored by MEITY Government of India, PI: Dr. P. SanthiThilagam at the cost of 29.78 Lakhs, 2017-2020
3. CP-ABE Scheme with Decryption Keys of Constant Size using ECC with Expensive Threshold Access – sponsored byDST.PI:Alwyn Roshan Pais, Co-PI(s): Dr. P. Santhi Thilagam& Mr. Mahendra Pratap Singh at the cost of 31.12 Lakhs , 2018-2021
4. Automatic detection and quantification of focal cortical dysplasia regions from magnetic resonance brain images using machine Learning techniques sponsored by DST (CSRI).PI:Dr.JenyRajanat the cost of 33.09 Lakhs, 2018-2021
5. Quantitative Understanding of Energy in NFV Frameworks (QUEEN) sponsored by Intel Technology India Pvt. Ltd. PI: Dr. Mohit P Tahiliani , Co-PI(s): Dr. BasavarajTalawar at the cost of 48 Lakhs, 2018-2020
6. Multi Graph based Anomaly Detection Model for Social Network Analysis using Machine Learning sponsored by DST , PI: Dr. M.Venkatesan, at the cost 19.72 Lakhs, 2019-2022
7. CAMP 81, Prototype of a reliable ICN Router using Non-Volatile Memory sponsored by NITK Alumni' 81 batch, PI: Dr. Mohit P Tahiliani, CO-PI: Dr. BasavarajTalawar at the cost of 1 Lakh, 2019-2021
8. Design and Implementation of Multi-Attribute Void-Aware Routing Algorithm for Software-Defined Underwater Acoustic Modems sponsored by SERB, PI: Dr. Beerappa Rama Chandavarkar at the cost of 44 Lakhs, 2019- 2022
9. Speaker Recognition System for Kannada Language in Emotional Environment Sponsored by DST, PI:Dr Shashidhar G Koolagudi at the cost of 37 Lakhs, 2019-2022
10. Restricted Proper Edge Colorings of Graphs sponsored by Mathematical Research Impact Centric Support (MATRICS), SERB, DSTPI: Dr. Manu Basavaraju, at the cost of 6.6 Lakhs, 2020-2023

DEPARTMENT OF CHEMISTRY

1. Towards development of low cost, fouling resistant hollow fiber membranes for haemodialysis cartridge. Sponsored by Vision Group on Science & Technology, Govt of Karnataka, Principal Investigator : Prof. Arun M.Isloor, at the cost of Rs Sixty lakhs, May 2022.
2. Development of Ultrafiltration membranes for the treatment of mine waste water. Sponsored by Ministry of Mines, Govt.of India. Principal Investigator : Prof. Arun M.Isloor, at the cost of seed money of Rs Five lakhs, August 2021.

3. Design and Development of New Lubricity Improvers for Ultra Low Sulphur Diesel, Sponsored by MRPL, Mangalore. 12.885 lakhs. PI: Dr. Udaya Kumar D. 16/09/2019 to 31/03/2022.
4. CSIR Research project titled 'Development of Novel Thermoelectric Materials', Grant amount: 10.50 lakhs.(2017-2020) Ref. No. (01) 2905/17/EMR - II dtd. 03-05-2017. Principal Investigator: Dr. D. Krishna Bhat.

DEPARTMENT ELECTRONICS AND COMMUNICATION ENGINEERING

1. Engineering novel label free multi-layer plasmonic nano-biosensor for DNA hybridization sponsored by Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India. Principal Investigator: Dr. Mandeep Singh: E&C Engg. at the cost of Rs. 57.49 lakhs (2021 to 2026).
2. Design and Development of Ultra-low power CMOS IC for Wireless Neural Monitoring System sponsored by International Division, DST, Govt of India. Principal Investigator: Dr. Sandeep Kumar: E&C Engg. Jointly with Prof. Hanjung Song, Centre of Nano-Manufacturing, Inje University, Busan, South Korea. at the cost of Rs. 1 Crore 20 Lakh Rupees (India Budget: 40 Lakh and South Korea: 80.20 Lakh) (December 2020 to December 2023).
3. Design and Development of GaN HEMT Based LNA for L5 and S-Band IRNSS Receiver sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Sandeep Kumar: E&C Engg. at the cost of Rs. 30.00 lakhs (October 2020 to October 2023).
4. Development of design essentials for Ga2O3 based FinFET for SOC in automotive applications sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Nikhil K. S.: E&C Engg. at the cost of Rs. 25.90 Lakhs (October 2020 to October 2022).
5. Development of Highly Conductive Ultrathin VS2 Crystals for High-Performance Flexible Supercapacitors sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Sushil Kumar Pandey: E&C Engg. at the cost of Rs.27.73 lakhs (October 2020 to October 2023).
6. Intel Embedded Initiative sponsored by Intel Corporation. Principal Investigator: Prof. Sumam David S; E&C Engg. at the cost of Rs. 5.3 Lakhs. (2011 to continuing).
7. Design and Development of Automated Kidney Cancer Detection System from H&E Stained Kidney Histopathological Images sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Shyam Lal; E&C Engg. at the cost of Rs. 27.96 lakhs. (2019-2022).
8. Development of Automatic Land Cover Change Detection and Analysis System from High Resolution Remote Sensing Images sponsored by ISRO RESPOND Scheme. Principal Investigator: Dr. Shyam Lal; E&C Engg. at the cost of Rs. 19.44 lakhs. (January, 2020 to January, 2022).
9. SPARC Project: Exploring Applications of Radiomics in Brain Tumor Assessment and Treatment sponsored by MHRD. Principal Investigator: Prof. Sumam David: E&C Engg. (Indian Co-PI - Dr Deepu Vijayasenan, Dr Girish Menon (KMC Manipal); International PI – Dr Mandava Pitchaiah, Dr Paul Litvak) jointly with Baylor College of Medicine, Houston, Texas at the cost of Rs 38.63 lakhs. (13th May 2019 to 13th May 2021).
10. Research Grant under Young Faculty Research Fellowship under Visvesvarayya PhD Scheme for Electronics & IT, Digital India Corporation, Ministry of Communications & Information Technology and Govt. of India. Principal Investigator: Dr. Shyam Lal; E&C Engg. at the cost of 14.80 lakhs. (2019-2021).
11. Performance Analysis and Enhancement of Radio over Free Space Optical Communication System for 5G Applications for Smart Cities sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Prabu K.; E&C Engg. at the cost of Rs. 28.06 lakhs. (2019-2021).

12. Development of cost effective Radiofrequency ablation system and magnetic hyperthermia equipment for thermal therapies of cancerous tumors sponsored by MHRD. Co-investigator(s):Prof. U Shripathi Acharya & Prof. Laxminidhi T; E&C Engg, at the cost of Rs. 45.94 lakhs. (2019 to 2021).
13. Advanced Research Lab in RF Communications and Networks sponsored by DST, Govt. of India. Principal Investigator: Prof. Muralidhar Kulkarni and Prof. U. Shripathi Acharya; E&C Engg. at the cost of Rs. 116 Lakhs. (2016 to 2020).
14. Special Manpower Development Project on VLSI (SMDP-VLSI) phase-III – Chips-to-Systems sponsored by (DIT) MCIT, Govt. of India. Principal Investigator: Prof. Ramesh Kini M. and Prof. T. Laxminidhi; E&C Engg. at the cost of Rs. 1.6 Crores. (December 2014 to December 2020).
15. Development and real-time implementation of fully automated liver cancer detection system from H&E stained liver histo-pathological images sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Shyam Lal; E&C Engg. at the cost of Rs. 9.94 lakhs. (2017 to 2020).
16. Compact multi-band antenna with independently controlled resonant frequency and polarization for mobile wireless applications sponsored by SERBDST, Govt. of India. Principal Investigator: Dr. Krishnamoorthy K.; E&C Engg. at the cost of Rs. 44.22 lakhs. (2017 to 2020).
17. Design and Development of Wideband Circularly Polarized Antenna using 2D Metamaterial Structures sponsored by ISRO RESPOND Scheme. Principal Investigator: Dr. Krishnamoorthy K**;** E&C Engg. at the cost of 25.71 lakhs. (2018-2020)
18. Sigma Delta Space Time Adaptive Processing Techniques for GMTI for ASEA Radar sponsored by DRDO, Principal Investigator**:** Dr. Aparna P. E&C Engg., and Dr. P Srihari; E&C Engg; Rs. 9.63 lakhs. (August 2018 to August 2020).
19. Automatic Multilingual Speaker Profiling & Forensics sponsored by SERB-DST, Govt. of India. Principal Investigator: Dr. Deepu Vijayasenan; E&C Engg. at the cost of Rs. 13.5 lakhs. (October 2017 to October 2020).
20. Designing a System to measure moisture content of Cashew seeds both raw and processed sponsored by Kalbavi Cashews, Mangalore.Principal Investigator: Prof. U. Shripathi Acharya and Prof. T. Laxminidhi; E&C Engg. at the cost of Rs. One lakh. (2015 to 2020).
21. Automatic Bias Estimation Technique for 2D/3D Surveillance radar using Networked Radar Data sponsored by BEL, Bangalore. Principal Investigator: Dr. Pathipati Srihari; E&C Engg. at the cost of Rs. 10.00 lakhs. (2019 to 2020).

DEPARTMENT ELECTRICAL AND ELECTRONICS ENGINEERING

1. Bio Signal Processing System for the development of human-machine interaction sponsored by Ministry of Electronics & Information Technology, Meity, Government of India, PI: Dr Krishnan CMC, Rs 25 Lakhs, 2019-2024.
2. Grid Interfacing of Solar Power Generation: Design, Development, and Investigation on High-frequency Transformer Isolated DC-DC Soft-switching Resonant Power Converters, Scope: Power Electronics in Renewable Energy Generation Sponsored by SERB, DST, PI: Dr. Nagendrappa H., Rs. 48.94 Lakhs, 2017-2020.
3. Adaptive MPPT of Grid- tied Photovoltaic System using Magnetically Coupled Impedance Source Inverters, Sponsored by DST-SERB under EMR Scheme, PI: Dr. D. Jena Co-PI: Dr. Nagendrappa H., Rs. 24.36 Lakhs, 2017-2020.
4. Android based home automation Sponsored by Alumni NITK 1988 batch EEE, PI: Dr.B. VenkatesaPerumal, Rs 1.15 lakhs, 2018-2020.
5. Development of an Electric Systems for Automatic Control of Street

Lights, Sponsored by Alumni NITK Mr. Ramachandra & Mr.Sukumar Hegde,
PI: Dr. B. Venkatesaperumal, Rs 0.25 Lakhs, 2019-2021.

6. A Novel Bidirectional Converter for Electric Vehicle to Grid Applications Sponsored by Alumni NITK Ms.Maitree.S, Ms. S.M Naik and Ms Nischita Kaza, PI: Dr. B. Venkatesaperumal, Rs 0.4 Lakhs,2019-2021.
7. Establishing center of excellence (CoE)In "Renewable Energy Source integrated Smart Grid Technologies (RENEST)" Frontier Areas of Science and Technology (FAST), MHRD, GOI. PI: Prof. Panduranga Vittal K., Rs.400 Lakhs (Sanctioned Rs.250 Lakhs under Phase 1), 2014-2019.
8. Design and implementation of optimal controller for wide speed operation of SRM for EV application Sponsored by Department of Science and Technology, Government of Karnataka under VGST Scheme, PI: Dr P Parthiban, Rs 5 Lakhs, 2019-2021.
9. High Gain Single Stage Micro Inverter Sponsored by Raptor Design Technology Pvt. Ltd. (Company), PI: Dr. B. Venkatesaperumal, Rs 2 Lakhs, 2019-2021.
10. Theoretical Study and Design of High Efficiency wide band class D Power Amplifier for acoustic transducers Sponsored by Naval Research Board, DRDO, Govt. of India, PI: Dr. P Parthiban CO-PI: Dr. Kalpana R, Rs 33.69 Lakhs, 2019-2021.
11. Experimental Verification of Three Phase Asymmetrical Cascade Multilevel Inverter with Single DC-Link by Employing Toroidal Transformer Sponsored by Department of Science and Technology, Government of Karnataka, PI: Dr. Y Suresh, Rs 5 Lakhs, 2018-2020.
12. Back-to-Back Converter Development for Solar Water Pumps Application Sponsored by Infineon Technology India Pvt. Ltd, PI: Dr. B. Venkatesaperumal, Rs 10 Lakhs, 2018-2020.
13. DC-Home Solar based off Grid Converter design and Development of 48 V System Sponsored by NITK, PI: Dr. Y Suresh, Rs 1.1 Lakhs, 2018-2020.
14. Two Research scholarships to investigate in the areas of i. Sensing Techniques, ii. Super-efficient Motor Control, under "Visvesvarya PhD Scheme, Sponsored by GOI, MCIT, DEITY., Prof. Panduranga Vittal K.Rs.40 Lakhs, 2015 –2020
15. Smart Electric Vehicle Supply Equipment with improve Reconfigurability, Economic, Availability and Performance (REAP), DST-SERB Core Research Grant, PI: Dr. B Dastagiri Reddy, Co PIs: Prof. B V Perumal, Dr. Y Suresh, Dr. Vignesh V, DR. Arun (Mech.), Rs 60 Lakhs, 2021-2024.
16. An affordable therapeutic solution for rehabilitation of cerebral palsy children with crouch gait, DST-SERB Core Research Grant, PI: Dr. Krishnan C. M. C. (Dept. of E&E) Co PIs: Dr. Deepu Vijayasenan (Dept of E&C), Dr. Ranjith M (Dept. ME), Prof. Sumam David (Dept of E&C), Dr. Sheron Figarado (School of Electrical Sciences, IIT Goa), Prof. Unnikrishnan B (Department of Community Medicine, KMC Hospital Mangalore) Budget: 59.4 Lakhs, Duration: 3 Years.

DEPARTMENT OF INFORMATION TECHNOLOGY

1. Edge and Fog Computing Framework for Smart City Application, Principal Investigator: Prof. G. R. M. Reddy, Mr. Natesha B V, Rs. 25 Lakhs, July 2016-July 2021
2. Google Cloud COVID-19 Research Grant Grantee: Google Inc , Amount: US $10,600, Duration: 2020-21, Principal Investigator: Dr. Sowmya Kamath S
3. Google Cloud COVID-19 Research Grant. Grantee: Google Inc, Amount: US $9,100, Duration: 2020-2021, Principal Investigator: Neelima B.

COMPLETED:

1. Visvesvaraya PhD Scheme for Electronics & IT, Media Lab Asia under Ministry of Electronics and IT, GoI. Principal Investigator: Prof. Ananthanarayana V.S (Nodal Officer) at the cost of Rs. 1009.2516 Lakhs, 2014 - 2020
2. Young Faculty Research Fellowship Award (YFRF) Project under the Visvesvaraya PhD Scheme of Ministry of Electronics & Information Technology, Government of India, being Implemented by Digital India Corporation(Formerly Media Lab Asia) Principal Investigator: Dr. Geetha V at the cost of Rs. 10 Lakhs, Jan 2019 to Jan 2021.
3. Effective Online Framework Solution for Protein Sequence Alignment and to Predict Protein Structure & its subcellular localization using Amino Acid Molecules (Vision Group on Science and Technology, Dept. of Science and Technology, Govt. of Karnataka). Principal Investigator: Dr. Nagamma Patil, Rs 5 Lakhs, August 2018- August 2020
4. A Framework for Deep Learning based Analytics for Intelligent Healthcare Applications. DST-SERB (Early Career Research Grant), Principal Investigator: Dr. Sowmya Kamath S, Rs. 35 Lakhs, Jun 2017 - Aug 2020.
5. Successfully completed the International Consultancy Project titled "Structured content extraction from preformatted documents and study materials", Rs. 1.18 Lakhs.US-based company Edumeister funded this three-month duration project (Sept 2020- Dec-2020). Principal Investigator: Dr. Anand Kumar M

DEPARTMENT MATHEMATICAL AND COMPUTATIONAL SCIENCES

1. Efficient Regularization method for ill-posed operator equations and their applications ” Core Research Grant by SERB, Department of Science and Technology, Govt. of India, EMR/2017/001594., Ongoing, Rs. 1840000\-
2. Fractional regularization methods for solving inverse and ill-posed problems and their applications, National Board of Higher Mathematics (NBHM), No. 020111/17/2020 NBHM (R.P)/ R&D II/8073, Ongoing, Rs. 4,61,500.
3. A retinex inspired framework for intensity homogenization contrast upgradation and restoration of satellite and area images,Core Research Grant by SERB, Department of Science and Technology, Govt. of India, CRG/2020/000476. , Ongoing, Rs. 2299264
4. Applications of Kneading Theory in Iterative Root Problems, DST-SERB, India. Rs 418000

DEPARTMENT MECHANICAL ENGINEERING

1. Development of a Solar Based Humidifier/Dehumidifier Linked With Ground Water, Dr. Ajay Kumar Yadav & Dr. Anish S., DST, 29.02 Lakhs, 18/3/2017-17/06/2020.
2. Development Of Cost Effective Radiofrequency Ablation System And Magnetic Hyperthermia Equipment For Thermal Therapies Of Cancerous Tumors, Dr. Ajay Kumar Yadav, Prof. Laxminidhi T, Prof. Sripathi U Acharya, Prof. B. S Rao (MAHE), Prof. P. U Saxena (KMC), SERB, 48.94 Lakhs, 8/03/ 2019- 07/03/2022.
3. Experimental Characterization And Numerical Modelling Of Delamination Growth In Fiber Reinforced Polymer Laminated Composites Under Cyclic Loading, Dr. S Kattimani & Prof. S.M. Murigendrappa, SERB, 26.28 Lakhs, 24/03/2017 -24/03/2020.
4. An Experimental And Theoretical Investigation On Narrow Thermal Hysteresis Of Cu-Al-Be Based Sma Actuator For Vibration Isolation, Prof.

S.M. Murigendrappa & Dr. S Kattimani, SERB, 16Lakhs, .

5. Active Vibration Control Of Laminated Composite Sandwich Plates In Hygrothermal Environment Using 1-3 Piezoelectric Composites, Dr. S Kattimani, SERB, 40.9 Lakhs, 26/03/2018 - 26/03/2021.
6. Investigation On Radiolucent Composite Sandwich Materials For Biomedical Imaging Systems Under Hygrothermal Environment, Dr. S Kattimani, DST- ASEAN -India Collaboration, 41 Lakhs, 2020-2022 (Aproved).
7. Experimental Investigation On Pulsating Synthetic Jet Micromixers To Determine The Injection Dynamics Of Insulin In Hydrogels For Subcutaneous Drug Delivery, Dr. Arumuga Perumal D, SERB, 32.6Lakhs, 01 August 2017-31 July 2020.
8. An Investigation In To The Effects Of Induced Helicity In The Carotid Bifurcated Arteries On Patient Specific Models, Dr. Anish S and Dr. Mrityunjay Doddamani, SERB, 16.15Lakhs, 26/2/2020 to 25/2/2023.
9. Improvement In The Properties Of Thermally Sprayed Hydroxyapatite Bio-Ceramic Coating Reinforced With Nanostructured Materials, Dr Sudhakar C Jambagi, SERB, 38.4Lakhs, 18/3/2019 to 17/3/2022.
10. Experimental And Numerical Investigation Of Effect Of Leading Edge Protuberances On The Performance Of Wind Turbine Blade, Dr. Sathyabhama A, SERB, 66Lakhs, May 2016 to March 2020.
11. Ultrafine Grain Refinement Through Low Plasticity Burnishing On Waam Of Mgalloy For Aerospace And Automotive Applications, Dr.A.S.S.BALAN, SYST-SEED, 16.09Lakhs, Jan 2020 to Jan 2023.
12. Experimental Technique To Induce Surface Grain Refinement Through Laser Shock Peening On Ecap Processed Mg. Alloy, Dr. H Shivananda Nayaka, SERB, 41.02Lakhs, May 2019 to May 2022.
13. Design Of Magneto Rheological Damper For Vehicular Applications, Indian PI: Prof. C.Sujatha, IIT Madras ; Indian Co-PI: Dr. Hemantha Kumar, NITK Surathkal International PI: Prof. Muthukumaran Packirisamy ; International Co-PI: Prof. Ramin Sedaghati, Concordia University, Canada, MHRD, 60.35Lakhs, 2019-2021.
14. Development Of Cost Effective Magneto-Rheological (Mr) Fluid Damper In Two Wheelers And Four Wheelers Automobile To Improve Ride Comfort And Stability, PI: Dr. Hemantha Kumar, Co- PI: Prof. C.Sujatha, Dept. of Mechanical Engineering, IIT Madras, Prof. K.V.Gangadharan, Dept. of Mechanical Engineering, NITK, Dr. Sharnappa J., Dept. of Mechanical Engineering, NITK, Dr. Mohd.Rizwan Rahman, Dept. of Material and Metallurgy Engg. NITK, Dr. Sheron F. Dept. of Electrical and Electronics Engg. NITK, Dr. Sandesh S. Senior Manager, Ashok Leyland Ltd. Chennai, Mr. Rajasekharan, Scientific Advisor, Rambal Ltd. Chennai., MHRD & Ministry of Road Transport and Highways, 355Lakhs, 2017-2020.
15. Experimental Investigation Of Passive, Semi-Active And Active Vibration Control Of Composite Sandwich Structure, PI: Dr. Sharnappa Joladarashi Co-PI: Dr. Hemantha Kumar, DST, 51.5Lakhs, 2017-2020.
16. Investigations On The Dynamic Behaviour Of Bacterial Helical Flagellar Filaments Under Axial Flow, Dr. Ranjith M, DST-SERB, 21.46Lakhs, 2017-2020.
17. Design, Analysis And Demonstration Of The Porous Injector Concept For Throttling Of Liquid Rocket Engine., Dr. Parthasarathy P, ISRO, , 2019-2021.
18. Design And Testing Of Robust, High Efficient, Low Polluting Lpg Porous Burners For Household Applications., Dr. Parthasarathy P and Dr. Arun M, DST-SYST, , 2020-2023.
19. Development Of Composite Filament For Light Weight 3D Printed Components, PI - Dr. Mrityunjay Doddamani, Co-PI's - Dr. Srikanth Bontha, Dr. Vamsi Krishna Balla, DST-TSDP, TDT, GoI, 33.03Lakhs, 2017-2020.

20. Pre-Operative Damage Assessment In Orthopedic Surgery Using 3D Printing To Minimize Healing Time, Dr. Mrityunjay Doddamani, VGST, GoK, 5Lakhs, 2017-18.
21. Cost-Effective Enhanced Insulating Foams For Cold Storage Application, Dr. Mrityunjay Doddamani, ISHRAE, 30.62Lakhs, 2020-2023.
22. Additive Manufacturing Of Novel Structural Foam Composites For Durability And Damage Tolerance, PI: Dr. Mrityunjay Doddamani (NITK), Dr. Pavana Prabhakar (UW-Madison, USA); Co-PI's Dr. Suhasini Gururaja (IISc), Prof. Gustavo Parra-Montesinos (UW-Madison, USA), SPARC, MHRD, GoI, 86.49Lakhs, 2019-2021.
23. Development Of Brushless Dc (Bldc) Motors For An Automotive Power Window Application, Dr. K V Gangadharan (PI) + Mr. Srinivas (Co PI) . Ms/ Aditya Auto , Dept. of Heavy Industries , 375Lakhs, 2020-2022.
24. Design Of Oil Skimming Application With Super Hydrophobic Sponge, Dr. Pruthviraj U (PI) App Mech , Dr. K V Gangadharan (CO.PI), MRPL , 44Lakhs, 2019-2021.
25. Tpem - Fame India Scheme - “Switched Reluctance Motor & Controller For 2W & 3W”, 2018-2021Dr. K V Gnagadharan (PI) , Co Pis Dr. Jeyaraj , Dr. Navin Karanth,Dr. Venkitesh Perumal (EE), Dr. Suresh Y, (EE) , Dr. Krishnan C (EE) + Mr. Srinivas . Ms/ Aditya Auto , Dept. of Heavy Industries , 1700Lakhs, 2018-2021.
26. Virtual Lab Phase Iii, Dr. K V Gangadharan(PI) , Dr. Pruthviraj(AppMech), Dr. Mohit T (CS), NMEICT(MHRD), 100Lakhs, 2017-2021.
27. Origins Of Yielding In Polymer Electrolyte Membranes, KK Poornesh, DST-SERB, 50Lakhs, 2019-2022.
28. Interface Charcteristics Of Membrane Electrode Assemblies, KK Poornesh, DST, 35Lakhs, 2018-2022.
29. Analytical And Numerical Investigations Of Mixed Convection Through Wire Mesh Porous Structure Filled In a Channel, Dr. N. Gnanasekaran, DST-SERB, 21Lakhs, 2019-2022.
30. Particle migration and margination in bidispersed fluid flow through constricted channels, DST-SERB, PI: Dr. Arun M and Co-PI: Dr. Jagadeeshbabu, 29.6 lakhs, 2021-2024.
31. Design and testing of robust, high efficient, low polluting LPG porous burners for household applications, DST, PI: Dr. Parthasarathy P and Co-PI: Dr. Arun M, 33 lakhs, 2020-2023.
32. Design, analysis and demonstration of the porous injector concept for throttling of liquid rocket engine, ISRO, Dr. Parthasarathy P, 25 lakhs, 2021-2022.
33. Evaluation of macroscopic properties of ideal porous media for their use in solar reactors and low emission combustors with help of experiments and CFD simulations, DST-SERB, Dr. Parthasarathy P, 15 lakhs, 2021-2023.
34. Additive Manufacturing of Large Size Metal Components with Wire & Powder Hybrid Direct Energy Deposition (WP-DED) Process, DST-SERB (Exponential Technologies), PI: Prof. Surya Kumar, IIT Hyderabad and Co-PI: Dr. Srikanth Bontha, 76.88 Lakhs, 2021-2023.
35. Development of biodegradable microperforated panel with nonuniform cross section through 3D printing for sound absorption application, CRG-DST, PI: Dr. P Jeyaraj and Co-PI: Dr. Mrityunjay Doddamani, 36 Lakhs, 2021-2024.
36. Investigation On Radiolucent Composite Sandwich Materials For Biomedical Imaging Systems Under Hygrothermal Environment, AISTDF-SERB, PI: Dr. S. Kattimani, Co-PIs: Dr. N.T.Trung, Vietnam and Dr S. Mehdi, Malaysia, 37.08 lakhs, 2020-2022.
37. Ultrafine Grain Refinement Through Low Plasticity Burnishing on Waam of Mg alloy for Aerospace and Automotive Applications, DST-SEED, Dr. ASS Balan, 16.5 lakhs, 2020-2023.
38. Additive manufacturing of novel polymers and composites at industrial scale, NSF, PI: Dr. Nikhil Gupta, New York University, NY, USA, Co-PIs: Dr. Mrityunjay Doddamani, Dr. P. Jeyaraj and Dr. Anadan Srinivasan.
39. Experimental technique to induce surface grain refinement through 1aser

Shock Penning on ECAP processed Mg alloy, DST-SERB, Dr. H Shivananda Nayaka, 41 Lakhs, 2019-2022.

40. Development of Brushless DC (BLDC) Motors for an Automotive Power Window Application, Dept. of Heavy Industries + M/s Aditya Auto, PI: Prof. Gangadharan K V, Co-PIs: Dr. Yaswanth Kayap (EE) and Pruthviraj U (WROE), 375 lakhs, 2020-2022.
41. Explore – Experiential Learning Reengineered, IITM Allumni Association (IITMAA), PI: Prof. Gangadharan K V, Co-PIs: Dr. Sheena (SOM) and Dr. Pruthviraj U (WROE), 24 lakhs, 2020-2024.
42. E Mobility, NITK+NITKAlumni, PI: Prof. Gangadharan K V and Co-PI: Dr. Pruthviraj U (WROE), 15 lakhs, 2020-2023.
43. Fight Against CoVID19 – Face Shield, ONGC, NMPT, OMPL, MRPL, Stratasys, PI: Prof. Gangadharan K V and Co-PI: Dr. Pruthviraj U (WROE), 44 lakhs, 2020-2022.

DEPARTMENT OF MINING ENGINEERING

1. "Predictive Assessment of Postural Risk and Biomechanical Analysis of Musculoskeletal Disorder (MSD) Related Problems of Dump Truck Operators in Indian Opencast Metal Mines", Sponsored by Science and Engineering Research Board, DST, Govt. of India, 2019-2022. (Sanction order no. CRG/2019/001940 dated 02-03-2020: Rs. 18,85,945/-)
2. "Investigations into the Reduction of Phosphorus in Iron Ore Using Microwave Technology for its Suitability to the Iron Ore and Steel Industries"; Sponsored by ERM Group, Bangalore, 2017-20. (Sanction order No. RPC/NITK/2017-18/170 dated 08th August, 2017: ▪ 10.06 Lakhs).
3. Development of a New Type of Aero-cyclone for the Dry Separation of Minerals; Sponsored by The Hutti Gold Mines Co. Ltd, 2081-2021.(Sanction order No. 97/RO/2018 dated 20th June, 2018: ▪ 1.96 Lakhs.
4. Development of a Communition Process for Improving the Ball Mill Efficiency and Selective Size Output Through Hydro-Squeezing; Sponsored by M/s. HGML and KSMCL. 2018-2021.(Sanction order No. 115/Min/46/2018 dated 19th November, 2018 from HGML and dated 31st December, 2018 from KSMCL; ▪ 9.7 Lakhs).
5. Development and Characterizations of Advanced Solar Cell", Sponsored by VGST, Govt. of Karnataka, Department of Information Technology, Biotechnology and Science &Technology, 2017-2020 (Sanction order No. KSePS/CISEE/2016-17/GRD-536/2017-18/153, ▪ 30 Lakhs)
6. Application of Nano Membrane Technologies to Purify Mine Waste Water, Sponsored by Ministry of Mines, Govt. of India, 2019-2021. (▪ 5 Lakhs).

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

1. "Corrosion and Impedance study of Ti-Nb alloy forms developed by PM techniques", sponsored by DST-SERB, Principal Investigator: Dr. S. B. Arya, Dept. of Met & Matls. Engg. at the cost of Rs.18.81 lakhs (Period: 2015-17)
2. "All solution processed transparent low temperature synthesized Indium Zinc Tin Oxide based high performance thin film transistors for active matrix displays", sponsored by DST-SERB, Principal Investigator: Dr. Saumen Mandel, Dept. of Met & Matls. Engg. at the cost of Rs.21 lakhs (Period: 2016-18)
3. "Development of Cost Effective Magnet oRheological (MR)Fluid Damper in Two wheelers and Four Wheelers Automob ile to Improve Ride Comfort and Stabili ty", sponsored by IMPRINT, Dr. Hemanth Kumar (PI) – Mech. Dept. and Dr. M. Rizwanur Rahman (Co-PI)
4. "Augment the Research Facilities in the Department (i) X-Ray Diffractometer with Accessories, (ii) Field Emission Scanning Electron Microscope", sponsored by DST - FIST,

Principal Investigator: Prof. Udaya Bhat K. & Dr. M. R. Rahman, Dept. of Met & Matls. Engg. at the cost of Rs.297 lakhs (Period: 2018)

5. "Development of structural polymer composites from natural fiber/particulate reinforced materials", sponsored by VGST, Govt. of Karnataka, Principal Investigator: Dr. Ravishankar K. S., Dept. of Met & Matls. Engg. at the cost of Rs.20 lakhs (Period: 2018-2020)
6. "Synthesis of Silver Nanoparticles at laboratory scale and further scaling up to pilot scale at HZL", sponsored by Hindusthan Zinc Limited Principal Investigator: Dr. M. Rizwanur Rahman, Dept. of Met & Matls. Engg. at the cost of Rs. 9.96 lakhs (2018).
7. "Development of Metallic nanoparticles-enhanced phase change Materials for thermal energy storage", sponsored by VGST, Principal Investigator: Dr. M. Rizwanur Rahman, Dept. of Met & Matls. Engg. at the cost of Rs.5 lakhs (2019).
8. "Development of Antimicrobial Active Surfaces for Health Care Applications", sponsored by VGST, Govt. of Karnataka, Principal Investigator: Prof. Udaya Bhat K., Dept. of Met & Matls. Engg. at the cost of Rs.60 lakhs (2018-2021)
9. "Mitigating Dendrite Growth Using Engineered Electrolyte Layers for the Development of High Energy Density, Long Cycle Life Lithium Batteries", sponsored by DST, Principal Investigator: Prof. S. Anandhan, Dept. of Met & Matls. Engg., at the cost of Rs.64.43 lakhs (Period: 2019-22).
10. Academia-industry outreach program on conventional and advanced ceramic manufacturing for the next generation of ceramics and glass engineers sponsored by The Ceramic and Glass Industry Foundation, The American Ceramic Society, Co- Principal Investigator: Dr. Saumen Mandal, at the cost of 11000USD (Period: November, 2018 – November, 2019).
11. "Life extension of K-type thermocouple", sponsored by Mangalore Refinery and Petrochemicals Limited (MRPL), Principal Investigator: Dr. Subray R Hegde, Mr. J K Rakshan Kumar, at the cost of Rs. 22,36,395/- (Period: June 2018-Mar 2021).

SCHOOL OF MANAGEMENT

1. Dr. Pradyot Ranjan Jena : A Study of Adaptation to Technological Innovation in Agriculture to Mitigate Climate Change Effects and its Impact on Rural farmers sponsored by Indian Council of Social Science Research (ICSSR). Principal investigator: Dr. Pradyot Ranjan Jena; School of Management. At the cost of Rs. 8.6lakh. (Period: June 2018 to September 2020).
2. Dr. Pradyot Ranjan Jena: Moving towards Climate Resilient Agriculture: Understanding the Factors Influencing Adoption in India and Japan, sponsored by ICSSR-JSPS, Indo-Japan joint research project Principal investigator: Dr. Pradyot Ranjan Jena; School of Management. At the cost of 12lakh. (Period: May 2019 to January 2022).
3. Dr. Pradyot Ranjan Jena: Adaptation of Climate Smart Agriculture Practices: Challenges and Opportunity for Indian Smallholder Farmers, sponsored by SPARC Project-Ministry of HRD, Govt. of India, Indo-Japan Joint Research Project Principal Investigator: Dr. Pradyot Ranjan Jena; School of Management. At the cost of 49 lakh. (Period: June 2019 to December 2022).
4. Dr. sheena, "Brand India: the futuristic medical tourism hub – a make in India initiative", awarded Rs.8,00,000/- by ICSSR-IMPRESS scheme. ongoing from September 2019.
5. Dr.Sheena research project titled , "explore – experiential learning online reengineering" sanctioned by pals (alumni association of IIT Madras) on Experiential Learning through Virtual Labs by granting a financial assistance of Rs.24,00,000/- for a period of four years (2020-2024)
6. Dr. Rajesh Acharya H 'Assessing the Impact of Pradhan Mantri Fasal Bima Yojana (PMFBY) on Smallholder

Farmers' funded by ICSSR IMPRESS with a budget of Rs. 4,00,000.00

7. Dr. Rajesh Acharya H 'Assessing the Impact of Climate Change on Agriculture and Exploring the Role of Technology in its Adaptation' funded by ICSSR with a budget of Rs. 4,05,000.00
8. Dr.Sreejith A Governing Extreme and Exploitation Social Media Environment for PWD Rehabilitation, IMPRESS-ICSSR. Dr.Sreejith A, School of Management, Rs. 9030510/- (Period : 1April 2019 to 31 March 2021)

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

1. Coupled dynamic analysis associated with the response and design loads of offshore floating wind turbine, Sponsored by : SERB, DST, Govt. of India, Investigator: Debabrata Karmakar, 25.0 Lakhs, 2016-20.
2. Hydrodynamic performance characteristics of Caisson type breakwater, Sponsored by : Ministry of Earth Sciences, Investigator(s) :Manu (PI), Subba Rao (Co-PI) & A.Vittal Hegde(Co-PI), 78.84 Lakhs, 2016-21
3. Optimal Damping of porous screen in Tuned Liquid Damper-Structure interaction, Sponsored by: SERB, DST, Govt. of India, Investigator: T. Nasar, 32.67 Lakhs, 2016-20.
4. Climate change - Impact on West coast river basins, Sponsored by: Ministry of Water Resources Investigator(s): A.Mahesha, Amba Shetty, Varija & H. Ramesh, 65.40 Lakhs, 2018-21.
5. Performance of combined wave and wind energy platform, (Principal Investigator), India-Portugal Bilateral Technological Cooperation, Department of Science and Technology (DST), New Delhi, India, PI: Dr. Debabrata Karmakar , 13.5 Lakhs, 2017-2020.
6. Conjunctive use of surface water and groundwater management: A new framework for strategic decision making, Sponsored by : DST, EMR, Investigator : H.Ramesh, 45.0 Lakhs, 2017-20
7. Effect of Frictional Heat on Coefficient of Friction during Full Slip of Al6061 T6 Hertzian Contacts, Sponsored by: Science & Engineering Research Board (SERB), DST, Investigator: Vadivuchezhian K, 27.0 Lakhs, 2018-21.
8. Impounding of river flood water along Dakshina Kannada Coast : A sustainable strategy for water resource development, SERB-DST (IMPRINT), Ramesh H. (PI), T.Nasar (CoPI), 2019-22, 111.85 Lakhs
9. Submarine groundwater discharge (SGD) along Karnataka coast, NCESS/ Ministry of Earth Sciences. Govt. of India, Ramesh H. (PI), A. Mahesha (CoPI), 2019-21, 15.00 Lakhs
10. Open source GIS for remote health monitoring, NITK-KREC Endowment Fund, Pruthviraj U., 2019-21, 3.29 Lakhs
11. Design and development of all terrain vehicle with trailer for the conveyance of unmanned marine surface vehicle, NITK-KREC Endowment Fund, Pruthviraj U., 2019-21, 9.01 Lakhs
12. Environmental innocuous pile head breakwater for the Mitigation of coastal erosion Indian, SPARC, GoI, Pruthviraj U (PI), Kiran G. Shirlal (CoPI), Hans Bihs , NTNU Norway (IPI), Øivind Asgeir Arntsen, NTNU Norway (ICoPI), 2019-21, 48.29 Lahs
13. Design and Development of Lightweight Portable Oil Skimmer, MRPL, Mangaluru, Pruthviraj U. (PI), K C Gangadharan, Mechanical Dept. (CoPI), 2019-21, 44.15 Lakhs
14. Design analysis and development of combined wave and wind energy multi-use platform, SERB, DST, New Delhi, PI: Dr. Debabrata Karmakar, 43.30 Lakh, 2019-21
15. Renewable energies from Ocean: Adoptable and Sustainable technologies for Indian condition, SPARC, GoI, Balaji Ramakrishnan (PI)- IIT Bombay, , Dr. Nasar Thuvanismail- (Co-PI) - National Institute of Technology Surathkal, Prof. Prasad K Bhaskaran (Co-PI)- IIT Kharagpur, Prof. Basavaraj Veeranna Mudgal (Co-PI) - Anna University Prof. Vengatesan

Venugopal (IPI) -University of Edinburgh, Prof. David Mark Ingram (ICo-PI) - University of Edinburgh, Dr. Jonathan Shek (ICo-PI)- University of Edinburgh, Dr. Harry van der Weijde (ICo-PI) - University of Edinburgh, 2019-21, Amount : 78.08 Lakhs

16. DST- SPARC project on 'Coastal reservoirs as a sustainable strategy for Water Security'. Rs. 64 Lakhs, (6.4 Million) (PI, Ongoing), With University of Wollongong, Australia
17. Desalination of sea water using wave and wind power, VGST, Government of Karnataka, PI: Dr. Debabrata Karmakar, 3.0 Lakh, 2021-22.
18. EUSOP (Evaluation of Uncertainties affecting estimations of Soil Properties by VNIR/SWIR remote sensing data) sponsored by French National Centre for Scientific Research (CNRS)
    PI : Cecile Gomez, Scientist IRD, France
    CoPIs : Dharumarajan scientist NBSSLUP, Surendra Kumar Singh , NBSSLUP and Amba Shetty NITK Amount 12,200 Euros 2019-2021.

13.2 PROPOSED PLAN FOR RESEARCH

DEPARTMENT OF CHEMICAL ENGINEERING

New Labs/Equipment:-

- Energy & Catalysis Research Laboratory

Target for sponsored R&D projects:-

- SERB DST Projects

New areas of Research:-

- CO2 utlization and Battery materialas development

Institutions/organizations for future collaborations:-

- Indian Institute of Technology Hyderabad

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

New Labs/Equipment:-

Target for sponsored R&D projects:-

1. Voice Enabled EHR System with Automated Medicine Dispensing Robots and Scheduling System (Dr. Annappa)
2. TARE scheme of SERB, DST , GOI (Dr. Annappa)
3. ISRO Respond 2021 (Dr. Annappa)
4. Design and Development of AI based highly sensitive automated methods for early Detection of Lung Cancer from LDCT scans under CRG scheme of SERB (Dr. Annappa and Dr. JenyRajan)
5. Smart Clinical Decision Support System for Identification of Novel features from cancer Genomic Big Data Sets from Birmingham University, UK under VAJRA scheme of SERB. (Dr. Annappa)
6. Design and Prototype development of low power, wireless, intelligent digital Stethoscope under biomedical device and technology development of DST.(Dr. Annappa)
7. Development of Adrenaline auto-injector for patients with anaphylaxis under DST –BDTD (Dr. Shashidhar G Koolagudi)
8. Character classification of Kannada inscription (Dr. Shashidhar G Koolagudi)
9. Realization of Deterministic Network over Heterogeneous Communication Technologies and Develop Reliable Protocols for Internet of Things [REAP-IoT] (Dr. Mohit P Tahiliani)
10. Logical Correctness for Batteryless Internet of Things under SERB (Dr. BiswajitBhowmik)
11. ParkSmart: A Real-time parking solution for occidental cities under SERB (Dr. Sourav Kanti Addya)
12. Development of Searchable Encryption System for Secure Storage and Retrieval of Encrypted Documents from Cloud Server, SERB (Prof.

P.Santhi Thilagam and Dr. Alwyn R. Pais)

New areas of Research:

Specific Area: Network-on-Chip (NoC) – 2D, 3D, Wireless, and Photonic, Internet of Things (IoT) Security

- Broad Area: Testing and Fault-Tolerance, Hardware Security, Formal Verification, and Cyber-Physical Systems.
- Expanded Area: Computer Systems and Architecture, ComputationalGeometry, Machine Learning, and Distributed Systems.
- Cloud Computing
- FOG Computing
- Internet of Things (IoT)
- Blockchain
- Serverless

Institutions/organizations for future collaborations:-

MoU: 01

1. Intel India Pvt Ltd. and the National Institute of Technology Karnataka, Surathkal's Department of Computer Science and Engineering have signed a MoU to sponsor the candidate's research project according to the research plan. (Dr. BasavarajTalawar)

Future collaborations:

1. Internet of Things sponsored by DST Areas of Research is Internet of things systems Architecture, future collaborations is foreign universities and/or IITs/IISc.
2. Cyber-Physical Systems sponsored by DST NRB Areas of Research is Resource Management future collaborations is foreign universities and/or IITs/IISc.
3. Cyber Security sponsored by MEITYAreas of Research isMulti-model visual Securityfuture collaborations is foreign universities and/or IITs/IISc.
4. Big Data Analytics sponsored by DST Areas of Research is Big Data future collaborations is foreign universities and/or IITs/IISc
5. IBM Shared University Grant of 15 Lakhs and equipment donation boost the OpenPower research infrastructure here at SPARK Lab. Further, faculty award from IBM will help in improving collaborations and the research profile.
6. Spatial Data Science Research group is formed. The Research Scholars and M.Tech Students are assigned Research Project Related to Spatial Temporal Data. Planning to set up center of excellence in Data Science for Disaster Management and. Remote Sensing Applications The new project proposal are submitted to SERB, Meity and Ministry of Earth Sciences for funding.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

New Labs/Equipment:-

PG Labs for VLSI Design, Communication Engineering & Netorks, and Signal Processing & Machine Learning Lab.
IoT Lab, AI and ML Lab.

Target for Sponsored R&D projects:-

Projects from research organisations such as ISRO, DRDO and LRDE.

New Areas of Research:-

Bio-Mechancis

Institutions/organizations for future collaborations:-

Any institution/organization having impetus about realizing Make in India initiatives.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

1. Development of Dual Input DC/DC Converter with Smart Energy Management Controller for Enhancing the Reliability of Hybrid Standalone Photovoltaic Systems Sponsored by Vision Group on Science and Technology, Government of Karnataka,

PI: Dr. V. Vignesh Kumar, Rs 3.18 Lakhs, 2020-2022.

2. Renewable Energy Sources Supported Charging System Development for Electric Vehicles at Residential and Commercial Establishment Sponsored by Science and Engineering Research Board, PI: Dr. V. Vignesh Kumar, Rs 30.81 Lakhs, 2020-2022.
3. Fault Tolerance Control of High Power Multiphase Induction Motor Drives during Sensor faults for Electric Vehicle Application Sponsored by SERB- Start up Research Grand (Under Review), PI: Dr. Arun Dominic. D, Rs 32 Lakhs, 2020-2023.
4. Fault Detection and Isolation of Doubly Fed Induction Machine during Sensor Faults for Wind Energy Applications Sponsored by VGST-RGS/F Scheme, PI: Dr. Arun Dominic. D, Rs 5 Lakhs, 2020-2022.
5. Design and Development of a Novel On-Board Charger with Advanced Features for Electric Vehicles Sponsored by DST (SERB), PI: Dr. Prajof P, Rs 30 Lakhs, 2020-2022.

DEPARTMENT OF INFORMATION TECHNOLOGY

Dr. Sowmya Kamath:

New Labs/Equipment:

Upgradation of server infrastructure for HPE sponsored High Performance Computing Lab.

Target for sponsored R&D Projects:

- Five Faculty members are involved in the proposal submitted for the setting up of Technology Innovation Hub, under the National Mission on Interdisciplinary Cyberphysical Systems (NM-ICPS).
- Faculty members are involved in the research activities undertaken under the Regional Academic Center for Space (RAC-S) set up at NITK Surathkal.

Institutions/organizations for future Collaborations:

- Harward Medical School
- Center for Big Data Analytics, Oakland University

Dr. Anand Kumar M:

Target for sponsored R&D Projects:

- Submitted DST-CSRI Jointly with NIMHANS
- Submitted SUPRA-DST-2020
-

New Areas of Research:-

Multimodel Analysis

Institutions/organizations for future Collaborations:

- IIT-Bhuvaneswar,
- NIT-C,
- NTE-Singapore
- Uni-Hyd,
- IPR-Ahmadabad,
- NIMHANS,
- University of Moratuwa-Sri Lanka,
- IITB,
- EduMinster (US based Company).
- National University of Ireland, Galway
- Trinity College Dublin, Ireland

Dr. Kiran M

New Areas of Research:-

Next Generation Wireles Networks, and Blockchain Technology

DEPARTMENT OF CHEMISTRY

New Labs/Equipment:-

Target for sponsored R&D projects:-

New areas of Research:-

Further research work in the field of Thermoelectrics,Photocatalysis,

Supercapacitors, Nanofluids and Materials for energy and environmental applications.

Institutions/organizations for future collaborations:-

Future research collaborations with University of Toronto, Canada & University of Maryland Eastern shore, USA

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

1. Local Radial Basis Function Based Schemes for Fractional Diffusion and Advection Models and Their Applications.
2. Spectrally Convergent Numerical Methods for Differential Equations with Discontinuous Solutions.
3. Physics Informed Data Driven Deep Learning Approaches for the Solution of Partial Differential Equations.
4. Study of regularity conditions and eigenvalue sets for parametric interval matrices.
5. Data Science for Cyber Security.
6. To study the Hyers-Ulam stability of Iterative Functional Equations.
7. To find the order of an iterative root.
8. To study broadcast labeling of graphs and Grundy coloring of Graphs.
9. To study the effects of surface roughness/MHD effects on squeeze flows of viscoplastic fluids.

New Labs/Equipment:

Item	Qty
Hp laserjet MFP M132 NW Printer	2
White Ceramin Board with Aluminium Tray	1
Brother DCP - 254/dw Laser Printer	1
28110193 HP Business Desktop 60095 Microtower , 5RD66A7 HP 19.5 P204 V	2
VGA HDMI Wall Mount Monitor	
C270 Web cam Logitech	24
Asus P1440FA FQ2351 Laptop Computer	1
C-Dell R740 Power Edge R740 Server High End Server With GPU	1
Microsoft Surface Pro 7 12.3 inch Laptop PVQ- 0.0015	6
HP Elite book X360 830 G7 PMLDS Convertible Laptop	6
Apple I pad Pro 11 inch wifi 128 GB- My232 HN/A PMLDS- Handheld Tablet	6

Target for sponsored R&D Projects:

SERB, NBHM, DST

Institutions/organizations for future Collaborations:

1. Thermophoerosis of particles, Department of Applied Mechanics, IIT Madras
2. On the study of Squirmer Models, Department of Chemical Engineering, IIT Madras
3. High Performance/GPU computing- IIT Delhi
4. Grundy coloring of graphs with IIT Delhi.
5. Broadcast labeling of graphs with IIT Khargpur.

DEPARTMENT OF MECHANICAL ENGINEERING

Following Domains of Research have been identified pursuing research

1. Thermofluidics: Nano and Biofluidics, Inverse Bio-heat transfer, Highly efficent, low polluting porous burners, Cryogenic rocket engines, Modeling of Fluid Dynamics and Fluid-Structure interactions.
2. Energy and Environment: Batteries and Fuel Cells, Renewable energy Technology. Energy generation from

Bio-mass. Wind and Solar energy devices. Electric vehicular transport.

3. Materials and Characterization: Anticorrosion and antifouling coatings, Thermal Spray Coatings, Tribocorrosion, Fatigue Analysis, Biodegradable Composites, composite structures
4. Product Development and Protoyping: Neuro Signals Analysis for Healing, Novel stent design for human carotid artery, Virtual Prototyping Platform for Product Development, Magnetorheological damper. Electric Vehicles. Bio-inspired products.
5. **Digital Manufacturing:** Additive Manufacturing, Smart and Web-based manufacturing. Manufacturin Process optimization

New Labs/Equipment:-

- Product Digitization Laboratory
- Advanced Analysis Laboratory
- Prototyping and Reverse Engineering Lab
- Surface Engineering Lab
- Fluidics and Fluid Structure Lab
- Renewable Energy Lab
- Bioheat Transfer Lab
- Vehicle Dynamics Lab
- Smart Structures Lab
- 3D Printers and Scanner
- Co-ordinate Measuring Machine
- Surface finish measuring equipment
- Electrochemical Corrosion Analyzer
- Scanivalve pressure sensor
- Fully computerized engine test rig

DEPARTMENT OF MINING ENGINEERING

New Labs/Equipment:

- Mine Health and Safety Lab

Target for Sponsored R&D projects:

1. "Identification, Evaluation and Prediction of Slope Stability for Landslide Prone Regions in Kodagu District, Karnataka" - *Submitted to* 'National Disaster Management Authority, New Delhi'
2. "An Epidemiological Investigation of the Effect of Coal Dust on Coal Miners' Pneumoconiosis"- Submitted to IMPRESS, ICSSR, New Delhi
3. "Mapping and Modelling of Surface Coal Mine Fire Using Remote Sensing and GIS"-Submitted to ISRO.
4. "Role of Safety Leading Indicators and Individual Characteristics of Workers on Occupational Injuries in Coal Mines-A Machine Learning Approach"- Submitted to Scheme for Promotion of Academic and Research Collaboration (SPARC), MoE, Government of India (Collaborated research work with Curtin university Australia).

New Areas of Research:

- Occupational Ergonomics
- Safety Data Analytics

Institutions/organizations for future collaborations

- Peoples Friendship University of Russia, Moscow
- Curtin University, Australia

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

New Labs/Equipment:

1. Surface Engineering Laboratory
2. Facility for assessment of health of quenchants
3. High performance workstation
4. Intel Fortran compilers
5. Functional Biomaterials
6. Floating one Crystal Growth and Characterization Lab
7. High temperature corrosion degradation

Target for Sponsored R&D projects:

1. To get at least one sponsored R&D project per year
2. DST Start up grant
3. BARC Young scientist start-up grant
4. Healthcare
5. DST- Core Grant (Applied)
6. ISRO/DRDO,
Dept. of Atomic energy

New Areas of Research:

1. Surface Engg.
2. Smart Materials
3. Data base on liquid Quenchants
4. Wetting/ dewetting of liquids
5. Hydrodynamic stability
6. Shape Memory Alloys
7. Tissue Engineering
8. Strongly correlated system, Multiferroic single crystal
9. Coating for very temperature application
10. Intergranular Stress corrosion cracking (IG-SCC) at high temperature and pressure of materials

Institutions/organizations for future collaborations

1. Indira Gandhi Centre for atomic Research, Kalpakkam
2. Indian Institute of Science, Bangalore
3. National Aeronautics Ltd., Bangalore
4. Hindustan Aeronautics Ltd., Bangalore
5. Jindal South West, Vijayanagar
6. International Federation of Heat Treatment and Surface Engineering (IFHTSE), UK
7. Kennametal Ltd., Bangalore
8. Thermet Solutions (P) Ltd., Bangalore
9. Tata Institute of Fundamental Research, Hyderabad
10. IIT Hyderabad
11. University of Bayreuth, Germany George Mason University, USA Purdue University, USA
12. Physics Department, Jamia Millia University
13. DIAT, IIT Bombay
14. BARC, IGCAR

SCHOOL OF MANAGEMENT

New Labs/Equipment:- Analytics Lab

Target for sponsored R&D projects:-

New areas of Research:-

Introducing analytics in many functional areas of management namely, Human Resources, Marketing, Operations etc.

Institutions/organizations for future collaborations:-

Looking for collaboration with Data Analytics and Computational laboratory (DACL), A center of excellence of Indian Institute of Management Bangalore (IIMB) for conducting joint academic activities.

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

New Labs/ Equipment

1. Spectroradiometer higher range,
2. Resistivity meter
3. Leaf Area Index (LAI) Meter
4. Unmanned Surface Vehicle
5. Water quality monitoring equipment

Target for Sponsored R&D projects

1. ISRO/DST
2. Ministry of Water Resources
3. ISRO/DST
4. Ministry of Water Resources/ Ocean Engineering
5. ISRO/DST

Future areas of research

1. Experimental studies on soil, crop, Water Generating spectral signature library
2. Develop resisitivity map of coastal area
3. Remote sensing-based LAI estimation
4. River bathymetry / Sand deposit in Vented Dams
5. Remote sensing-based water quality monitoring

Institutions/Organizations for future collaborations

1. IIT Kharagpur, IRD France, IISc
2. Dept. of Mines and Geology
3. IIT BHU
4. Dept. of Mines and Geology
5. IIT Bombay

TECHNICAL PAPERS PUBLISHED IN REFEREED JOURNALS

Table: List of publications during the period under report

Sl. No.	Department	International Journal	National Journal	International Conference	National Conference	Total
1	Chemical Engineering	**33**	**2**	**5**	**--**	**40**
2	Civil Engineering	43	2	35	3	**83**
3	Computer Science and Engineering	36	--	77	1	**114**
4	Chemistry	27	--	27	1	**55**
5	Electrical & Electronics Engineering	32	--	25	--	**57**
6	Department of Electronics & Communication Engineering	100	--	32	--	**132**
7	Information Technology	22	--	41	--	**63**
8	Mathematical and Computational Sciences	66	--	5	1	**72**
9	Mechanical Engineering	247	2	51	7	**307**
10	Mining Engineering	16	2	3	1	**22**
11	Department of Metallurgical & Materials Engineering	76	--	4	--	**80**
12	School of Management	20	--	17	1	**38**
13	Physics	55	--	7	--	**62**
14	Department of water Resources and Ocean Engineering	28	2	24	--	**54**
	Total	**801**	**10**	**353**	**15**	**1179**

INTERNATIONAL JOURNAL :- DEPARTMENT OF CHEMICAL ENGINEERING

1. Dilatometer studies on LAMOX based electrolyte materials for solid oxide fuel cells
   A Das, I Shajahan, HP Dasari, MB Saidutta, H Dasari, Materials Chemistry and Physics 258, 123958, 2021
2. Potential of pyrochlore structure materials in solid oxide fuel cell applications , AP Anantharaman, HP Dasari-Ceramics International, 2021
3. Promotional effect of nickel addition on soot oxidation activity of Ce 0.9 Pr 0.1 O 2 oxide catalysts-K Rajvanshi, SS Patil, HP Dasari, MB Saidutta, H Dasari- Chemical Papers 74 (12), 4581-4592, 2020
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DEPARTMENT OF CIVIL ENGINEERING

1. Abasin Salihi, Arpitha, D. and Rajasekaran C., (2020) Suitability study of processed granulated blast furnace slag (PGBS) replacement as fine aggregate in concrete, *Proc. of National Conference on Resilient Infrastructure 2020, Trivandrum, India.*
2. Sreekumar, M. and Mathew, T. V., (2020). A macroscopic model- based approach to analyse and quantify the implications of disordered stream behaviour on travel time predictions, *Proc. of National Conference on Civil Engineering (NCCE NITK 2020)*, 21.

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DEPARTMENT OF CHEMISTRY

1. Cindrella N Gonsalves1, Sneha I M andA ChitharanjanHegde, Effect of pH on Electrodeposition of Ni-Cd Alloy Coatings and their Anticorrosion Performance, National Symposium on Electrochemical Science and Technology [NSEST - 2020] ECSI Research Scholar Meet 2020 [ECSIRM -2021] from IISc., Bangalore (through online) during January 21- 22, 2021.(Conferred Best Paper Award)

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

1. Akkasaligar, P.T., Koolagudi, S.G., Biradar, S., Hotagi, P., Badiger, S., "Highlighting Nerves in Images for Ultrasound Guided Regional Anesthesia", (2020) Proceedings of B-HTC 2020 - 1st IEEE Bangalore Humanitarian Technology Conference

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

1. Vinoth A and P. Sam Johnson, "Factorization of EP Operators in Krein Spaces", Mathematical Analysis and Computing, Springer Proceedings in Mathematics & Statistics, 344, ISBN 978-981-334-645-1.

DEPARTMENT OF MECHANICAL ENGINEERING

1. L. R. Thippeswamy, Ajay Kumar Yadav, Heat transfer performance of subcritical liquid co2 based natural circulation loop with end heat exchangers: an experimental study, Proceedings of the 46th National Conference on Fluid Mechanics and Fluid Power (FMFP 2019), PSG College of Technology, Coimbatore, India, Dec 9-11, 2019.
2. Prakash H. Jadhav, Banjara Kotresha, N. Gnanasekaran, D.A. Perumal, Forced convection analysis in a horizontal pipe in the presence of aluminium metal foam – a numerical study, Proceedings of the 46th National Conference on Fluid Mechanics and Fluid Power (FMFP 2019), PSG College of Technology, Coimbatore, India, Dec 9-11, 2019.
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DEPARTMENT OF MINING ENGINEERING

1. Kunar, B.M., Kar, M.B., Mishra, C. (2020); "Posture Analysis of Road Construction Workers", Road Safety Week Conducted by National Highway Authority of India.

SCHOOL OF MANAGEMENT

1. Pradyot Ranjan Jena (2020). Climate Modelling, Green Technology and CRA, Ecosystem Services, presented at the International Workshop cum Training Programme on "Green Growth Strategies for Climate Resilience and DRR: Policies, Pathways and Tools", ISEC, Bangalore, Nov 26-28 2020.

14. TECHNICAL EVENTS

DEPARTMENT OF CHEMICAL ENGINEERING

Book Chapters:-

1. R Raval, A Verma, K Raval, "A sustainable bioprocess for lipase production using seawater and the byproduct obtained from coconut oil industries", in *Technologies for Sustainable Development*, CRC Press, DOI: https://doi.org/10.1201/9780429321573, 2020, pp 42- 46, ISBN 9780367337377**.**
2. Kulkarni R.M., Vidya Shetty K., Srinikethan G. (2020) Biosorption of Nickel (II) and Cadmium (II). In: Inamuddin, Ahamed M.I., Lichtfouse E., Asiri A.M. (eds) Methods for Bioremediation of Water and Wastewater Pollution. Environmental Chemistry for a Sustainable World, vol 51. Springer, Cham. https://doi.org/10.1007/978-3-030-48985-4_17
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4. Sophia S., Vidya Shetty Kodialbail (2020) Phytoremediation of Soil for Metal and Organic Pollutant Removal. In: Jerold M., Arockiasamy S., Sivasubramanian V. (eds) Bioprocess Engineering for Bioremediation. The Handbook of Environmental Chemistry, vol 104. Springer, Cham. https://doi.org/10.1007/698_2020_576

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1. Keyur Raval, Rohit Kalnake, D V R Murthy, "ROTATING PACKED DISC BIOREACTOR", *Indian Patent Office*, Patent Application No.: 201841000694, Patent Granted

2. Keyur Raval, Vishnu M, RAjmohan B., "REMOVAL OF HEAVY METALS FROM CONTAMINATED WATER BY ADSORPTION USING MELANIN BOUND ACTIVATED CARBON", *Indian Patent Office*, Patent Application No.: 201841000695, Patent Granted .

3. Prasanna B.D, Moni Philip Jacob. K. "A composition for reducing acridity in edible aroid corms and a method of preparing edible aroid corms with reduced acridity", *Indian Patent Office*, Patent Application No. 202141016581, filed in April 2021.

STTPS (SHORT TERM TRAINING PROGRAMMES) / SCHOOLS

1. AICTE Sponsored STTP on "Expanding Horizons of Nanotechnology in Engineering, Medicine and Biotechnology'; 24.08.2020 to 29.08.2020, Coimbatore Institute of Technology (CIT); Deliver a lecture on 'Biomolecule Extraction in the Surfactant based Nano-droplets Dispersed Systems'

2. AICTE Sponsored STTP on "Expanding Horizons of Nanotechnology in Engineering, Medicine and Biotechnology'; 19th - 24th October 2020, Coimbatore Institute of Technology (CIT), Deliver a lecture on 'Surfactant Nanoparticulate Based Extraction of Biomolecules'

DEPARTMENT OF CIVIL ENGINEERING

BOOK CHAPTERS

1. Ningappa, A., and Suresha, S. N. (2020). "Assessment of Different Long Term Aging Effect on FAM Mixtures." *Advances in Materials and Pavement Performance Prediction II*, Edited by Kumar et al., CRC Press, eBook, ISBN9781003027362.
2. Thilak Kumar Y.T., Arpitha D., Sudarshan V.J., Rajasekaran C. and Puttaswamy N. (2021) Constructive Scope on Implementation of Copper

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3. Resmy V.R. and Rajasekaran C. (2021) Evolutionary Topology Optimization of Structural Concrete Under Various Load Cases. In: Singh R.M., Sudheer K.P., Kurian B. (eds) *Advances in Civil Engineering. Lecture Notes in Civil Engineering,* vol 83. Springer, Singapore. https://doi.org/10.1007/978-981-15-5644-9_27
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6. Sudarshan V.J., Arpitha D., Thilak Kumar Y.T., Rajasekaran C. and Puttaswamy N. (2021) Assessment on Performance of Steel Slag and Processed Granulated Blast Furnace Slag as an Alternative for Fine Aggregate—An Assertive Review. In: Narasimhan M.C., George V., Udayakumar G., Kumar A. (eds) *Trends in Civil Engineering and Challenges for Sustainability. Lecture Notes in Civil Engineering*, vol 99. Springer, Singapore. https://doi.org/10.1007/978-981-15-6828-2_21
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12. Vincle Mable Vas, Prajwal Nagaraja and Venkataramana K (2021). Effect of diaphragm discontinuity on the seismic response of an RC building, In: *Trends in Civil Engineering and Challenges for Sustainability* (M C Narasimhan et al (eds.)),Lecture Notes in Civil Engineering 99, Springer Nature Singapore, pp. 157-170. https://doi.org/10.1007/978-981-15-6828-2_13
13. Masahiro Yoshimura, Senthilnathan Jaganathan, Anupama Surenjan: Liquid plasma: A synthesis of carbon/functionalized nanocarbon for a battery, solar cell and capacitor applications. *CRC Press, Taylor & Francis, 2021*
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21. Amrita, Jayalekshmi B.R., Shivashankar R. (2021). "Seismic Behaviour of Soil Nailed Wall". In: Das B.B., Nanukuttan S.V., Patnaik A.K., Panandikar N.S. (eds) Recent Trends in Civil Engineering. Lecture Notes in Civil Engineering, vol 105. Springer, Singapore. https://doi.org/10.1007/978-981-15-8293-6_22 Select Proceedings of TMSF 2019
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23. Nimisha, P., Jayalekshmi, B.R., & Venkataramana, K. (2021) Study of Dynamic Characteristics of Circular Liquid Storage Tanks Using Acoustic Principles. In: Das B.B., Nanukuttan S.V., Patnaik A.K., Panandikar N.S. (eds) Recent Trends in Civil Engineering. Lecture Notes in Civil Engineering, vol.105. Pp.125-135. Springer, Singapore. DOI.ORG/10.1007/978-981-15-8293-6_10
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26. Sreya, M.V., Jayalekshmi, B. R., & Venkataramana, K. (2021). In: Sitharam, T.G., Dinesh, S. V., Jakka, Ravi (eds) Soil Dynamics. Lecture Notes in Civil Engineering, vol 119. Springer, Singapore. DOI.ORG/10.1007/978-981-33-4001-5_37

BOOKS EDITED:-

1. Dr. Sunil B.M., Dr. Basavaraju Manu & Dr. Raviraj H.M (Eds.),"GREEN HIGHWAY CONSTRUCTION – A Sustainable Approach". Included selected contributions from the Online International Conference on "GREEN HIGHWAY CONSTRUCTION – A Sustainable Approach", organised by N.I.T.K., Surathkal and THE INSTITUTION OF ENGINEERS (INDIA), Mangalore Local Chapter.India During 14-15 September 2020,
2. International Conference proceedings of "Sustainable Practices in Civil Engineering - Select Proceedings of SPICE 2021" Published by Springer Nature Singapore Pte Ltd., 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Edited by Dr. Sivakumar Naganathan, Sri Sivasubramaniya Nadar College of Eng, Civil Engineering, 603110 Chennai, India, Dato' Ir. Dr. Kamal Nasharuddin Mustapha, Universiti Tenaga Nasional, 43000 Kajang, Malaysia Dr. Thangaraj Palanisamy, National Institute of Technology Karnataka, Civil Engineering, 575025 Mangalore, India.

PATENTS

1. Palanisamy T., Sudherson N (2020) "GLASSCRETE BUILDING BLOCKS" Intellectual Property rights India.Indian Patent Application No.: 5315/CHE/2013 Patent No: 354071.
2. Palanisamy T., Dineshkumar G (2020)" BASALTCRETE BUILDING BLOCKS" Indian Patent Application No.: 4959/CHE/2012, Patent No: 361222

CONFERENCES

1. Global Virtual Conference on Disaster Risk Reduction - *Civil Engineering for a Disaster Resilient Society*, 15-20 March, 2021 organized by NITK, NIDM, IHRR, ADRRN.
2. 1st Indo-Japan Webinar Series on "Geotechnics for Disaster Mitigation" 8-13 June, 2020, organised by NITK Surathkal, IGS Surathkal Chapter, IIT Tirupati and Kyushu University (Japan).
3. Indo-Canadian Workshop on "Interactive Design in Geotechnical Engineering: Theory to Practice", 24th September to 2nd October, 2020, Organised by NITK Surathkal, IGS Surathkal Chapter, IIT Kanpur, University of Ottawa (Canada) and TC 206 of ISSMGE.
4. TWO DAY ONLINE INTERNATIONAL CONFERENCE on, "GREEN HIGHWAY CONSTRUCTION – A Sustainable Approach"14-15 September 2020, organised by N.I.T.K., Surathkal and THE INSTITUTION OF ENGINEERS (INDIA), Mangalore Local Chapter.

(Conference Organizing Chairman Dr.Suni B.M., and Conference Organizing Secretaries :Dr. Basavaraju Manu & Dr.Raviraj H.M).

FACULTY DEVELOPMENT PROGRAMME

1. One Week International Workshop on Durability of Concrete (IWODOC – 2020) organized by Department of Civil Engineering, NITK association with ISTE Mangalore Chapter, ICJ, India by Prof. Prof. Subhash C Yaragal, Palanisamy T & Prashanth M.H from 26thOct – 30th Oct, 2020.
2. Five Day online FDP on "Infrastructure Engineering - Transport Infrastructure Asset Management" sponsored by AICTE under ATAL Scheme (Coordinator: Dr.Suresha S.N.).
3. Five Day (15th - 19th March 2021) online FDP on "Key Challenges & Options in environmental Management" sponsored by TEQIP-III (Coordinator: Dr. Arun Kumar Thalla & Dr. Devatha C P).
4. Five Day (22nd - 26th February 2021) online FDP on "Recent Advances in Construction and Demolition Waste Management" sponsored by TEQIP-III (Coordinator: Dr. Raviraj H.M and Dr. Basavaraju Manu).

DEPARTMENT OF CHEMISTRY

Book Chapters:-

1. Dutta, Saikat; Bhat, Navya S.; Vinod, Nivedha, "Oxidation and Reduction of Biomass-Derived 5-(Hydroxymethyl)furfural and Levulinic Acid by Nanocatalysis", ACS Symposium Series, 2020, Vol. 1359, Chapter 8, 239-259. DOI: 10.1021/bk-2020-1359.ch008

MAGAZINE/NEWSPAPER ARTICLES:- 03

PATENTS

1. Amir Al Ahmed and Arun M. Isloor; Hollow Fiber membrane modified with Molybdenum trioxide,U.S Patent, US 10,843,135 B2, granted on 24th November 2020.
2. Mohan, Akhil; Dutta, Saikat; Madav, Vasudeva, "Method, System and Apparatus for Upgrading Tire Pyrolysis Oil", *Indian Patent Office*, Patent No.: 347787, Granted on 25/09/2020.
3. Mascal, Mark, Dutta, Saikat, and Wu, Linglin, "Preparation of compounds from levulinic acid", US Patent No. US10647670B2, Granted on 22/12/2020.
4. A high-performance supercapacitor device of polyaniline-triethyl amine ionic liquid combined phosphomolybdate electrode and method thereof (Sib Sankar Mal, Saikat Dutta, Anjana AnandanVannathan, MujammedAnees P K), Filed India patent application no. 202141007885 dated 24/02/2021
5. Method of preparation of high energy density conducting polyaniline-phosphovanadomolybdate nanohybrid electrode for supercapacitor device application (Sib Sankar Mal and Anjana AnandanVannathan), Filed India patent application no. 202041047069 dated 03/11/2020.
6. Method of preparation of activated carbon-supported vanado-nickelate (IV) nanohybrid -electrode for high-performance supercapacitors device application (Sib Sankar Mal, ParthaPratim Das, Sukanya Maity, and Neetu B M.), Filed India patent application no. 202041047070 dated 03/11/2020.
7. Efficient production of furanics and levulinic acid from carbohydrates in aqueous hydrochloric acid using quaternary ammonium salt as surfactant (Saikat Dutta, NavyaSubray Bhat, Sarath B. O., Sib Sankar Mal) Filed (Application ID 202041007329).

REVIEWS:-

Monika Bai, *M. G.,* Vignesh Babu, H.,, Lakshmi, Vellanki * and Rajeswara Rao, Malakalapalli*, "Structure–property–function relationship of fluorescent conjugated microporous polymers", Materials

Chemistry Frontiers, vol 5, pp 2506-2551, Jan 2021

WORKSHOPS/ FACULTY DEVELOPMENT PROGRAMME

1. Advancements in the Molecular World: Materials and Catalysis, 15-19th Feb, 2021, Funded by TEQIP-III, by Dr Saikat Dutta
2. Five-Day National E-Workshop on 'Advanced Materials:Properties and Applications (AMPA-2021), during 1st - 5th of March 2021, sponsored by TEQIP PHASE-III with more than 100 participants.By Dr. A.C. Hegde

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BOOK CHAPTERS

1. Asutosh Kumar Biswal, Sourav KantiAddya, Bibhudatta Sahoo, Ashok Kumar Turuk, Secured IoT Device Management in Cloud-Fog Environment using Blockchain, In Book: Cloud Security: Concepts, Applications and Perspectives, Chapman and Hall/CRC, Pages 1-14, ISBN: 9780367821555, May 2021

BOOK PUBLISHED:

1. Sanjay Kumar Biswash, Sourav KantiAddya, Cloud Network Management: An IoT Based Framework, Chapman and Hall/CRC, 1st Edition, 280 pages, ISBN- 9780429288630, 27 October 2020

PATENTS:

1. Fraud Detection through keystroke dynamics based on time location characteristics and keyboard pressure parameters- (Filed [Ref.no: C.000855]- Dr. Shashidhar G Koolagudi)
2. Numerical Relation Extraction and Plotting with TEXT2GRAPH- (Filed-[Ref.no: C.000845] Dr. Shashidhar G Koolagudi)

STTPS (SHORT TERM TRAINING PROGRAMMES)/SCHOOLS:

1. Short term training programme on "Open-Source Network Experimentation (ONE-2020)" by Dr. B. R Chandavarkar & Dr. Mohit P Tahiliani during 14-12-2020 to 18-12-2020

FACULTY DEVELOPMENT PROGRAMME:

- Two Weeks Faculty Development Programme (FDP) on "Entrepreneurship Development" (15thFeb – 27thFeb, 2021 [sponsored by NSTEDB]. Co-ordinator(s): Dr. Alwyn Roshan Pais.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BOOK CHAPTERS

1. Geriki Polaiah(&) , K. Krishnamoorthy, and Muralidhar Kulkarni, Dept. of E&C Engg., Book Chapter, " A Dual-Band Modified Quadrilateral Square Slotted Rectenna for RF Energy Harvesting", Springer Nature Singapore Pte Ltd. 2020, N. Goel et al. (eds.), Modelling, Simulation and Intelligent Computing, Lecture Notes in Electrical Engineering 659, pp. 401-410, 2020, https://doi.org/10.1007/978-981-15-4775-1_43.
2. Pradeep Gorre, Vignesh, Rajeev Kumar Arya and Sandeep Kumar, Dept. of E&C Engg., "A review of Mm-wave Power Amplifier for next generation 5G communication" Advs in Intelligent Syst., Computing, Vol. 1154, : Soft Computing:Theories and Applications (Springer) 2020.
3. Pradeep Gorre, Rajesh Kumar, Hanjung Song, Sandeep Kumar, Dept. of E&C Engg., "Mmwave CMOS power Amplifier for 5G" a chapter in the book entitled "CMOS Analog IC Design for 5G and Beyond DOI: 10.1007/978-981-15-98654, 2021
4. Vignesh R, Vipin sharma, Hanjung Song, Sandeep Kumar, Dept. of E&C Engg., "Techniques to Improve Gain-

Bandwidth 5G ICs" a chapter in the book entitled "CMOS Analog IC Design for 5G and Beyond DOI: 10.1007/978-981-15-9865-4, 2021

BOOKS PUBLISHED:

1. VLSI Signal Processing, Power Electronics, IoT, Communication and Embedded Systems, Select Proceedings of VSPICE 2020, SPRINGER, Editors: Shubhakar Kalya, Engineering Product Development Singapore, Singapore University of Technology and Design, Singapore, Muralidhar Kulkarni, Professor, Dept. of E&C Engg., K S Shivaprakasha, Professor, NMAMIT, NITTE, Mangalore.
2. "Op-amps and Linear Integrated Circuits" Ramakant A. Gayakwad, Revised fourth edition, Pearson Publishers, 2020, Contents contribution for Indian Adaptation by Rekha S., Dept. of E&C Engg.
3. “Microwave Engineering Theory and Techniques” – David M Pozar, Wiley, WILEY India Adaptation, Content contribution for Indian Adaptation by Prabu K, Dept. of E& C Engg., Santosh A. Janawade.

WORKSHOPS

1. Online Five day Session on IEEE WANS 2020 IEEE Photonic Society USA by Dr. Mandeep Singh and Dr. Muralidhar Kulkarni with Dr. YiHao Chen (Ansys, Taiwan), Dr. Niranjan U C, Manipal Dot Net Pvt. Ltd. and Prof. T Srinivas, IISc Bangalore, December 07-11, 2020.
2. Online Five Day Workshop on Machine Learning and Applications - TEQIP III by Dr. Raghavendra Bobbi and Dr. A V Narasimhadhan with Dr. Ashok Rao, NIE-MC, Mysore, Dr.Arulalan Rajan, , CCE, IISc Bangalore, Dr. Prathosh A.P, IIT Delhi, Dr. Sharath, IISc Bangalore, Sahil Bhandary, DESE/CEDT, IISc Bangalore, Dr.Thirumulanathan, IIT Kanpur, Dr. Sandesh Kamath, CSE, IIT Hyderabad, Dr. Satya Kumar, Samsung R&D India, Bangalore and Dr. Uma Ranjan, IISc Bangalore.February 22-26,2021.

FACULTY DEVELOPMENT PROGRAMME:

1. Online Five Day Faculty Development Program on Recent Trends in Nanoelectronics and Optoelectronics (RNO-2020) - TEQIP-III by Dr. Sandeep Kumar, Dr. Prabu K and Dr. Sushil K Pandey with Prof. Srinivas Talabattula, IISc Bangalore, Dr. Gopala Krishna Hegde, IISC Bangalore, Prof. Brijesh Kaushik, IIT Roorkee, Dr. A. A. Bazil Raj, DIAT, Pune, Dr. Saurabh Kumar Pandey, IIT Patna, Dr. Jawar SinghIIT Patna, Dr. Amitesh Kumar, NIT Patna, Dr. Sangeeta, NIT Patna, Dr. Tejendra Dixit, IIITDM and Dr. Jagdeesh V K, NIT Patna, October 12-16, 2020.
2. Online AICTE-ATAL Faculty Development Program on Photonics - AICTE, New Delhi by Dr. Muralidhar Kulkarni and Dr. Mandeep Singh with Prof. Venu G. Achanta TIFR, Mumbai, Dr. U. K. Tiwari CSIR-CSIO Chandigarh, Dr. H. S Jattana SCL – ISRO, Prof. T. Srinivas IISc Bangalore, Mr. Sadanand Bhatt Anritsu India Pvt. Ltd., Mr. N. Srinath Anritsu India Pvt. Ltd., Mr. Madhukar Tripathi Anritsu India Pvt. Ltd., Dr. Om Prakash RRCAT – Indore, Prof. S. K Raghuwanshi IIT Dhanbad and Mr. Ankush Sharma CADFEM India, February 1-5, 2021.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Book Chapters:-

1. Dr. B. Dastagiri Reddy, Dr. K. Venktraman, Dr. M. P. Selvan, Dr. S. Moorthi “An FPGA based ED Embedded Systems for Online monitoring and power management in a Standalone Micro-grid”, SMART GRIDS AND MICROGRIDS - TECHNOLOGY EVOLUTION, to be published by d Scrivener (Wiley).
2. V. Vignesh kumar and C. K. Aravind, "Nature-inspired algorithms for maximum power point tracking in photovoltaic systems under partially shaded conditions", Intelligent Paradigms for Smart Grid and Renewable Energy Systems, published by Springer

Nature, Singapore. 2021, ISBN 978-981-15-9967-5.

3. V. Vignesh kumar and C. K. Babulal. Application of Fuzzy Logic in power quality assessment of modern power systems Microgrid Technologies published by John Wiley & Sons and Scrivener Publishing LLC, USA, 2020, ISBN 9781119710790.

PATENTS

1. "S3 Grid tie inverter", Dr. B. Dastagiri Reddy, Dr. M. P. Selvan,Dr.S.Moorthi (NITT),363338,Granted,26/03/2021.

SEMINARS (EXPERT LECTURE)

1. Computational Techniques in Electromagnetic Theory, Expert Lecture by Dr. Sugunakar Reddy Ravula, CTO, Vigti Pte. Ltd., Singapore, Coordinator: Dr. B Dastagiri Reddy, on 09.11.2020.

WORKSHOPS

1. Recent Trends in Power Electronics-Research Scope and Challenges Faculty Development Program (TEQIP-III) Coordinators: Dr. Ravi Raushan, Dr. Prajof P. and Prof. K. N. Shubhanga during 23.09.2020 to 27.09.2020.
2. PCB Design using Open Source Tools, Self Financed, Coordinators:Prof B. Venkatesa Perumal, Dr. Nagendrappa H., Dr. Y. Suresh, Dr. V. Vignesh Kumar, and Dr. Dastagiri B Reddy, during 26.10.2020 to 30.10.2020.
3. Design and Control of Power Electronic converters and its Applications, Self Financed,Coordinators:Prof B. Venkatesa Perumal, Dr. Nagendrappa H., Dr. Y. Suresh, Dr. V. Vignesh Kumar, and Dr. Dastagiri B Reddy, during 19.10.2020 to 23.10.2020.
4. Power Electronic Applications in Electric Vehicles and Energy Storage,Faculty Development Program, Coordinators: (TEQIP-III) Dr. Dharavath Kishan, Dr. Md. Waseem Ahmed, Dr. Nagendrappa H., Mr. H. Girisha Navada, Prof. B. Venkatesa Perumal, during 25.01.2021 to 29.01.2021
5. Fundamentals of the core subjects in Electrical and Electronics Engineering, TEQIP-III Sponsored Online Seminar cum Training Program,"CoOrdinator: Dr. A. Karthikeyan, Dr. Y Kashyap Mr. H Girisha Navada, Prof. K N Shubhanga, Feb 8 th - Feb 12 th , 2021.

Administrative Responsibilities Of Faculty Members At The Institute Level

1. Prof. K. P. VITTAL: Standing Committee Member to frame guidelines and monitor MHRD funding scheme 2020, HEFA.
2. Prof. K.P Vittal, the Dean AAIR, NITK.
3. Dr. Nagendrappa H. “Faculty-in-Charge of Electrical works of NITK Surathkal.”
4. Dr. Parthiban, Faculty Advisor for Drama , Dance and Fashion Club (DDFC).
5. Dr. Kalpana, Girls Hostel Warden for Yamuna (GH III Block) from Jan. 2020 - till date.
6. Dr. Yashwant Kashyap, the IV-Block (SATPURA Hostel) Warden.

ACHIEVEMENTS,AWARDS, CONTRIBUTIONS AND RECOGNITIONS

1. Dr. Prajof P. Young Researcher and Best Paper Awards for his paper titled A Novel PR Controller with Improved Performance for Single Phase UPS Inverter in ICNTE 2021 organized by Fr C Rodrigues Institute of Technology, Vashi in association with IEEE and IAS on January 15 16 2021.

DEPARTMENT OF INFORMATION TECHNOLOGY

BOOK CHAPTERS:-

1. Natesha B.V., Guddeti R.M.R. (2021), "Fog-Based Video Surveillance System for Smart City Applications". In: Bhateja V., Peng SL., Satapathy S.C., Zhang YD. (eds) Evolution in

Computational Intelligence. Advances in Intelligent Systems and Computing, Vol. 1176, Springer, Singapore. First Online: 9 September 2020, DOI: https://doi.org/10.1007/978-981-15-5788-0_70 (https://link.springer.com/chapter/10.1007%2F978-981-15-5788-0_70

2. Siddhanth Pillay and Sowmya Kamath, "Predicting Medical Procedures from Diagnostic Sequences using Neural Machine Translation", In Smart Computational Intelligence in Biomedical and Health Informatics, CRC Press, Taylor & Francis Group, 2021 (ISBN 9780367624125)
3. Karthik K and Sowmya Kamath S, "Automated View Orientation Classification for X-ray images using Deep Neural Networks", In Smart Computational Intelligence in Biomedical and Health Informatics, CRC Press, Taylor & Francis Group, 2021 (ISBN 9780367624125)
4. Geetha V, Sowmya Kamath S, Salvi Sanket Sarang, "Smart Home Environment: Artificial Intelligence Enabled IoT Framework for Smart Living and Smart Health", In: AI-Based Services for Smart Cities and Urban Infrastructure, Editors: Lyu, Hu, Duan and Sugumaran (Oakland University), IGI Global, 2021 (DOI: 10.4018/978-1-7998-5024-3)
5. Rajendran S., Soman K.P., Anandkumar M., Sankaralingam C. (2021) Ontological Structure-Based Retrieval System for Tamil. Applications in Ubiquitous Computing. EAI/Springer Innovations in Communication and Computing. Springer, Cham. https://doi.org/10.1007/978-3-030-35280-6_10
6. Mamatha K M and Kiran M, A Firefly Optimization Algorithm for Maximizing the Connectivity in Mobile Wireless Sensor Network. In: Singh P., Bhargava B., Paprzycki M., Kaushal N., Hong WC. (eds) Handbook of Wireless Sensor Networks: Issues and Challenges in Current Scenario's. Advances in Intelligent Systems and Computing, Vol 1132, 2020, Springer, Cham, DoI: https://doi.org/10.1007/978-3-030-40305-8_10 Print ISBN 978-3-030-40304-1 Online ISBN978-3-030-40305-8
7. Bhawana Rukdra, A chapter titled "Evolution of Blockchain Architectures" in the Hand Book on Blockchain Publisher: Springer (accepted)
8. Bhawana Rukdra, Architecture and Deployment models-SDN protocols, APIs, and Layers, Applications and Implementations in the book Software-Defined Internet of Everything 2021-04-26
9. Bhawana Rukdra, Chapter titled" Medical Sensors in IoT Smart Cities," for the book, "Wireless Medical Sensor Networks for IoT-based eHealth." Publisher: IET, October 2020

BOOKS EDITED

1. Edited ICCIDS-2020- conference proceedings - published in the Springer IFIP AICT (Advances in Information and Communication Technology) series.- Dr. Anand Kumar M

EDITORIALS:

Shrutilipi Bhattacharjee-Guest Editor, Geostatistics and Spatial Data Mining for Ecological Climatology, Remote Sensing, MDPI [https://www.mdpi.com/journal/remotesensing/special_issues/ecological_climatology]

PATENTS:

Dr.Sowmya Kamath: A Method, System And Apparatus For Generating Patient Knowledgebase For Clinical Decision Support Applications – Status: Filed (Appln No. 202041056808)

REVIEWS:

Dr. Anand Kumar M:

ACM Transactions on Asian and Low-Resource Language Information

Processing

Computer Speech & Language

Computers & Electrical Engineering

Engineering Applications of Artificial Intelligence

Future Generation Computer Systems

ICT Express

Pattern Recognition

Pattern Recognition Letters

Sādhanā

Dr. Kiran M:

- IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics(DISCOVER) organized by IEEE Mangalore Sub-Section in association with IEEE Bangalore Section at Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, India on October 30 – 31, 2020.
- IEEE Third International Conference on "Multimedia Processing, Communiation and Information Technology- MPCIT2020, JNN College of Engineering, 11-12 December 2020.
- IEEE Workshop on "Blockchain Technology and its Potential Appliations " Rohdes Island, Grece 2-6 November 2020.

STTPS (SHORT TERM TRAINING PROGRAMMES) / SCHOOLS

1. Cyseck Sponsored Short Term Training Program Course On "Cyber Attack Detection And Mitigation Techniques" held from 27th-31st July 2020, organized by Dr. Jaidhar C D and Dr. Bhawana Rudra.
2. TEQIP-III Sponsored 5 Day Online Short Term Training Program on "Applications of Machine Learning and Deep Learning Techniques in Multidisciplinary Area" 16th – 20th November 2020 , organized by Dr. Jaidhar C D and Dr. Nagamma Patil.
3. Technology based Entrepreneurship Development Programme (TEDP 2021) -- Online-Feb 15th – March 26th, 2021- Dr. Sowmya Kamath S
4. Women's Entrepreneurship Development Programme (WEDP 2021) -- Online-Feb 1st – Feb 26th, 2021- Dr. Sowmya Kamath S
5. Received 1,00,000 Rupees for conducting course on "Cybersecurity and deep learning applications from 15-July-2020 to 21-July-2020" from CYSECK, Govt of Karnataka-Dr. Anand Kumar M

Conferences:

1. Organized a shared task "Hate Speech and Offensive Content Identification (HASOC)" at FIRE 2020 . In Forum for Information Retrieval Evaluation (FIRE 2020) – Dr. Anand Kumar M

Seminars (National & International)

1. Seminar on ""Making Sense of Legal Records with Natural Language Understanding and Data Analytics" " by Dr. Yongxin Yan, VP of Analytics, Unicourt Inc, USA-Dr. Sowmya Kamath

Workshops:

1. 6 days TEQIP-III Sponsored workshop on "Advanced Technologies in Information Technology and Computer Science", 14th - 19th, December 2020 – Dr. Kiran M
2. TEQIP Sponsored 5-Day workshop on Applications of Algorithms to security from15-03-2021 to 19-03-2021 – Dr. Bhawana Rudra
3. TEQIP Sponsored 6- day workshop on Advanced Topics in Information Technology and Computer Science from 14th December to 19th December 2020 - Dr. Bhawana Rudra
4. 5 Day AICTE Sponsored Online Workshop on Cyber Security from 25-May-2020 to 29- May- 2020 - Dr. Bhawana Rudra

Faculty development Programme:

Dr. Anand Kumar M

- Faculty Development Program (FDP) on Data Science and Business Analytics 6th January 2021 to 16th February 2021 -SETCONNECT.
- Received 93,000 Rupees for conducting FDP on Data Sciences - 21-25th-sept-2020 course from ATAL, AICTE.

Dr. Kiran M

- Five Days FDP on "Blockchain Technology and Its Applications" in association with JNN College of Engineering, Shimoga, Karnataka and ISTE. Workshop Dates: 17-08-2020 to 21-08-2020.

Other Event:

1. **Dr. Anand Kumar M** Cordinated HAckVERSE 2.0 -2021 27th-28th of February.

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

Books Published:

1. Mathematical Modeling For The Solution Of Equations And Systems Of Equations With Applications, Volume-IV, Nova Publishes, US I. K. ARGYROS, S.GEORGE, ISBN: 978-1-53617-474-8.

BOOKS EDITED:-

1. Editors: Pushparaj Shetty D.,Surendra Shetty, Series title: Advances in Intelligent Systems and Computing, Book title: Recent Advances in Artificial Intelligence and Data Engineering Book subtitle: Select Proceedings of AIDE 2020

E-Print Archives:

1. K. Mahesh Krishna and P. Sam Johnson, “Expansion of approximate Bessel sequences to approximate Schauder frames for Banach spaces”, arXiv, Cornell University Library, DOI: arXiv:2102.03288, February 2021.
2. K. Mahesh Krishna and P. Sam Johnson, “New Identity on Parseval p-Approximate Schauder Frames and Applications”, arXiv, Cornell University Library, DOI: arXiv:2101.05722, January 2021.
3. K. Mahesh Krishna and P. Sam Johnson, “Perturbation of p-approximate Schauder frames for separable Banach spaces”, arXiv, Cornell University Library, DOI: arXiv:2012.03054, December 2020.
4. K. Mahesh Krishna and P. Sam Johnson, “Perturbation of p-approximate Schauder frames for separable Banach spaces”, arXiv, Cornell University Library, DOI:arXiv:2012.03054, December 2020.
5. K. Mahesh Krishna and P. Sam Johnson, “Factorable Weak Operator-Valued Frames”, arXiv, Cornell University Library, DOI: arXiv:2011.05875, November 2020.
6. K. Mahesh Krishna and P. Sam Johnson, “Frames for Metric Spaces”, arXiv, Cornell University Library, DOI: arXiv:2011.01870, November 2020.
7. K. Mahesh Krishna and P. Sam Johnson, “The Noncommutative ℓ_1–ℓ_2 Inequality for Hilbert C*-Modules and the Exact Constant”, arXiv, Cornell University Library, DOI:arXiv:2010.02549, October 2020.
8. K. Mahesh Krishna and P. Sam Johnson, “Multipliers for Lipschitz p-Bessel Sequences in Metric Spaces”, arXiv, Cornell University Library, DOI: arXiv:2007.03209, July 2020.

REVIEWS:

1. P. Sam Johnson**,** "[Review of the paper : "On completely 2-absorbing ideals of N -groups" by Tapatee Sahoo, Deepak Shetty M., Groenewald N. J., Harikrishnan P. and Kuncham S.P.]", Journal of Discrete Mathematical Sciences and Cryptography, January 2021.
2. P. Sam Johnson**,** "[Review of the paper : "Common Fixed Point Theorems Under Rational Contractions in Complex Valued Extended b-Metric Spaces" by Vairaperumal V, Carmel Pushpa Raj J, Maria Joseph J, Marudai M]", Nonlinear Functional Analysis and Applications, February 2021.
3. P. Sam Johnson, "[Review of the paper : "Stability of E-proximinality" by N. Prakash], Palestine Journal of Mathematics, January 2021.
4. P. Sam Johnson, "[Review of the paper : "Integral Frame in Hilbert C*-Modules" by Mohamed Rossafi, Frej Chouchene and Samir Kabbaj], Thai Journal of Mathematics, March 2021.

STTPS (Short term Training Programmes)/Schools

1. Short term course on "Cyber Security and Deep Learning Applications" from July 15-22, 2020, in association with CySeck (Govt. of Karnataka Initiative), as a part of "CySecK Faculty Courses" programme.

Conferences:

1. IEEE International conference on Distributed Computing VLSI Electrical Circuits and Robotics (DISCOVER): Role: Finance Chair, Date October 30-31, 2020. Venue: SMVITM, Udupi.

DEPARTMENT OF MECHANICAL ENGINEERING

BOOKS PUBLISHED

1. Gajanan Anne, S. Ramesh, Goutham Kumar, Sandeep Sahu, Ramesh M. R., Shivananda Nayaka H., Shashibhushan Arya, Development, Characterization, Mechanical and Corrosion Behaviour Investigation of Multi-direction Forged Mg–Zn Alloy, V. Joshi et al. (eds.), Magnesium Technology 2019, The Minerals, Metals & Materials Series, doi.org/10.1007/978-3-030-05789-3_50, Springer Link.
2. R.K Sahu, Vijay Kumar Pal, Pankaj Kumar, Micro-structural and Size Accuracy Study of Electro-Chemical Machined Aluminium Alloy Features, 2019, In Advances in Micro and Nano Manufacturing and Surface Engineering, Series Editor: J. Paulo Davim, Lecture Notes on Multidisciplinary Industrial Engineering, pp721-729, doi.org/10.1007/978-981-32-9425-7_65, Springer Nature, Singapore.
3. Ranjeet Kumar Sahu, Somashekhar S. Hiremath, Corona Discharge Micromachining for the Synthesis of Nanoparticles: Characterization and Applications, 1st Edition, Print ISBN - 9780367224738; eBook ISBN – 9781000065404, DOI: 10.1201/9780429275036, CRC Press, Taylor & Francis, Boca Raton, New York, 2019.
4. Santosh Chavan, Veershetty G., Perumal D.A., Numerical Analysis of Composite Phase Change Material in a Square Enclosure, 2020, In: Singh S., Ramadesigan V. (eds) Advances in Energy Research, Springer Proceedings in Energy book series, pp 359-370, doi.org/10.1007/978-981-15-2666-4_35, Springer Nature, Singapore.
5. Maniyeri R., Kang S., Numerical Study on the Behavior of an Elastic Capsule in Channel Flow Using Immersed Boundary Method, 2020, In: Suryan A., Doh D., Yaga M., Zhang G. (eds) Recent Asian Research on Thermal and Fluid Sciences, Lecture Notes in Mechanical Engineering, pp 117-124, doi.org/10.1007/978-981-15-1892-8_10, Springer Nature, Singapore.
6. Kanchan M., Maniyeri R., Dynamics of Flexible Filament in Viscous Oscillating Flow, 2020, In: Suryan A., Doh D., Yaga M., Zhang G. (eds) Recent Asian Research on Thermal and Fluid Sciences, Lecture Notes in

Mechanical Engineering, pp 147-160, doi.org/10.1007/978-981-15-1892-8_13, Springer Nature, Singapore.
7. Kolke D. K., Arun M., Maniyeri R., Numerical Analysis of Pulsating Flow in a Smooth Constriction Using Immersed Boundary Method, 2020, , In: Suryan A., Doh D., Yaga M., Zhang G. (eds) Recent Asian Research on Thermal and Fluid Sciences, Lecture Notes in Mechanical Engineering, pp 237-249, doi.org/10.1007/978-981-15-1892-8_20, Springer Nature, Singapore.
8. Dhruv V., Mishra U., Maniyeri R., Numerical Study on Fluid Flow Through Collapsible Channels, 2020, In: Manna S., Datta B., Ahmad S. (eds) Mathematical Modelling and Scientific Computing with Applications, Springer Proceedings in Mathematics & Statistics, pp 199-206, doi.org/10.1007/978-981-15-1338-1_15, Springer Nature, Singapore.
9. Harsha Kumar M. K., Vishweshwara P.S., Gnanasekaran N., A Surrogate Forward Model Using Artificial Neural Networks in Conjunction with Bayesian Computations for 3D Conduction-Convection Heat Transfer Problem, 2019, In: Das K., Bansal J., Deep K., Nagar A., Pathipooranam P., Naidu R. (eds) Soft Computing for Problem Solving, Advances in Intelligent Systems and Computing, pp 373-384, doi.org/10.1007/978-981-15-0184-5_33, Springer Nature, Singapore.
10. Debasish Mahapatra, Ashok Babu T.P., Variation of Time Lag, Decrement Factor and Inside Surface Temperature with Solar Optical Properties of Building Envelope in Different Climatic Zones of India, 2020, In: Reddy A., Marla D., Simic M., Favorskaya M., Satapathy S. (eds) Intelligent Manufacturing and Energy Sustainability, Smart Innovation, Systems and Technologies, pp 523-532, doi.org/10.1007/978-981-15-1616-0_51, Springer Nature, Singapore.
11. Sharmas Vali Shaik, Ashok Babu T.P., Theoretical Evaluation of Energy Performance of a Vapour Compression Refrigeration System Using Sustainable Refrigerants, 2020, In: Reddy A., Marla D., Simic M., Favorskaya M., Satapathy S. (eds) Intelligent Manufacturing and Energy Sustainability, Smart Innovation, Systems and Technologies, pp 361-370, doi.org/10.1007/978-981-15-1616-0_35, Springer Nature, Singapore.
12. Debasish Mahapatra, Ashok Babu T.P., Effect of Solar Optical Properties of Building Envelope on Time Lag, Decrement Factor and Energy Saving of Buildings, 2020, In: Vinyas M., Loja A., Reddy K. (eds) Advances in Structures, Systems and Materials, Lecture Notes on Multidisciplinary Industrial Engineering, pp 127-142, doi.org/10.1007/978-981-15-3254-2_13, Springer Nature, Singapore.
13. Veeresh Nayak C., Manjunath Patel G.C., Ramesh M.R., Desai V., Samanta S.K., Analysis and Optimization of Metal Injection Moulding Process, 2019, In: Gupta K. (eds) Materials Forming, Machining and Post Processing, Materials Forming, Machining and Tribology, pp 41-74, doi.org/10.1007/978-3-030-18854-2_2, Springer, Cham.
14. Ravikumar K.N., Madhusudana C.K., Kumar H., Gangadharan K.V., Ball Bearing Fault Diagnosis Based on Vibration Signals of Two Stroke IC Engine Using Continuous Wavelet Transform, 2020, doi.org/10.1007/978-981-15-5693-7_28, Springer, Singapore
15. Santosh C., Veershetty G., Perumal D.A., Numerical Analysis of Composite Phase Change Material in a Square Enclosure, 2020, doi.org/10.1007/978-981-15-2666-4_35, Springer, Singapore.
16. Libin O., Kumar G.N., Experimental Studies on the Effect of Varying Rates of Part-Cooled EGR in High Pressure Loop on an MPFI Engine Under Variable Speed Operation, 2020, doi.org/10.1007/978-981-15-5996-9_37, Springer.
17. Puneet, N. P., Hegale A., Hemantha K., Gangadharan K.V., Optimal Parameters Identification of Quarter Car Simulink Model for Better Ride Comfort and Road Holding, 2021,

doi.org/10.1007/978-981-15-8315-5_53, Springer, Singapore.
18. Soni H., Narendranath S., Ramesh M.R., Nedelcu D., Mashinini P.M., Kumar A. Development of Ti50Ni50−XCox (X = 1 and 5 at. %) Shape Memory Alloy and Investigation of Input Process Parameters of Wire Spark Discharge Machining. In: Pathak S. (eds) Intelligent Manufacturing. Materials Forming, Machining and Tribology, 2021, doi.org/10.1007/978-3-030-50312-3_4, Springer, Cham.

PATENTS:

1. Anish S, Swirl Generator for Human Arterial Network, App. No.201841010102; Dated 20/03/2018, Filed,2018
2. Anish S, Dual fence with tapered trailing edge for turbine /compressor blade passage, App. No. 201841003526; Dated 30/01/2018, Filed
3. Sathyabhama A, A PASSIVE LEADING EDGE MICRO PROTUBERANCE STRIP, App. No.201741035860, Filed, 2017
4. Gangadharan K V, A Nerve Trimming Kit 2.01741E+11, Filed, 2017
5. Gangadharan K V, Multi Material Structure with Controllable Multi Directional Property, 2.01741E+11, Filed, 2018
6. Gangadharan K V, Automated Illizarov Apparatus, 2.01641E+11, Filed, 2017
7. Gangadharan K V, Variable stiffness MRE spring device, C.000602, Filing, 2018
8. Gangadharan K V, MRE Torsional Isolator, C.000657, Filing, 2019
9. Ranjeet Kumar Sahu, Method for Generation of Nanoparticles using Advanced Mechanical Micro-Machining Technique, 4294/CHE/2014, Awarded on September 29, 2020.

POSTERS PRESENTED:

1. B C Anil Kumar, R. Maniyeri, Anish S, Solar Cooker with Low Cost Sensible Heat Storage Medium, Mahindra University Research Symposium (MURS-2020), November 26-27, 2020, Mahindra University, Hyderabad. Telangana, India.
2. Shreyaa R, R. Maniyeri, Computational Modeling of Bioheat Transfer Problem for Cancer Detection and Treatment, Mahindra University Research Symposium (MURS-2020), November 26-27, 2020, Mahindra University, Hyderabad. Telangana, India.
3. M P Neeraj, R. Maniyeri, S Kang, Numerical Study on Inertial Migration of a Cylindrical Particle in Straight Channel using Feedback Forcing Based, Mahindra University Research Symposium (MURS-2020), November 26-27, 2020, Mahindra University, Hyderabad. Telangana, India.

STTPS (SHORT TERM TRAINING PROGRAMMES)/SCHOOLS

- Dr. Mruthyunjaya Swamy K B and Dr. Pramod K, TEQIP-III sponsored Five days short term technical programme at Government college of Engineering, Jhalawar, Rajasthan, 11-15 Feb 2020, 5 days.

SEMINARS

- Dr. Hemantha Kumar; Co-ordinator: One day webinar on Rheology with MRD attachment; 12th October 2020 between 2-5pm; Sponsored by the Central Research Facility, National Institute of Technology Karnataka, Surathkal and Anton Paar Ltd; Resource Person: Dipankar Das and Vijay Saradhi.

WORKSHOPS:

- Dr. Ramesh M R, Dr. Sharnappa Joladarashi and Dr. Ranjeet Kumar Sahu, Five-day National E-Workshop on “Design & Manufacturing of Advanced Materials (DMAM-2021), TEQIP-III, NITK Surathkal, 15th February 2021 to 19th February 2021, 5 days.
- Dr. P Jeyaraj, Dr. J Sharnappa and Dr. S C Kattimani, Five-day workshop on “Advances in Computational Methods for Engineering Applications”, TEQIP-

III, NITK Surathkal, 01-05 Feb 2021, 5 days.

FACULTY DEVELOPMENT PROGRAMME

- Dr. Arumuga Perumal D, Dr. N. Gnanasekaran, Five-day Training Program on 'Essentials of Salient Subjects in Thermal Engineering, 15-19 March 2021, TEQIP-III, NITK Surathkal.
- Dr. Kumar G N, Dr. H Shivananda Nayaka, Finishing School programme, February, 15, to March 21, 2021, TEQIP-III, NITK Surathkal.
- Dr. Khyati Verma, Dr. P S Suvin, 5 Days training programme on "Fundamentals of the core subjects in Mechanical Engineering", February 8th to 12th, 2021, TEQIP-III, NITK Surathkal.

DEPARTMENT OF MINING ENGINEERING

PATENTS:

1. Title: Material handling system for screening or feeding materials with high screening efficiency and energy efficiency (Joint Patent with JSW Steels, Ballari) Inventors: Mr. Shanmugam Bharath Kumar, Dr. Maruthiram Kaza, Dr. Harsha Vardhan,Dr.Govinda Raj Mandela, Dr. Rameshwar Sah, Dr. Arindam Roy Choudary, Mr. Naveena Omkarappa, Mr. Nagaraju Venkategouda Patent application number- TEMP/E-1/53448/2018-MUM – PUBLISHED
2. Title: System for material beneficiation involving hydro-squeeze classifier assisted grinding ball mill (Joint Patent with JSW Steels, Ballari) Inventors: Mr. Harish, Hanumanthappa, Dr. Maruthiram Kaza, Dr. Harsha Vardhan, Dr. Govinda Raj Mandela, Dr. Rameshwar Sah, Mr. Abhishek Kumar, Dr. Arindam Roy Choudary, Mr Chaitanya Naik, Mr. Suhas Nayak Patent application number: TEMP/E-1/51796/2018-MUM – PUBLISHED
3. Title: A system for mineral separation and process thereof combining froth floatation and gravity separation(Joint Patent with JSW Steels, Ballari) Inventors: Mr. Mudhunuru Varma Raju, Dr. Harsha Vardhan, Dr. Govinda Raj Mandela, Mr. Harish Hanumanthappa, Mr. Bharath Kumar Shanmugam, Dr. Rameshwar Sah Patent application number: TEMP/E-1/4060/2021-MUM– FILED

Conferences:

Webinars (National & International):

1. A webinar was conducted on "Slope Stability Monitoring by Wireless Sensor Networks" in association with Mining Engineers Association of India for the Industry executives on 17th May. 2021 (Coordinator & Speaker: Dr. K. Ram Chandar)

2. An International Webinar was conducted on 'Opportunities for Higher Education and Research in Mining Engineering & Interdisciplinary Areas' during 25th - 26th Sept. 2020 jointly with Federation University, Australia (Coordinators: Dr. K. Ram Chandar & Dr. Manoj Khandelwal)

3. "Opportunities for Multidisciplinary Research and Academics in Mining" presented on 31st Oct.2020 as a part of NITK_NEP webinar series (Speaker: Dr. K. Ram Chandar)

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

BOOK CHAPTERS

1. S. Janakiraman, M. Khalifa, R. Biswal, S. Ghosh, S. Anandhan, and A. Venimadhav. "'Comparative Studies on Crystalline and Amorphous Vinylidene Fluoride Based Fibrous Polymer Electrolytes for Sodium-Ion Batteries' in 'Recent Research Trends in Energy Storage Devices', Y. Sharma et al. Eds.", Springer Nature, SingaporG.
2. George, Z. Luo, T. Senthil, S. Anandhan, 'Sol-gel Electrospinning of Diverse Ceramic Nanofibers and their Potential Applications', in 'Electrospun

Polymers and Composites: Ultrafine Materials, High Performance Fibres, and wearables', D. Yu, A. Baji, and S. Ramakrishna, Eds., Woodhead publishing Ltd, USA, 2021.

3. Shashi Bhushan Arya, FJ Joseph, "Electrochemical methods in tribocorrosion", Tribocorrosion, Fundamentals, Methods, and Material (publisher: Elsevier) 43-77 (https://doi.org/10.1016/C2018-0-04450-3).

STTPs/Schools/Conferences/Seminars/ Workshops, etc:

1. NITK – NEP Webinar Series: Health & Wellness of Students at Higher Educational Institutes, January 2021.
2. Online National Workshop on "Surface Characterization": Tools and Applications" Sponsored by TEQIP – III, on 14th to 18th December 2020. Co-ordinators: Dr. Udaya Bhat K., Dr. M. Rizwanur Rahman ,Dr. Saumen Mandal

SCHOOL OF MANAGEMENT

Book Chapters:-

1. Koudur, Shashikantha, "The Concept of Poli in South Indian Agrarian Culture" in Reprovincialising Knowledge: Research from Kannada University, Ed. Tharakeshwar, V.B., Hampi: Kannada University, 2021
2. Purna Chandra Tanti and Pradyot Ranjan Jena, Determinates of Farm Mechanization among the Rural Farmers in India, CNRM, NIRDP, Government of India, pp 222-237, ISBN:978-81-944719-6-7
3. Pai, Sushmitha, M. and Bhat, Savita, "Industrial 4.0 awareness among technical students of Udupi district, in *Tackling the VUCA World through Industry 4.0: Insights for businesses and researchers*, Authorspress, pp. 163-176. ISBN: 9789390588466.

BOOKS EDITED:-

Mohan, Bijuna C and Bhat, Savita (eds), Tackling the VUCA World through Industry 4.0: Insights for Businesses and Researchers, New Delhi, India: Authorspress, 2021.

MAGAZINE/NEWSPAPER ARTICLES:-

A series of 8 articles in Kannada www.rutumana.com on music in Karnataka. Link: ಮೈಸೂರು ಸಂಸ್ಥಾನದಲ್ಲಿ ಸಂಗೀತ – ಭಾಗ ೮: ಬೆಂಗಳೂರಿನ ಕನ್ನಡ ಸಾರ್ವಜನಿಕ ಮತ್ತು ಸುಗಮ ಸಂಗೀತದ ಉಗಮ – ಋತುಮಾನ (ruthumana.com)

STTPS (SHORT TERM TRAINING PROGRAMMES)/SCHOOLS CONFEENCES

National Conference on Convergence of Management Practices in the Era of Industry 4.0, by Dr. Bijuna C. Mohan, Dr. Savita Bhat, Dr. Rashmi Uchil, Dr. Suprabha K. R. and Dr. Ritanjali Majhi, 22-23 July 2020.

SEMINARS (NATIONAL & INTERNATIONAL) WORKSHOPS

Prof. Shashikantha Koudur: Coordinated a one-week workshop on English Skills for Placements during 4-8 March 2021. This workshop was attended by 100 M.Tech students of the Institute, mostly from the second semester.

Dr S Pavan Kumar has organized a six-day workshop on "Cybersecurity for Business Managers and Leaders" during 15th March, 2021 to 20th March, 2021. The workshop was sponsored by TEQIP III, NITK Surathkal, Karnataka.

Dr. Pradyot Ranjan Jena: Five Days International Workshop on Climate Smart Agriculture Opportunities and challenges from 23rd to 27th October 2020, organised by National institute of Technology Karnataka Surathkal. 300 Participants across the Globe have attended the Workshop. This workshop

was organized by Dr. Pradyot Ranjan Jena

Dr. Pradyot Ranjan Jena: Five Days Indo-Japan Online Workshop titled "Climate Resilient Precision Agriculture to Enhance the Natural Capital in Developing Countries: An Inclusive Wealth Approach from March 8-12,2020, sponsored by SPARC, Ministry of Education Government of India National institute of Technology Karnataka Surathkal. 150 Participants from various countries have attended the Workshop. This workshop was organized by Dr. Pradyot Ranjan Jena and Dr. Ritanjali Majhi.

FACULTY DEVELOPMENT PROGRAMME

Dr.Sheena: Organized International FDP as Joint coordinator and resource person on Open Source Tools for Online Teaching with the Department of Commerce, Aligarh Muslim University- A Central University, Aligarh from July 20th – 24th, 2020.

Dr.Sheena: Organized International FDP as Joint coordinator and resource person on Digitization of Education Content through Open Source Tools with the Department of Commerce, Aligarh Muslim University- A Central University, Aligarh from Aug 6th – 10th 2020

Dr Dhishna Pannikot was a resource person on 24th Jan 2021 in an online session on "Research in Humanities", for the FDP on "Academic Effectiveness: A New Perspective" held from 19-25 Jan 2021 organized by the Department of Humanities and Social Sciences, MNNIT Allahabad.

Dr Dhishna Pannikot was the keynote speaker on 19th Dec 2020 on "Gender Studies: Perceptions in Society and its Relevance in Literary Research" in the online platform for an online Interdisciplinary National Conference on "Rethinking Gender: Perspectives from Literature and Society" 19-20th December 2020, organized by the Department of Humanities and Social Sciences, Visvesvaraya National Institute of Technology, Nagpur, India.

Dr S. Pavan Kumar has delivered 3 hours of lecture on "Role of HR Manager in the Data Driven Business Environment" for Pondicherry University refresher course (Online) on 27th November 2020.

Prof. Shashikantha Koudur: Delivered an online public talk on "Reviewing Dasasahitya: Modernity, Community and Culture", coordinated jointly by Bengaluru Historians Society and Itihasa Darpana on 10 October 2020, (Public Talk)

Dr S Pavan Kumar has delivered lecture series on "Business Analytics" organized by SR University during Oct 2020 – Jan 2021.

Dr Dhishna Pannikot delivered a talk as resource person on 11th Aug 2020 on "Exploring Travel Narratives: An Emerging Genre of Literary Research" in the online platform for a National webinar "Traveledge" organized by the Department of English, Vimala College, Thrissur, Kerala, India.

Dr Dhishna Pannikot was resource person on 26th July 2020 on "Conceptualizing Gender Studies and Critical Awareness in Literature" in the online platform for an International Faculty Development Programme on "Gender Sensitization" held from 25th to 31st July 2020 organized by the Women's Cell and the Department of English, Barabazar Bikram Tudu Memorial College affiliated by Sidho-Kanho-Birsha University, West Bengal, India.

Dr. Sheena: Online Professional Training on Teaching-Learning Process using Virtual Platforms with the Department of Commerce, Aligarh Muslim University- A Central University, Aligarh from Aug 16th – 20th 2020

CONSULTANCY PROJECTS

DEPARTMENT OF MINING ENGINEERING

1. Scientific Study For Blast Vibrations And Air Over Pressure Within 500m of Surface Structures Not Belonging To SCCL At Indaram OC, SRP Area, SCCL (PI: Dr. K. Ram Chandar)
2. Scientific Study for OB Dump Stability and Pit Slope Stability Of RGOC-V, RG-I Area of SCCL (PI: Dr. K. Ram Chandar)
3. Scientific Study On Stability of Internal Dumps for Conducting Controlled Blasting Near KPUG Workings and Bund Against Gorripeta Vagu At PKOC Manuguru Area of SCCL (PI: Dr. K. Ram Chandar)
4. Assessment of Intensity of Ground Vibrations Generated Due to Blasting Operations in Nalakath Stone Quarry, Malappuram District, Kerala (PI: Dr. K. Ram Chandar)
5. Assessment of Intensity of Ground Vibrations Generated Due to Blasting Operations in U T Ravindran Quarry, Kozhikode District, Kerala, (PI: Dr. K. Ram Chandar)
6. Scientific Study for The Stability of Slopes, Highwalls and OB Dumps of Ramagundam Opencast-III Expansion Project, Ramagundam-II Area of SCCL, (PI: Dr. K. Ram Chandar)
7. Assessment of Intensity of Ground Vibrations Generated Due to Blasting Operations in Stone Quarry MK Associates, Bantwal Taluk, DK-Dist, (PI: Dr. K. Ram Chandar)
8. Assessment of Intensity of Ground Vibrations Generated Due to Blasting Operations in Stone Quarry Sanidhya Crushers, Bantwal Taluk, DK-Dist, (PI: Dr. K. Ram Chandar)
9. Scientific Study On Overall Pit Slope Stability of Ramanamalai Iron Ore Mine, RM Block, Sandur
10. Taluk, Ballari District, Karnataka (PI: Dr. K. Ram Chandar, Co-PI: Dr. S. K. Reddy)

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

1. Dr. Subray R Hegde, Ms. Sadhana Bhat, Mr. J K Rakshan Kumar, 'Failure Analysis of Air Compressor Impeller', for Mangalore Refinery and Petrochemicals Limited (MRPL), Mar 2018- Sept 2020, Rs. 7,78,800/-.
2. Dr. Subray R Hegde, Dr. Sumanth Govindarajan, Mr. Basavaraj, "Failure Analysis of Classifier Base Bolt", Mangalore Refinery and Petrochemicals Limited, (MRPL), Oct 2020-Dec 2020, Rs. 4,36,600/-.
3. Dr. Subray R Hegde, Mr. Pavankumar R Sondar, Mr. J K Rakshan Kumar, "Testing of Welded Rail", Konkan Railway Corporation Limited (KRCL), Aug 2019-Jan 2021, Rs. 2,65,500/-.
4. 4. Dr. Subray R Hegde, Dr. Sumanth Govindarajan, Mr. Pavankumar R Sondar, Mr. J K Rakshan Kumar, Mr. Ganesh B, Mr. Basavaraj, "Failure Analysis of Flash Butt Welded Rail Joint", Konkan Railway Corporation Limited (KRCL), Nov 2019- Jan 2021, Rs. 2,58,420/-
5. 5. Dr. Subray R Hegde, Mr. Preetish Dsilva, Ms. Preeti Shetty, Mr. Ganesh, Mr. Pavankumar R Sondar, "Failure Analysis of CO_2 Compressor", Mangalore Chemical Fertilizers, (MCF), June 2020-Nov 2020, 2,95,000/-.
6. Dr. Subray R Hegde, Dr. Sumanth Govindarajan, Mr. Pavankumar R Sondar, Mr. J K Rakshan Kumar,"Failure Analysis of Booster Pump Shaft", Mangalore Refinery and Petrochemicals Limited(MRPL), Feb 2020-Nov 2020, Rs. 7,78,800/-.
7. Dr. Subray R Hegde, Dr. Sumanth Govindarajan, Mr. Basavaraj, "Failure Analysis of Jockey Pump Shaft", Mangalore Refinery and Petrochemicals Limited (MRPL), Aug 2020- Sept 2020, Rs.2,71,400/-

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

1. Futurewei Technologies. Inc, Santa Clara CA, USA (Dr. Mohit P Tahiliani)

15 HUMAN RESOURCE DEVELOPMENTS

15.1 TRAINING STATUS

DEPARTMENT OF CHEMICAL ENGINEERING

1. Prof. Vidya Shetty K ,Department of Chemical Engineering attended a three day online Professional Development Training Programme under TEQIP III for Senior faculty from January 18th – 20th , 2021 conducted by IIM Tiruchirappalli
2. Dr. Chinta Sankar Rao, attended an online FDP on Machine learning at IIT, Kanpur under TEQIP on 23rd Nov-3rd Dec, 2020
3. Dr. Chinta Sankar Rao, attended a 2-day training on "Control System Design with MATLAB and Simulink" during 15-16 April, 2021
4. Dr. Vaishakh, attended the Short term course on Recent Advances in Environmental Biotechnology Under TEQIP conducted by IIT Kharagpur on 5-9th October , 2020.
5. Dr. Prasanna B.D , attended the Training on Ethics & Values for Scientists and Technologists on 23-27 November, 2020.

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

1. Dr. Krishnan CMC attended an online FDP on Machine Learning conducted by IIT Kanpur from 9th November to 20th November 2020 sponsored by TEQIP-III.
2. Nagendrappa H "Attended a Five Day online FDP on Universal Human Values for DEEKSHARAMBH (Student Induction Program) organized by the Dept. of Mechanical Engineering, NIT Patna during 23-27 November, 2020.
3. Dharavath Kishan,"Attended a Five Day online FDP on Advanced materials for Power Electronic Circuits", organized by CoE in Advanced Material Research, Dept. of Electrical and Electronics Engineering, BMS College of Engineering, during 01-05 March, 2021.
4. Yashwant Kashyap, "Solar analytics: Plant data modelling with ML using Python prohramming", 14thDecember to 18THDecember, NISE, Training Mode: Online

DEPARTMENT OF INFORMTION TECHNOLOGY

1. Prof. G. Ram Mohana Reddy attended ACM India Webinar Series on Education: "Transitioning from Physical Classrooms to Online Instruction" by Prof. Sridhar Iyer and Team, IIT Bombay, August 1, 2020.
2. Prof. G. Ram Mohana Reddy attended National Board of Accreditation, New Delhi: Orientation Webinar on Outcome Based Education and Accreditation, February 1, 2021 (Cisco WebEx Meeting).
3. Prof. G. Ram Mohana Reddy attended National Assessment and Accreditation Council, New Delhi: Assessors Training Programme for Peer Team Visiting Experts, March 17, 2021 (Cisco WebEx Meeting).

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

1. Dr. Vishwanath K. P. successfully completed a 48 hour - Faculty Development Program on Data Science and Business Analytics (6th January, 2021 - 16th February, 2021)

DEPARTMENT OF MECHANICAL ENGINEERING

1. Dr. Ranjeet Kumar Sahu, attended technical event on Design for Additive Manufacturing with Optimization and Digital Manufacturing process sponsored by PELF INFOTECH, Mumbai on 9th - 11th April, 2020.
2. Dr. Ranjeet Kumar Sahu, attended training on Online Teaching Pedagogy in Higher Education sponsored by NIFTEM (Government of India),

Sonipat, Haryana, on 11th - 14th June, 2020.
3. Prof.Prasad Krishna, attended training on Life Skills Empowerment for Holistic Personality Development, sponsored by AICTE-ATAL, on 2-6 November 2020.
4. Dr. P S Suvin, attended technical event on Advances in Tribology and surface engineering, sponsored by AICTE, on 17th - 22nd Aug, 2020, 14th -19th Sept, 2020, 12th- 17th Oct, 2020, and 23rd-28th Nov, 2020.
5. Dr. P S Suvin, attended FDP on Tribology for Reliability, sponsored by AICTE-ATAL, on 4th-9th Oct, 2020.
6. Dr. A. Sathyabhama, attended FDP on Machine Learning, sponsored by TEQIP- IIT Kanpur, on 23 Nov- 4th Dec 2020.
7. Dr. A. Sathyabhama, attended online course on Modeling of Multiphase Flow, organized by NIT Manipur, on 25th Dec-30th Jan 2021.
8. Dr. H Shivananda Nayaka, attended STC on Advanced Manufacturing Technology, sponsored by TEQIP IIT Guwahati, on December 21 – December 25, 2020.

PLACEMENT OF STAFF FOR ACADEMIC EXCELLENCE

DEPARTMENT OF CHEMICAL ENGINEERING

1. Prof. Vidya Shetty K. – Member of BOS ,Department of Chemical Engineeirng, SIT Tumkur
2. Prof. Vidya Shetty K. – Member of BOS,,Department of Chemical Engineering, MVJ College of Engineering

DEPARTMENT OF CIVIL ENGINEERING

1. Narasimhan M.C appointed as a member of Academic Council, National Institute of Engineering, Mysore (An autonomous Institute under VTU, Belagavi) - University Nominee - Academic Years 2020-22.
2. Palanisamy T appointed as University Nominee by Anna University Chennai, Board of Studies (BOS) member for Sona College of TEchnology, Salem, Tamil Nadu, India, from 2020 - 2023.
3. Palanisamy T appointed as University Nominee by Anna University Chennai, Board of Studies (BOS) member for K.S. Rangasamy College of Technology, Tiruchengode, Tamil Nadu, India, from 2020 - 2023.
4.

DEPARTMENT OF INFORMTION TECHNOLOGY

Prof. Ananthanarayana V S

1. Chairman, Inhouse software development under T & C mode\
2. Chairman, to create a framework to enable the institute to conduct certificate programs in collaboration with a strategic industry partners [7/12/2020]
3. Chairman, for Centre of Excellence with Industrial partnership [13/8/2020]
4. Chairman for amending the T & C framework to include distribution of amount accruing from administrative /organizational/ institutional consultancy projects [5/2/2021]
5. Program Incharge for CRF Inauguration 25/2/2020
6. Chairman of the research review committee [4/1/2021]
7. Chairman for policy decision with reference to the facilities to ARs [15/12/2020]
8. Chairman for the research ethics committee [14/10/2020]
9. Chairman for NIRF- with responsibility of checking HEFA funding to improve NIRF ranking [17/8/2020]
10. Convener for the committee to look after Institute long term and short term action points in view of NEP 2020.[18/8/2020]
11. Chairman for the committee constituted to create a framework for proper disbursal and utilization of start-up research grants [17/8/2020]
12. Chairman for the committee constituted for the framework for appointment of PDF at NITK Surathkal [7/8/2020]

13. Chairman for the medical insurance meeting [18/6/2020]
14. Chairman for the committee to review the budget for the year 2020-21 and submit a suitable plan of action to overcome the fund crisis[15/6/2020]
15. Member of DASA Core committee[23/1/2020]
16. Chairman of eOffice Management committee
17. DASA2020 Implementation committee member
18. Chairman for preparing the framework for involving industry partner for certificate programs along with Dept/Centre and CCE.
19. Technical Committee convener for Convocation 2020.

16 STUDENTS PLACEMENTS

Highlights

The year 2020-21 has been a very successful year for Career Development Centre. We had reasonably very high percentage of Placements and Training slots. In spite of the unfortunate breakout of the Covid -19 in March 2020, Most of the companies including PSU's GAIL, BEL, BEL-CRL Bangalore, Wapcos (Ministry of Jal Shakti) and ISRO conducted placement / Internship drives Virtually. As Chairman of CDC, On Behalf of the Institute, I thank all the companies which could do the entire process in online mode very successfully.

Main Objectives:

To provide opportunities for,

1. Placement to all students of the final year B.Tech, M.Tech, MCA, MBA and M.Sc.
2. Training to all students to be covered during the 5th, 6th and 7th Semester vacations. The compulsory training for B.Tech. Mining Engg. Students during the 5th and 6th Semester vacations.
3. Provide Counseling and facilitate development of Soft Skills and Personal Effectiveness to help students build a successful career.

Performance Overview:

- A total of 253 Companies visited NITK Surathkal for Campus Recruitment/Internship.
- 58 Companies visited NITK for Placement process for the first time.
- 892 students are placed – 561 B.Techs, 231 M.Techs, 73 MCAs, 14 MBAs,
  13 MSc

PLACEMENT RECORD FOR 2020-21

Program	% placed
B.Tech	84.23
M.Tech	48.5
MCA	80.89
MBA	46.15
MSc(PHY+CHEM)	36.13

BRANCHWISE UG PLACEMENTS 2020-2021 (as on 17-05-2021)

Branch	Total Eligible Students	Placed
CIVIL	74	48
CHEMICAL	34	30
COMPUTER	98	98
E & C	81	71
E & E	90	74
IT	95	92
MECHANICAL	130	103

METALLURGY	31	23
MINING	33	22
Total	**666**	**561**

(72 B.Tech Students have opted out of the placement process for pursuing Higher Studies)

The data given is as on 17-05-2021 and placements are expected to continue till 30-06-2021

Training Slots for the Academic Year 2020-21

Sl. No.	Branch	No. of Slots
01	Chemical Engineering	17
02	Civil Engineering	9
03	Computer Engineering	86
04	Electronics & Communication Engineering	48
05	Electrical & Electronics Engineering	46
06	Information Technology	81
07	Mechanical Engineering	110
08	Metallurgical & Material Engineering	20
09	Mining Engineering	1
	Total Number of Students	**418**

Number of Companies : 127	**Number of Training Slots : 418**

17. SPECIAL INITIATIVES

17.1 Scholarships / Assistanceship

As per the guidelines of Govt. of India (MHRD) Merit and Merit cum Means Scholarship have been awarded to I B.Tech. students every year who have got 60% above marks in +2 exam and the same will be continued based on their performance in II, III & IV B.Tech. Examinations. In addition, based on performances at the semester Examinations scholarship have been awarded to the students of II, III and IV year B.Tech. Several other scholarship awarded by Central and State Govts., Endowments, Institution of Engineers etc., are enjoyed by the students. SC/ST students will be paid post-matric scholarship and facilities of Fee Concessions.

The Post Graduate students who have qualified with GATE are paid a sum of Rs.12,400/- as P.G. stipend per month. M.Tech. (Q.I.P.) Regular and (Q.I.P.) Poly are paid Rs.4,000/- per month.

Full-Time Ph.D. Research Scholars are paid institute scholarship @ Rs.25,000/-p.m for *I and II year and III, IV and V year Rs. 28,000/-* per month. Ph.D. QIP(R) students are paid Fellowship of Rs.9,000/- per month and a contingent grant of Rs.10,000/- per year.

17.2 Memorandum of Understanding

1	27-04-2020	5 year s	Sree Chitra Tirunal Institute of Medical Science & Technology Trivandrum	Collaborate in Academic, Scientific and Technical Research in specific areas of Common Interest in the broad area of Artificial Intelligence in medical image analysis, under a project Titled "Volumetric estimation of paraspinal muscle atrophy following minimally invasive tubular retractor assisted excision of extramedullary tumors of the Spinal Canal".
2	03-08-2020	10 years	National Institute of Technology, Puducherry (NITP)	To facilitate faculty members of the Institute to submit a Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.
3	03-08-2020	10 years	Government Engineering College, Thrissur, Kerala	To facilitate faculty members of the Institute to submit a Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.
4	03-08-2020	10 years	National Institute of Technology, Andhra Pradesh (NITAP)	To facilitate faculty members of the Institute to submit a Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.
5	03-08-2020	10 years	National Institute of Technology, Warangal	To facilitate faculty members of the Institute to submit a Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.
6	27-08-2020	1 year	Garrett motion Technologies India Pvt. Ltd, Pune	To provide financial aid to five deserving students of B.Tech Mechanical Engineering branch from NITK, Subject to selection and approval by Garrett
7	21-09-2020	10 years	Government College of Technology , Coimbatore	To facilitate faculty members of the Institute to submit Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.
8	29-10-2020	5 Years	National Council for Cement Building Materials, Ballabgarh, Haryana	To facilitate students for internship/Training and research students for laboratory facilities at NCCBM
9	05-01-2021	5 Years	Coastal Engineering Division Karnataka Engineering Research Station , KR Sagara	For Research , National and International Cooperation in education and Consultancy Co-operations

10	12-01-2021	5 Years	Neel Water Treatment Systems Pvt. Ltd	To developing a collaborative partnership to address the concerns/challenges of Research and development , current engineering education and industry by providing internship/project opportunities, guest lecturers to NITK students and build a strategic partnership between parties
11	20-01-2021	5 Years	International Advanced Research Centre of Powder Metallurgy and New Materials, Hyderabad	For joint research collaboration in broad areas of mutual interest"
12	02-03-2021	5 Years	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum (SCTIMST)	To facilitate collaboration in academic, scientific research and technical fields in the broad area of artificial intelligence in neurological diseases, under a project titled "Development of an Artificial Intelligence based System for Comprehensive Cerebral Arterial Stroke Imaging and Prognostication"
13	22-03-2021	5 Years	College of Fisheries , Mangalore	To promote fisheries and technology application for Fisheries research , National and International academic cooperation in education, research and Consultancy
14	30-03-2021	10 Years	National Institute of Technology, Calicut(NITC)	To facilitate faculty members of the Institute to submit Joint project with faculty members of NITK in Regional Academic Centre for Space (RAC-S) setup at NITK.

17.3 Innovations & Technology Transfer

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Innovations:-

Full system modeling of POWER9 processor in a standard architecture simulator, gem5. The models are in the queue to being up streamed in the core gem5 thread.

Industry Institute Interaction

Process is going on to setup MoU with ICMR- National Institute for Research in Tuberculosis.

DEPARTMENT OF INFORMTION TECHNOLOGY

PROF. ANANTHANARAYANA V S

1. Invited as external expert for promotional interview at MAHE, September 14, 2020 for Dept. of CSE and Information & Communication Technology
2. Doctoral Assessment Committee meeting on 21st August 2020 for Doctoral candidate Mrs. Shwetha Rai of MIT Manipal
3. PhD Examiner for Mr. SeshuBabuPulagara of NIT Trichy, the viva voce exam is conducted on 12th October 2020 [Thesis title: AN ENERGY-EFFICIENT AND SCALABLE GROUP-KEY AGREEMENT AND ROBUST AUTHENTICATION SCHEMESFOR MOBILE AD HOC NETWORKS]
4. NMAMIT – MCA – BOS Meeting held on 11th July 2020
5. Participated as resource person on “Approaching New Reality in Campus, Preparing Students for Job Relevant Education” conducted by India Didactics Association on a round table e-session on 23rd July 2020.
6. Introduction to webinar for NEP 2020 series conducted by NITK (Totally 11 webinars in webinar series)
7. MIT-CSE – DCC Meeting held on 4th November, 2020
8. DAC-PhD meeting on 11th January 2021 at MIT Manipal for the doctoral candidate Mrs. Shwetha Rai.
9. Welcome speech for FDP program on Data Science and Business Analytics by SETCONNECT on 6th January 2021
10. Welcome address in webinar on “NITK to MERU – Role of Alumni”, on 18th October, 2020.
11. Participated DCC Meeting of MIT(MAHE), CSE Dept on 8/3/2021.

PROF. G. RAM MOHANA REDDY

1. Delivered Expert Talks on "Trends in Smart Environments and Some Hands-on Sessions", 5-Day Online Workshop on "Emerging Trends in Information Technology", SJEC, Mangalore, March 15-19, 2021.
2. Delivered an Expert Talk on "Academic Reforms Towards A More Holistic (360 Degree) and Multidisciplinary Education", National Education Policy 2020 (Webinar), NITK, October 24, 2020.
3. Delivered an Expert Talk on "Data Science and Artificial Intelligence: Research Issues and Real-Life Case Studies", 5-Day AICTE ATAL FDP on Data Science (Webinar), NITK, September 21-25, 2020.

DEPARTMENT OF MECHANICAL ENGINEERING

1. Dr. Ajay Kumar Yadav & Dr. Anish S, Development of solar based low energy humidifier (air cooler) linked with ground water.
2. Dr. Ajay Kumar Yadav, Prof. Laxminidhi T, Prof U. Sripathi Acharya, Dr. PU Saxena, Prof. B Satish Rao, Development Of Cost Effective Radiofrequency Ablation System And Magnetic Hyperthermia Equipment For Thermal Therapies Of Cancerous Tumors.

3. Dr. S Kattimani and Prof. S.M. Murigendrappa, Experimental Characterization And Numerical Modelling Of Delamination Growth In Fiber Reinforced Polymer Laminated Composites Under Cyclic Loading
4. Dr. S Kattimani, Active Vibration Control Of Laminated Composite Sandwich Plates In Hygrothermal Environment Using 1-3 Piezoelectric Composites.
5. Dr. Arumuga Perumal D, Experimental Investigation On Pulsating Synthetic Jet Micromixers To Determine The Injection Dynamics Of Insulin In Hydrogels For Subcutaneous Drug Delivery.
6. Dr Sudhakar C Jambagi, Improvement In The Properties Of Thermally Sprayed Hydroxyapatite Bio-Ceramic Coating Reinforced With Nanostructured Materials.
7. Dr. Sathyabhama A, Experimental And Numerical Investigation Of Effect Of Leading Edge Protuberances On The Performance Of Wind Turbine Blade.
8. Dr.A.S.S.BALAN, Ultrafine Grain Refinement Through Low Plasticity Burnishing On Waam Of Mgalloy For Aerospace And Automotive Applications.
9. Dr. H Shivananda Nayaka, Experimental Technique To Induce Surface Grain Refinement Through Laser Shock Peening On Ecap Processed Mg. Alloy.
10. Prof. C.Sujatha and Dr. Hemantha Kumar, Design Of Magneto Rheological Damper For Vehicular Applications.
11. Dr. Hemantha Kumar and Prof. C.Sujatha, Development Of Cost Effective Magneto-Rheological (Mr) Fluid Damper In Two Wheelers And Four Wheelers Automobile To Improve Ride Comfort And Stability.
12. Dr. Sharnappa Joladarashi and Dr. Hemantha, Kumar Experimental Investigation Of Passive, Semi-Active And Active Vibration Control Of Composite Sandwich Structure.
13. Dr. Ranjith M, Investigations On The Dynamic Behaviour Of Bacterial Helical Flagellar Filaments Under Axial Flow.
14. Dr. MrityunjayDoddamani and Dr. Srikanth Bontha, Development Of Composite Filament For Light Weight 3D Printed Components.
15. Dr. MrityunjayDoddamani, Pre-Operative Damage Assessment In Orthopedic Surgery Using 3D Printing To Minimize Healing Time.
16. Dr. K V Gangadharan, Development Of Brushless Dc (Bldc) Motors For An Automotive Power Window Application.
17. Dr. Pruthviraj U and Dr. K V Gangadharan, Design Of Oil Skimming Application With Super Hydrophobic Sponge.
18. Dr. K V Gangadharan and Dr. Jeyaraj, Tpem - Fame India Scheme - “Switched Reluctance Motor & Controller For 2W & 3W”.
19. Dr. K V Gangadharan and Dr. Pruthviraj U Virtual Lab Phase Iii.
20. Dr. KK Poornesh, Investigations on the origin of hydration induced yield.
21. Dr. KK Poornesh, Interface CharcteristicsOf Membrane Electrode Assemblies.
22. Dr. N. Gnanasekaran, Analytical And Numerical Investigations Of Mixed Convection Through Wire Mesh Porous Structure Filled In a Channel.
23. Dr. Mrityunjay Doddamani, NITK and Dr.Pavana Prabhakar, University of Wisconsin - Madison, USA, Additive Manufacturing of Novel Structural Foam Composites for Durability and Damage Tolerance.
24. Dr. Anish S and Dr. Mrityunjay Doddamani An investigation in to the effects of induced helicity in the carotid bifurcated arteries on patient specific models.
25. Dr. Mrityunjay Doddamani, Cost-effective enhanced insulating foams for cold storage application.
26. Dr S. Kattimani, NITK Surathkal, Dr. Mabdi Shariati, Uttiversiti Teknologi Malaysia, Malaysia and Dr. NGUYEN THO TRUNG, Ton Due Thang University, Vietnam, Investigation on radiolucent composite sandwich materials for biomedical imaging systems under hygrothermal environment.
27. Dr. Ajay Kumar Yadav, Numerical and experimental studies on two phase

carbon dioxide based natural circulation loops.

DEPARTMENT OF METALLURGY ENGINEERING

Technology Transfer:

Resource Person

1. Prof. K. Narayan Prabhu: Lecture on "*Thermal Energy storage materials*", "Sustainable Energy Solutions In Solar Energy Applications" (November 23rd to 27th, 2020) sponsored by AICTE , New Delhi, organized by the Department of Mechanical Engineering, MITE, Moodbidri.
   Delivered invited lecture through online mode at various institute and conferences
2. Dr. Shashi Bhushan Arya - Five-day Short-Term Course (STC) on "Process Design and Development: Transformation of Industry" organized by Dept. of Chemical Engineering, Manipal University Jaipur in association with Indian Chemical Council (ICC), Indian Institute of Chemical Engineers (IIChE), February 15-19, 2021
3. Dr. Shashi Bhushan Arya - Short term training program on "Advances in Corrosion Engineering and Electrochemical Characterization" (Jan., 2021), NIT Raipur
4. Dr. Shashi Bhushan Arya - Short-term course on "Emerging materials: properties, applications and Characterization" at Dept. of Metallurgical and Materials Engineering, MNIT Jaipur.
5. Dr. Shashi Bhushan Arya - Workshop on "Advanced Nanomaterials & their Applications" at National Institute of Technology, Manipur, November, 2020
6. Dr. Shashi Bhushan Arya - Faculty Development Program in the field of "Advances in the field of Mechanical and Materials Engineering" (Dec 2020), Shri Madhwa Vadiraja Institute of Technology and Management (SMVITM), Udupi, Karnataka
7. Dr. Shashi Bhushan Arya - Webinar series on Processing and Characterization of Materials (PCM 2020) organized by Govt. Engg. College, Gandhinagar and IIM Baroda Chapter, October 15, 2020.
8. Dr. Shashi Bhushan Arya - International Conference on "Emerging Smart Materials in Applied Chemistry" (ESMAC-2020) KIIT University, Bhubaneswar
9. Dr. Shashi Bhushan Arya - One day lecture in corrosion awareness, Organized by Saintgits College of Engineering, Kottayam, Kerala July 18, 2020.
10. Dr. Saumen Mandal, Bikesh Gupta, Pavan Pujar, Komalakrushna Hadagalli, Robbi Vivek Vardhan - Granted Indian Patent entitled "Fabrication of high conductive metallic films at low temperature"
    Patent Number: 347677
    Application Number: 201741005384
    Date of Grant: 24/09/2020

DEPARTMENT OF MINING ENGINEERING

Industry Institute interaction:-

Consultancy services were offered to mining and allied industries.

17.4 Concessions For SCs, STs, Handicapped Students

All SC/ST candidates are eligible for exemption of Tuition Fees as per the order of M.H.R.D., GOI, New Delhi.

1

17.5 SC/ST CELL

In order to ensure prompt disposal of the grievances of the SC/ST employees, scrutinize and consolidate the statistical data to conduct annual inspection of the rosters, SC-ST Cell was established in 2006.

The Cell also coordinates Scholarship Schemes for the benefit of the students belonging to SCs/STs category.

- In 2019-2020 onwards Ministry of Social Justice and Empowerment under the Central Sector Top Class

Education Scholarship (TCES) Scheme for B.Tech. SC students, Top 10 students from first year and second year were awarded TCES who's family income is below 6 lakhs. 23 students from third and final year were awarded TCES who's family income is below 4.5 Lakhs.

In 2019-20, Ministry of Tribal Affairs under Central Sector Top Class Education Scholarship (TCES) scheme for B.Tech/MTech ST students who have registered online in the National Scholarship Portal who's family income is below 6 lakhs. 108 ST students (Ministry of Tribal Affairs) from first, second, third and fourth year B.Tech/M. Tech are receiving TCES scholarship.

- To promote qualitative education in Engineering, following schemes drawn under financial assistance to the SC/ST students of the Institute to all academic programs whose family income from all sources doesn't exceed Rs.4.5 lakhs per annum.

a) Book allowance- Rs.6000/- (Rs.3000/- per semester).
b) Waiver of Hostel Fee (except caution deposit).
c) Latest computer with full accessories limited to Rs.45000/- per student as one time assistance.
d) Students Academic Performance Incentives (Rs.12,000-00 if CGPA is more than 6.5 and Rs.18,000-00 if CGPA is more than 8.0 in previous year).

17.6 NSS (National Service Scheme)

The NSS unit of the NITK Surathkal (formerly KREC Surathkal) has been actively rendering its services to the backward areas and villagers of Dakashina Kannada district since its inception in this institute in 1964. The NSS unit organizes regular activities like, tree plantation, clean up of the hostels and NIT K Beach, organizes blood donation, medical, dental and eye camp for the villagers. It also involves in promoting literacy to villagers irrespective of their age, and enhances educational tools and, motivates primary school children of the schools located in various villages. The NSS unit of the institute was initially part of the Mysore University, Mangalore University and Vishvesvaraya Technological University. For the year 2010, the institute has already obtained permission from the Karnataka state NSS unit to have NSS unit which is independent to NIT K Surathkal.

17.7 RIGHT TO INFORMATION ACT (RTI 2005)

The Right to Information Act, 2005 empowers citizens to get information from any 'public authority'. The Central Public Information Officer (CPIO) of a public authority plays pivotal role in making the right of a citizen to information a reality. The Act casts specific duties on him and makes him liable for penalty in case of default.

What is Information

Information is any material in any form. It includes records, documents, memos, e-mails, opinions, advices, press releases, circulars, orders, logbooks, contracts, reports, papers, samples, models, data material held in any electronic form. It also includes information relating to any private body which can be accessed by the public authority under any law for the time being in force.

Right to Information under the Act

A citizen has a right to seek such information from a public authority which is held by the public authority or which is held under its control. This right includes inspection of work, documents and records; taking notes, extracts or certified copies of documents or records; and

taking certified samples of material held by the public authority or held under the control of the public authority.

The Act gives the citizens a right to information at par with the Members of Parliament and the Members of State Legislatures. According to the Act, the information which cannot be denied to the Parliament or a State Legislature shall not be denied to any person.

17.8 YOGA CENTRE HISTORY

Yoga club is a club which organizes all sorts of meditation methods like different yam or self discipline, niyam or discipline, Asanas or position, Bandha or Mudra, Pranayama or control of breath, pratyahar or determination, dharana or dedication, dhayan or meditation and Samadhi or deep meditation which help in concentration in study, helping in attaining happiness by removing all sorts of diseases, for the purity of external life and for internal purity by following regulation of purity of thoughts. It has been organizing yoga events from the last 15 years in NITK.

RECENT INITIATIVES

- We have planned to organize 6 batches in this year which is much more than last year in which only 3 batches were conducted in one year and previous years.
- We are also planning to conduct some special yoga practices for faculty members who are willing to join in large number. A large number of faculty members have enquired and wanted to join the yoga practices.
- We are planning to attract more number of B.TECH students by increasing the size of organizing members and also inducting 1st years into organizing committee.
- We are trying to make people aware of yoga programs more and more by notices as well through personal and group contacts.

MAJOR ACHIEVEMNTS

- 180 people have been enrolled in this semester in different batches which is very large as compared to previous year enrolments and about same number of students are likely to enroll in the next semester yoga practices.
- More than 60 girl students have enrolled for yoga practices this year and are actively participating in almost all batches.
- Postgraduate students and Ph.D scholars have shown much more interest in practicing and learning yoga asanas and pranayams than undergraduate people.

17.9 TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)

The TEQIP-III project activities, since 22 March 2020, was hard hit by COVID -19 pandemic. In spite of the difficult times of the pandemic, the faculty, staff and students of the institute joined hands sportively to take forward the project activities in full swing. As many as 19 online faculty development training program were organized by various department. Among this total number, 04 online training program were targeted for the benefit of the mentee institute (Engineering College Jhalawar, Rajasthan). TEQIP-III funds were utilized by our MTech students and a few UG students who took interest in presenting research papers in the conferences held through virtual mode; research publication in peer reviewed journals was part of the TEQIP-III project wherein faculty members utilized the funds for page over length charges, extra page charge, and

publication processing fees for journal article. The institute also took up the mammoth task of arranging the ONLINE INDUCTION PROGRAM for the freshly admitted first year BTech students (batch 2021) and completed the same over a week duration. TEQIP-III project also gave due emphasis to the various programs laid in its Equity Action Plan. Under this head, programs were arranged for the newly admitted PG students on the skill development program, improving English communication and attending interview skills and apart a finishing school to enhance life skills and employability skills.

TEQIP-III realigned its procurement procedure to use the GeM portal and the NIC CPP portal for all procurement activities starting July 2020 as per NPIU guidelines. Procurement of goods worth INR 190 Lakhs were completed from July 2020 till March 2021 bringing the procurement expenditure to 98.67% of the lifetime allocated budget. A few of the prominent facilities funded during this period are the High Performance Liquid Chromatography equipment (Chemical Engineering), AC Grid Source (EEE), DGX Workstation (CSE), Cadence Research Bundle (ECE), Video Conferencing setup and Displays (Board Room and CCMT Hall), and the Digital Studio setup for recording lectures and live classrooms (Central Library).

For the last four years of the TEQIP-III project the expenditure under various heads are as follows, Rs 345,90,110 towards procurement, Rs.264,58,650 towards academic front and Rs.61,82,488 towards the operating cost, as against the project life allocation of Rs.350,00,000, Rs.280,00,000 and Rs.70,00,000 respectively. Thus the percentage expenditure reads 98.82, 94.49 and 88.32 respectively, as on 31st March 2021. An online "Performance Audit" of the TEQIP-III project was conducted for the year July 2019 to June 2020 during 16-20 February 2021 by the Performance Auditor, Prof. Rajat Gupta, Director NIT Mizoram. Currently the project is in its extension mode and is likely to close on 30th September 2021.

18. INDUSTRY INSTITUTE INTERACTION

21.1 INDUSTRY INSTITUTE PARTNERSHIP CELL (I.I.P.CELL)

The IIP Cell at NITK, Surathkal is engaged in building Institute Industry Collaboration for mutual benefit. The Cell is headed by a faculty member of Associate Professor or above grade supported by a Clerical Assistant. The Faculty in-charge reports to Dean (R&C), Dean (P&D) and Director.IIP Cell is mainly involved in handling of Testing and Consultancy works of all the departments and arranging endowment lectures.

Details Of Testing & Consultancy Projects Above One Lakhs (Above 1 Lakh)				
Financial year	Approximate of companies/ firms/ agencies availing Testing & Consultancy services	Approximate no. of T&C jobs done	Total revenue generated	Total Amount Sanctioned
2020-21 (01.04.2020 TO 31.03.2021)	40	67	212.78 Lakhs	228.66 LAKHS

18.2 INDUSTRY INSTITUTE COLLABORATION

DEPARTMENT OF CHEMICAL ENGINEERING

Name of the industry:- MRPL Mangalore
Nature of Collaboration:- Consultancy Project
Name of the Project : Design and Optimization of Distributor and Flow Distribution of a Multiphase Trickle Bed Reactor Using 3D CFD Modelling.
Period/Duration:- 15 Months

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IBM and NITK-IBM Computer Systems Research Group, NITK are working to build POWER Processor models into the gem5, full system simulator.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Name of the industry:-

Texas Instruments India Ltd.
AMD India Pvt. Ltd.
Intel
Dell, Technologies
Mediatek NXP
India Pvt. Ltd.
Samsung Semiconductors
National Instruments
ABB Global Industries and Services Pvt. Ltd.
Siemens Technology & Services Pvt. Ltd
Cadence
Nvidia Graphics Pvt limited

Nature of Collaboration (academic, research, training etc):- Academic and Research.

Period/Duration:- April 2020 to March 2021

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

1. Yashwant Kashyap, "Solar forecasting and scheduling services", Collaborative activity with Watsun Infrabuild Private Limited, Coimbatore, Tamil Nadu.
2. UG/PG students have done their Major project/internships in industry such as Siemens Technology and Services, Walmart, QULCOMM India Pvt. Ltd. EVQPOINT SOLUTIONS

PRIVATE LIMITED, Raptor Design technologies, Robert Bosch (RBEI), Carnegie Mellon University, USA. etc.

DEPARTMENT OF INFORMATION TECHNOLOGY

DR. SOWMYA KAMATH S

Name of Industry: Hewlett Packard Enterprise (HPE)
Nature of Collaboration: Academic, Research, workshop activities
Period/Duration: April 2020 - ongoing

DR. ANAND KUMAR M.

Name of Industry: EduMinster (US based Company).
Nature of Collaboration: Consultation
Period/Duration: 4 Months

DR. KIRAN M

Name of Industry: KMC , Mangalore
Nature of Collaboration: Quality Assurance in Radio Oncology – Ploting Calibration Curve Using Exposed Gafchromic Films
Period/Duration: 2 Years, 2020-21

DEPARTMENT OF MECHANICAL ENGINEERING

1. IFB Goa , Industry sponsored research, Dr. Hemanth Kumar, Dr. Jeyaraj P, Dr. Sharanappa, Dr. K V Gangadharan
2. NMPT, Industrial Consutancy, Dr. Bijuna (SOM), Dr. K V Gangadharan,
3. MRPL, Industrial Consutancy, Dr. K V Gangadharan, Dr. Pruthviraj (app Mech)
4. NMPT, Industrial Consutancy, Dr. Pruthviraj (AppMech) , Dr. Sheena(SOM) , Dr. K V Gangadharan
5. Wonderla Kochin, Industrial Consutancy, Dr. K V Gangadharan
6. Wonderla Bangalore, Industrial Consutancy, Dr. K V Gangadharan
7. Wonderla Hydrabad, Industrial Consutancy, Dr. K V Gangadharan
8. MRPL, Management Training Program, Dr. Sheena (SOM) Dr. K V Gangadharan
9. OMPL, Industrial Consutancy, Dr. Ranjith and Dr. K V Gangadharan
10. Clasic Fussion, Industrial Consutancy, Dr. Bijuna (SOM), Dr. K V Gangadharan,
11. Hi Tech Batteries, Industrial Consutancy, Dr. Bijuna (SOM), Dr. K V Gangadharan,
12. IKP knowledge park, BRIC Hackathon, Dr, Sowmya Kamath (CS) and Dr. Suprabha (SOM) , Dr. K V Gangadharan
13. MRPL, INVENCIO - Design Contest, Dr. Pruthviraj (AppMech) , Dr. K V Gangadharan
14. Rambal India Ltd. Chennai, Industry sponsered research, Dr. Hemantha Kumar, Prof. K.V.Gangadharan, Dr. Sharnappa J, Dr. Mohd.Rizwan Rahman (Material and Metallurgy Engg),
15. Ashok Leyland Ltd. Chennai, Industry sponsered research, Dr. Hemantha Kumar, Prof. K.V.Gangadharan, Dr. Sharnappa J, Dr. Mohd.Rizwan Rahman (Material and Metallurgy Engg)
16. Arya Technokrats Belgaum, Collaboration for Fabrication, Dr. Hemantha Kumar
17. AUM Techno Spray, Research, Dr. Ramesh M R and Dr Sharnappa J
18. Flow and Force Engineers, Bangalore, Industrial partner in the ongoing IMPRINT project, Dr. Ajay Kumar Yadav
19. M/s Siskin Instruments, Bangalore, Industrial partner in the ongoing IMPRINT project, and DST CERI project, Dr. Ajay Kumar Yadav

DEPARTMENT OF MINING ENGINEERING

1. Initiatives were taken to sign MOU with /s. SCCL, m/S. Triveni Earth Movers Limited and Vedanta.

DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

TATA Steel Ltd, Jamshedpur,
Internship, Sept. 2020

19. SIGNIFICANT ACHIEVEMENTS

DEPARTMENT OF CHEMICAL ENGINEERING

Achievements during 1st April 2020 to 31st March 2021

1. Best paper award to Ms.Deeksha Mathew and Prof.Vidya Shetty K for a paper titled "Visible light irradiated photocatalytic reduction of CO_2 using novel PANI/CuO nanocomposite in aqueous medium" in International Conference on Recent Technologies and Advanced Materials for Green Energy and Sustainable Environment (RTAMGESE-Online) organized by Department of Chemical Engineering, National Institute of Technology Tiruchirappalli held during. March 12-13, 2021

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Awards And Recognition

Mr. MahendraPratap Singh, Asst. professor, was awarded the degree of "Doctor of Philosophy On February 4, 2021.

Dr. Sourav Kanti Addya, Arpana Chakma (PG student) received the Best Paper Award (Poster track) from 13th International Conference on Communication Systems & Networks (COMSNETS 2021), Bangalore, India.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Achievements During 1st April 2019 To 31st March 2020

1. Dr. Shyam Lal, Department of E&C Engg., - Vice Chair, IEEE GRSS (Geoscience and Remote Sensing Society) Bangalore Chapter since January 2021.
2. Dr. Mandeep Singh, Department of E&C Engg., Distinguished Lecturer, IEEE Mangalore SubSection 2020.
3. Dr. Mandeep Singh, Department of E&C Engg., Member of "Doctoral Advisory Committee", Manipal Institute of Technology, MAHE, UdupiKarnataka.
4. Dr. Mandeep Singh, Department of E&C Engg., Marquis Who's Who in the World, 2020.
5. Deeksha M. S. Final year BTech ECE and NITK IEEE Chair received the prestigious Shri Prahlad P Chhabria best outgoing female student award for the year 2021 by Hope Foundation in association with the IEEE India Council and Women In Engineering Affinity Group. This award applaud academic and professional achievements of young women for their accomplishments in the areas of Science, Engineering and Technology. The award comprises of a prize of Rs.1,25,000/- (Rupees One Lac Twenty Five Thousand Only), a medal and a citation which is sponsored by Hope Foundation. http://hfrc-ieeeawards.org/index.php/winners2021/
6. NITK IEEE Student Branch received the Best Large student Branch Award from IEEE

   Bangalore Section for the year 2020 in recognition of their outstanding contribution to the Bangalore section in the year 2020.
   BTech students Yogesh and Srikar Siddharth won the 2020 NFS CPS challenge conducted by Arizona State University (ASU). This was an International Robotics competition where undergrad, graduate and MTech/Research students participated.

DEPARTMENT OF INFORMATION TECHNOLOGY

Achievements During 1st April 2019 To 31st March 2020

Dr. Sowmya Kamath S

1. Awarded Google Cloud COVID-19 Research Grant of USD 10,600 (July 2020)
2. Mentor for B.Tech student team who won the first prize at the Software Grand Finale of the Smart India Hackathon 2020 *(Prob. Stmt no. AR 256, National Jute Board),* August 1-4, 2020
3. Best paper award for "Sketch-based Image Retrieval using Convolutional Neural Networks based on Feature Adaptation and Relevance Feedback", at 6th International Conference on Emerging Applications of Information Technology (EAIT), organised by Computer Society of India (Kolkata chapter) at University of Kalyani, Feb 25-27, 2021.

Dr. Anand Kumar M

1. International Consultancy Project titled "Structured content extraction from preformatted documents and study materials", Rs. 1.18 Lakhs. US-based company Edumeister funded this three-month duration project.
2. BEST PAPER AWARD; Sahil A, Anand Kumar M, Convolution Neural Network based CAPTCHA Recognition for Indic Languages, 4th INTERNATIONAL CONFERENCE ON INTELLIGENT COMPUTING AND COMMUNICATION (ICICC-2020) 18th, 19th & 20th SEPTEMBER, 2020
3. Received 1,00,000 Rupees for conducting course on "Cybersecurity and deep learning applications from 15-July-2020 to 21-July-2020" from CYSECK, Govt of Karnataka
4. Received 93,000 Rupees for conducting FDP on Data Sciences -21-25th-sept-2020 course from ATAL, AICTE.

DEPARTMENT OF MATHEMATICAL & COMPUTATIONAL SCIENCES

Notable Achievements: Achievements during the year

1. Invited speaker in National Webinar on "Mathematics and its Applications in Science" organized by Department of Mathematics, Abhedananda Mahavidyalaya, Sainthia, Birbhum, West Bengal on 14th-15th September 2020.
2. Technical program committee (TPC) in International Conference on Mathematics and Computing (ICMC) 2021, held at India Indian Institute of Engineering Science and Technology, Shibpur, Kolkata, India during March 2-5, 2021.
3. Volunteering as Chair of IEEE Mangalore Subsection for the year 2021.

DEPARTMENT OF MECHANICAL ENGINEERING

Notable Achievements: Achievements during the year

1. Geared-up and Engaged in Online Teaching and Research. Developed Pedagogy for Contents for teaching all subjects in Online mode
2. Numerous Research projects including IMPRINT projects from various funding agencies
3. Organized offline and online technical workshops and faculty refresher courses
4. More than 300 papers in Journals and conferences
5. Filing of IPR

DEPARTMENT OF MINING ENGINEERING

Significant Achievements

1. MOU was signed between NITK and University of Utah, USA, which was initiated by the Department of Mining Engineering.

Notable Achievements: Achievements during the year

1. Dr. B. M. Kunar conducted online course on Remote Sensing and GIS Technology and Application for University teacher and government offices conducted by IRS, ISRO, Dehradun during 13-06-2020 to 01-07-2020.
2. Dr. B. M. Kunar qualified exam on Recent Trends in Statistical Analysis conducted by REST Society for Research International, Tamilnadu in the month of March 2021
3. Prof. Harsha Vardhan received award for Best Paper at the 35th Indian Engineering Congress held from December 18-20, 2020 for the paper "Experimental and Prediction Analysis of the Screening Performance of Coal in Linear and Circular Vibratory Screen" in the Mechanical Engineering Division.
4. Prof. Harsha Vardhan received "Distinguished Alumnus Award" for Achieving Excellence in the Profession and Bringing Laurels to the Alma Mater from National Institute of Technology Karnataka, Surathkal during Diamond Jubilee Celebrations (August 06, 2019 - August 06, 2020).

SCHOOL OF MANAGEMENT

Achievements

1. Dr S. Pavan Kumar was conferred with the best paper award in the track "Entrepreneurship and Engineering Innovation" for the research paper "Exploring the Relationship between Students' Inclination to Sports and Their Entrepreneurial Intentions" in Eighth International Conference on Transformations in Engineering Education (ICTIEE 2021). Organized by IUCEE, held online during 8th – 10th January 2021.
2. Naganna Chetty, Sreejith Alathur and Vishal Kumar, Best paper award, ICCCS-2020, IIT Patna
3. Dr.Sreejith A, 2020 United Nations University (UNU) - eGOV Fellowship

DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

Awards and Recognitions

1. Dr. Lakshman Nandagiri, Appointed Technical Expert Witness to represent State of Karnataka in Supreme Court of India in Ordinary Suit filed by State of Tamil Nadu in matter pertaining to sharing of Cauvery River water, 2020.
2. The Paper entitled "Trend Analysis of Meteorological drought for India region." Authored by Ayilobeni Kikon, Paresh Chandra Deka is selected for Best Paper *Award* for the session TS-5/ PS-3 in the HYDRO-2020, 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, organized by Department of Civil Engineering, National Institute of Technology Rourkela, India in association with the Indian Society for Hydraulics (ISH) held during 26 to 28 March 2021
3. Namitha Thomas and Ramesh H., 2021. Flood hazard mapping of Netravati river basin using remote sensing and GIS techniques. HYDRO 2020 INTERNATIONAL25th International Conference on Hydraulics, Water Resources and Coastal Engineering, held at National Institute of Technology Rourkela Odisha, India, March 26-28, 2021. (Fetched Best paper award).
4. Sumanth A and Ramesh H., 2021. Hydrological modelling of the upper Cauvery river basin using SWAT. HYDRO 2020 INTERNATIONAL25th International Conference on Hydraulics, Water Resources and Coastal Engineering, held at National Institute of Technology Rourkela

Odisha, India, March 26-28, 2021. (Fetched Best presentation award).

5. The Paper entitled "Analysis of rainfall trends and extreme precipitation indices in a humid tropical basin." Authored by Alka Abraham, Subrahmanya Kundapura is selected for Best Paper *Award* for the session TS- 3/ PS-6 in the HYDRO-2020, 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, organized by Department of Civil Engineering, National Institute of Technology Rourkela, India inassociation with the Indian Society for Hydraulics (ISH) held during 26 to 28 March 2021
6. The Paper entitled "Stream flow and Hydrological Drought Trend analysis and forecasting" Authored by Arya Sajeev, Subrahmanya Kundapura is selected for Best Proper *Award* for the session TS-5/ PS-4 in the HYDRO-2020, 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, organized by Department of Civil Engineering, National Institute of Technology Rourkela, India in association with the Indian Society for Hydraulics (ISH) held during 26 to 28 March 2021.
7. The Paper entitled "Hydrodynamic Performance of Array of Heaving Point Absorbers Combined With STLP-Type Floating Wind Turbine" Presented by Mr. Rony J. S. is selected for Best *Presentation Award* for the session TS-4/ PS-5 in the HYDRO-2020, 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, organized by Department of Civil Engineering, National Institute of Technology Rourkela, India in association with the Indian Society for Hydraulics (ISH) held during 26th to 28th March 2020
8. The paper entitled "Hydrodynamic Performance of array heaving Point Absorber combined with STLP- Type floating wind Turbine for session TS-4/PS-, Authored by Rony J.S, D.Karmakar in The HYDRO-2020, 25th International Conference on Hydraulics, Water Resources and Coastal Engineering, Organized by Department of Civil Engineering, National Institute of Technology Rourkela, India in association with the Indian Society of Hydraulics(ISH) held during 26th to 28th March 2021, has been honoured with BEST PAPER PRESENTATION AWARD

Dr. Hem Prasad Nath

Physical Education and Sports: Institute teams were formed in some sports selecting players from the students present in this campus during this pendamic hit year but no teams participated in any of the tournament.

Mr. Sharan Rao of III BTech Class Won State level chess championship held at Udupi and got selected to participate in National Chess championship.

Dr. Hem Prasad Nath "Yog and Edifying Indian Heritage" in Prajnalok: An anthology of peer reviewed articles on diverse subjects", First Publication 2019, Gigabytes Press and Publication, Pg 214-223, ISBN 978-93-85310-18-8

Additions to Building Infrastructure

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

The building vacated by the Dept. of Computer Science and Engg. (while moving to a new building) has been allotted to the Dept. of E&C Engg.

SCHOOL OF MANAGEMENT

Established a new computer lab with 30 computers and all other required facilities for the benefit of MBA students.

Department of
omputer Science and Engineering

INFRASTRUCTURE DEVELOPMENT

1. NVIDIA DGX –1 with 8 no's of V100 32GB GPU, Single 20-core Intel Xeon, E5-2698 v4 2.2GHz, 512GB 2133 MHz DDR4 RDIMM, 4 no's x 1.92TB SSD RAID 0, 8 x Tesla V100 32GB each with Nvlink offering: 1 Peta FLOPS, Ubuntu Linux
2. C-NVIDIA DGX- 1 with 8 no's of V100 32GB GPU, Single 20-core Intel Xeon, E5-2698 v4 2.2GHz, 512GB 2133 MHz DDR4 RDIMM, 4 no's x 1.92TB SSD RAID 0, 4 x Tesla V100 32GB each with Nvlink offering: 480TFLOP (FP16), Ubuntu Linux

Department of Physical Education & Sports

Enhancement of Infrastructural facilities:

Construction work of New Sports complex is completed and most of the facilities are open to students use. Facilities available in this New Sports Complex are Fitness Gym, Squash courts, Table Tennis hall, Badminton Hall. Indoor games hall, Aerobic dance hall, Indoor Cricket pitches, Cricket pavilion, Athletic pavilion, Department office, Store room, Dressing/changing room for many outdoor games with locker facilities and required Bath room and Toilets, Stages and green rooms for cultural activities. Provision to play Kabaddi and Volleyball is also there with Full size synthetic Kabaddi mats and Portable Volleyball posts made available for students use.

Alumni Relationship Building Activities :-

Distinguished Alumni Felicitation Programme for Conferring of Distinguished Alumnus / Alumna Award

Distinguished Alumni Felicitation Programme for Conferring of Distinguished Alumnus / Alumna Award to Alumni Achievers graduated from 1980 to 2019. This was part of the Diamond Jubilee Year Celebration of NITK Surathkal and held on 9th August 2020 at 10 am through the Web meeting platform.

It was planned for the closing ceremony of Diamond Jubilee Year Celebration on August 06, 2020, which coincides with the 61st Foundation Day of the Institute. Given the importance we attach to the alumni, it was the collective desire of Team-NITK to host five Alumni meets to honour Alumni Achievers grouped into every decade of graduation namely, 1965-79, 1980-89, 1990-99, 2000-09, and 2010-19. First Alumni meet was organised on 6th August 2019, the 60th Foundation day, inviting Alumni graduated from 1965 to 1979. The remaining four Alumni meets were scheduled to be held on 5th August 2020. But due to the situation arising out of COVID-19, the closing ceremony of NITK Diamond Jubilee Year is planned to be organised a day before the next convocation of the Institute. Considering this development, the four Alumni meets were scheduled on 9th August 2020 at 10 am through the Web meeting platform.

The Alumni meet had the major objective of identifying the Alumni serving Industry / Research Organisations / Government Services across globe and felicitate them conferring "Distinguished Alumnus / Alumna Award" on the eve of Diamond Jubilee Year. The Institute invited nominations for Distinguished Alumnus / Alumna Award through the online registration process, seconded

by other alumni and recommendations from alumni association. There was an exercise of evaluating nominees from each graduation awarding departments through respective department-level committees. Accordingly, 38 Alumni were shortlisted for Distinguished Alumnus Awards. On this momentous occasion, the "Distinguished Alumnus / Alumna" Awards were conferred to 38 Alumni graduated from 1980 to 2019.

This event started with the greeting and introduction to the award ceremony by Prof. K. P. Vittal, Dean (AA & IR). Following this, the welcome address by Prof. K. U. M. Rao, Director, NITK, and presidential address by Prof. K. Balaveera Reddy, Chairman, BOG. In total Thirty-Eight Alumni serving Industry, Research Organisations and Educational Institutions were invited and felicitated conferring "Distinguished Alumnus / Alumna Award" through Web Meeting Platform. The event of live casted YouTube live to facilitate participation of Faculty, Staff, Students, Alumni and well-wishers of the Institute.

A Group of Distinguished Alumni attending Virtual Meet

Alumni Donations and services to Covid 19 lockdown affected families:-

Generous donations of about Rs. 9.0 (Nine) lakhs from Faculty, Staff, Students and Alumni from 1981 Batch, NITK Surathkal Alumni Association, NITK Alumni Association Delhi Chapter, Mumbai Chapter, 2004 Batch 2005 Batch, and other alumni has helped to provide Grocery Kits worth Rs 600.00 per kit, containing essential

grocery items such as Rice (5 kg), Toor dal (1 kg), Jaggery (1 kg), Chilli Powder (100 gm), Turmeric Powder (100 gm), Ashirvad atta-(1kg) Soji (1kg), Garlic (100gm), to the needy poor families who do not have the necessary resources during lock down due to COVID 19 Pandemic,About 1500 grocery kits has been distributed to the families living in the surroundings of NITK, Udaya Nagar, Padre Tadambail, Marigudi, Haleangadi Grama Panchayat, Tokur, Kerekadu, Bappandu, Chitrapu, Karnire, Balkunje, Kavatharu, Angaragudde, Seemanthuru, Panja, Kumbalabettu, Talipady, Bellayaru, Hosakaveri, Guthukadu, Kammaje, Kemmude, Munchigudde, Kilenjoor, Kilpady area.

Award of cash-certificate of merit for NITK Non -Teaching & Contract staff wards every year

On behalf of 1981 Batch we received total amounts of Rs. ₹ 4,73,663.81 for the purpose of award of Cash + Certificate of Merit for NITK Non-Teaching & Contract Staff wards every year. The award of scholarship of Rs. 10000 each and the merit certificate to two meritorious students of our temporary/contractual employees.

National Education Policy-2020

As per directions from Honourable Minister of HE, GOI on launching NEP-2020, immediate plan of action was charted at NITK Surathkal in June 2020. Under the leadership of the Director Prof. Umamaheshwar Rao and the Chairman BOG Prof. Balaveera Reddy following sequence of activities have been undertaken:

A "NEP-2020 TASK FORCE" consisting of Deputy Director, all Deans was constituted.

A committee consisting of senior faculty members has been constituted for the Implementation of NEP-2020 at NITK Surathkal for which the Prof. Saidutta M B, former Dean (AA&IR, Academic) is the chairman.Following tasks were assigned:

Dean (Academic) working on curriculum framework to incorporate features suggested in NEP-2020.

Dean (Alumni Affairs & Institutional Relations) to organize Webinar Series on various facets of NEP-2020 and its spirit of implementation, by inviting external experts and senior faculty of NITK.

Dean (Student Welfare) to organize webinars on Five Years Strategic planning to implement NEP-2020.

The institute has already implemented some of the key objectives of NEP-2020 in a limited sense. These include,

Offering Honors and Minors degrees (as a part of multi-disciplinary objective) to undergraduate students.

Multi-exit options at MTech level (based on the choice of the student, offering PG Diploma after one year of MTech coursework).

Awarding credits for Extra-curricular activities (for involvement in activities such as sports, athletics, NCC, NSS, cultural activities, music, dance, yoga, fine arts, painting, photography and such other 20 diverse activities).

Transfer of upto 20 credits from MoU partner institutions and 10 credits from other non-MoU partner institutions.

Offering courses on Ethics, Professional Communication, Economics, Business administration etc. to undergraduate engineering students.

Conduction of experiments to students and faculty from other institutions through National Virtual Lab portal (a step in virtual university)

As per the preparatory plan, 31 Webinars on NEP-2020 on following themes (Please refer to Table 1) have been organized / slated till date.

Concurrently 25 Webinars were also organized on Five years strategic planning of Heads of the Departments (14 departments), Head of Centres (Career Development Centre, Centre for System Design, Centre for Disaster Management), 6 Deans namely Dean(Academic), Dean(Planning and Development), Dean(Research and Consultancy), Dean(Faculty Welfare), Dean(Student Welfare), Dean(Alumni Affairs & Institutional Relations).

Outcomes of all above activities are consolidated and a plan of action is

formulated for NEP-2020 implementation at NITK Surathkal.

Table 1 All webinars are conducted in On-line Mode

Sl. No.	Theme of NEP / Title of the webinar	Date	Number of participants	Level of participants	Name of the resource person
1	Roles of Institutes of National Importance	25-08-2020	278	Faculty members (Professor, Assoc. Professors & Asst. Professors) and Administrative staff	Prof. N C Shivaprakash, IISc, B'luru, Senate Member
2	NEP-2020: What it does for us and what we can do for it	04-09-2020	275		Prof. A K Suresh, IIT Bombay, BoG Member
3	Role of Teachers in Higher Education	05-09-2020	288		Prof. K Balaveera Reddy, Chairman, BoG
4	Vision to transform NITK towards MERU	05-09-2020	276		Prof. K Balaveera Reddy, Chairman, BoG
5	Multiple Entry and Multiple Exit points in HE	16-09-2020	281		Prof. K Balaveera Reddy, Chairman, BoG
6	Nurture Creativity, IPR and Patent culture	26-09-2020	240		Prof. Arun M Isloor, NITK
7	Student Activity and Participation and Support	03-10-2020	255		Prof. Jagannatha Nayak, NITK
8	NITK – A View on Vision (Academics & Admin)	10-10-2020	284		Prof. K Umamaheshwar Rao, Director
9	Implementation of Multiple Entry and Multiple Exit Scheme at NITK	17-10-2020	282		Prof. K Balaveera Reddy, Chairman, BoG
10	Academic Reforms in Multidisciplinary systems	24-10-2020	257		Prof. G Ram Mohan Reddy, NITK
11	Opportunities for Multidisciplinary Research and Academics in Mining	31-10-2020	212		Dr. Karra Ram Chandar, NITK
12	Research Centers in Higher Education Systems	07-11-2020	267		Prof. Udaya Bhat K, NITK
15	Holistic and Multidisciplinary Education	28-11-2020	283		Prof. K Balaveera Reddy, Chairman, BoG
16	Role of Teachers in Higher Education	04-12-2020	290		Prof. K Balaveera Reddy, Chairman, BoG
17	Effective Teaching – Learning in Higher Education	05-12-2020	230		Prof. S M Kulkarni, NITK
18	Faculty Participation-Role and Outcome	12-12-2020	210		Dr. Nagaraja H.S, Department of Physics NITK
22	Institutional Leadership Development.	09-01-2021	262		Prof. K. Swaminathan, Department of Civil Engg. NITK
23	Refining the Goal of Engineering Education	16-01-2021	272		Dr.Lakshman Nandagiri, Professor, Department of Water Resources & Ocean Engineering, NITK
24	World Class Learning Resources Centers	23-01-2021	256		Dr. Mallikarjun Angadi, Librarian, NITK

25	Health and Wellness in HE Systems	30-01-2021	230		Prof. K N Prabhu, Department MME, NITK
26	Expectations from Senate-NEP-2020 Perspective	05-02-2021	280		Prof. K Balaveera Reddy, Chairman, BoG
27	Vocational Education	13-02-2021	245		Prof. Shrikantha S Rao, Professor , Department of Mechanical Engg.NITK
28	Academic Credit Bank and Student mobility in Higher Education System	20-02-2021	285		Prof. Vidya Shetty K,Department of Chemical Engineering NITK
29	Collaborations with Industries and R&D organizations - Way forward for Academic Institutions	27-02-2021			Prof.Vijay Desai,Chairman, CDC, NITK
30	Open and Distance Learning (ODL) in Higher Education	06-03-2021			Dr. M.N. Satyanarayan, Professor, Department of Physics, NITK

Based on the interaction with the participants, NITK, Surathkal is making preparations for the timely and smooth adoption of NEP 2020 and is proposing certain changes in its rules & regulations and curriculum to meet the goals of NEP 2020.

Some of the proposed changes to be made for smooth adaption of NEP 2020 are listed below.

Introduction of liberal arts into B.Tech

Flip classes

Introduction of trans-disciplinary projects at B.Tech, M.Tech and Ph.D level

Introduction of cornerstone, Capstone projects

Vocational Training

Design of courses

Dual degree programs

Multiple entry multiple exit schemes.

Associating with HERITAGE NETWORK

NITK had submitted its application to enroll itself The Heritage Network. The Heritage Network is an Indo-European network of more than twenty leading technical Higher Education Institutions (HEI) jointly engaged in collaborations through their research and academic activities addressing common priorities of national interest and well-being The Heritage Network aims at achieving these goals by identifying partner institutions willing to undertake joint research projects, academic and research exchanges, and industry partnerships between India and Europe. This Network proposes a unique platform and framework for sharing expertise and best practices and foster high level educational programmes.

Associating with OBREAL GLOBAL NETWORK

NITK had submitted its application to enroll itself in OBREAL GLOBAL NETWORK in order to open up academic and research collaboration with select Institutions of European Union, Africa, LATIN AMERICA. Our membership eligibility has been evaluated by the executive committee and now we are accepted as members of this network. Based in Barcelona, OBREAL Global Observatory (http://obsglob.org/) has recently expanded its mandate to cater to diverse global regions in a 'South-South-North' perspective, aiming to create bridges in support of shared development objectives. It focuses on the following three key pillars of the higher education sector, yet also extends its reach the youth and other

related sectors: Internationalisation, mobility and collaborative international study programmes • Quality assurance and recognition tools and processes. Research and innovation management. During the last 14 years, OBREAL-Global Observatory has extended its reach from Europe to Latin America, Asia, the Middle East and Africa, connecting important actors in diverse sectors in collaborative projects for research, education and development. The setting up of the OBREAL – Global India Chapter will allow Indian universities and research institutions to link themselves to a global network of universities, university associations and higher education organizations that work together around development, internationalization, research and innovation.

CSR funding received and project executed

About Maire Tecnimont Group
Milan-based Maire Tecnimont Group plays a significant role in the international engineering & construction (E&C) with specific competences in plant building, particularly in the hydrocarbons segment (Oil & Gas, Petrochemicals and Fertilizers), as well as in Power Generation and Infrastructures. Maire Tecnimont Group operates in approximately 40 different countries, numbering around 50 operative companies and a workforce of about 5,400 employees, along with approximately 3,000 additional Electrical & Instrumentation professionals.
For more information: www.mairetecnimont.com
Anaerobic Digestion Plant:
Maire Tecnimont Group, the global leader in engineering & construction, hydrocarbon sector, circular economy & green chemistry, has funded a 500 kg Biogas Plant which uses Food and Vegetable Waste as a feedstock, through its Indian subsidiary, Tecnimont Private Limited (TCMPL) as a part of its CSR Initiative and has donated about Rs 39.60 Lakhs for the installation of pilot plant at National Institute of Technology Karnataka Surathkal.
The company has also provided scholarships worth Rs 4.3 Lakhs to NITK for supporting implementation of pilot plant and further activities related to the sustainability at NITK campus.
This project will be useful for the dissemination of biogas technology, related energy policies, practical energy generation techniques and skills, for academicians, students as well as industry personnel's, by means of various lectures, hands-on training and field visits. This initiative will be helpful to handle the problems of environmental pollution and energy shortage, to promote eco-friendly agricultural practices, to enhance international cooperation in the field of renewable energy, environmental management and services.
The project can also help in replacing chemical fertilizers using Food Waste Digestrate, a by-product of biogas plant, commonly used as a manure. Substitution of chemical fertilizer with spent digestrate can reduce major greenhouse gas emissions.
Important Mile Stones:

Maire Tecnimont S.p.A. Milan has signed an MOU with NITK for period of Five years for the creation of Maire Tecnimont Centre for Research in Waste Recycling and Circular Economy.
Maire Tecnimont S.p.A. Milan has donated 16 scholarships worth 35.20 lakhs for the academic year 2021-22 to NITK to run the Maire Tecnimont Centre for Research in Waste Recycling and Circular Economy and carryout research, even though entire world is suffering due to COVID 19 Pandemic.
Further Maire Tecnimont Group, through its Indian subsidiary Tecnimont Pvt Ltd. Mumbai has already sponsored INR 1,47,000/(taxes Extra) in order to meet the partial expenses involved in organising the International Corporate Level Social Outreach Program. As part of international Corporate Level Social Outreach

Program, the inaugural function of Bio Waste Recycling Pilot Plant (both indoor and outdoor) was held on 25th March 2021 with intention of giving clear message to Society that,

Institutions like NITK play a pivotal role in building a strong future for communities throughout the country and across the globe in the area of Waste Recycling and Circular Economy". Utilisation of Clean Energy generated from Bio Waste Recycling Plant will serve as a classic model to educate the students about how the renewable energy systems will be managed in a sustainable manner.

Further students can also learn to work with different types of equipment used for the generation of Green power.

The generation of renewable energy from waste will set an example for the students, surrounding community, Urban Local Bodies (ULB s), and also for other educational institutions to address waste management issues in a sustainable manner.

The public perception is one of the most important NIRF Ranking Parameters that decides the ranking of a particular institution. By keeping this point in mind, the information about BWRP which utilizes the organic waste generated inside the campus and generate renewable biogas, was published in various news channels and published in various websites and also in print media (International as well as National (List Attached as Annexure A, for your kind reference). More than 800 hundred people viewed You tube live streaming, Inaugural Function: Anaerobic Digestion Plant is inaugurated in the Presence of Prof Umamaheshwar Rao, Director NITK, Prof Anathanarayan, Deputy Director, NITK, Prof K P Vittal Dean Alumni affairs and Institutional relations, Shree Milind V Baride Vice President India Region Tecnimont Private Limited Mumbai and Mr Gopal Gupta Head Communications Tecnimont Private Limited Mumbai, Dr. G Santhosh Kumar, KAS, Joint-Commissioner (Administration), Mangaluru City Corporation, Prof S M Kulakrni, Head of the Department Mechanical Engineering, and Project Coordinators Dr Vasudeva Madav and Prof Ashokbabu T. P. and Online Presence of Mr Fabrizio Di Amato, Chairman Maire Tecnimont Group, S.p.A. Milan, Italy, Mr Pierroberto Folgiero, CEO Maire Tecnimont Group, S.p.A. Milan, Italy, Mr. Vincenzo De Luca, Italian Ambassador of Italy in India, Ms Grieco Valentina (Communication and Sustainability, Marie Tecnimont Group, S.p.A. Milan, Italy. Online presence of Alumni Shree R. Krishnamurthy, Coordinator, CAMP initiative of 1981 Alumni Batch of KREC/NITK Video Message was sent by Shree Dharmendra Pradhan Minister for Petroleum and Natural Gas GOI, Message from Fabrizio Di Amato, Maire Tecnimont Chairman, "We are honoured to further strengthen the collaboration with such a prestigious institute as NITK to foster new skilled professionals and entrepreneurs in the field of green chemistry and circular economy in order to accelerate the energy transition in India. We at Maire Tecnimont strongly believe in giving back to society and empowering aspirations in education which is one of the key pillars of our sustainability strategy. India is our second home, and we are improving our efforts through partnerships and agreements with public and private players."

Message from Director, NITK "We are elated by the support of Marie Tecnimont towards promoting green energy within our campus. As it is said that actions speak louder than words, their gesture of installing the waste-to-energy pilot plant will not only inspire students, who will be tomorrow's entrepreneurs, to think about and

experience the immense potential of green energy; but more importantly, will set an example for other corporates to lead the change. Maire Tecnimont Research Scholarship for Sustainable Development will give much-needed support to students".

Inaugural Function at Outdoor (Behind Aravali Hostel Block)

Indoor Program

2.5 Scholarship disbursement under CSR funding

1. Award of Boeing Scholarship

Following students have been selected for the Boeing Cash Award (one time)
1. Mr. Darren Charles Fernandes 171ME119
2. Mr. Mahesh P - 171EE124
3. Ms. Manasa Machina - 192CN014
4. Mr. Asif S Khan - 192TH002

Outdoor (Behind Aravali Hostel Block)

Biogas Plant Ready for Inauguration (Behind Aravali Hostel Block)

3. Garrett WeCare4 Scholarship - Garreett Motion Technologies India Pvt. Ltd Pune

We received Scholarship Fund of Rs.2,75,569/- from Garrett Motion Technologies India Pvt. Ltd to the NITK /KREC Endowment fund shall be utilized for "Garrett WeCare4 Scholarship". Garett has reimbursed 80% of tuition fees of 5 students for B.Tech 1st Year Mechanical Engineering based on the cumulative Academic Score and their family income is less than 5 lakh.

Sixth International Day of Yoga was observed around the theme Yoga @ home and Yoga with Family on 21st June, 2020 from 7:00 AM to 7:45AM. Director of NITK, Faculty, Students, Staff and their family members, participated in the programme.

National Education Day Celebrations:-

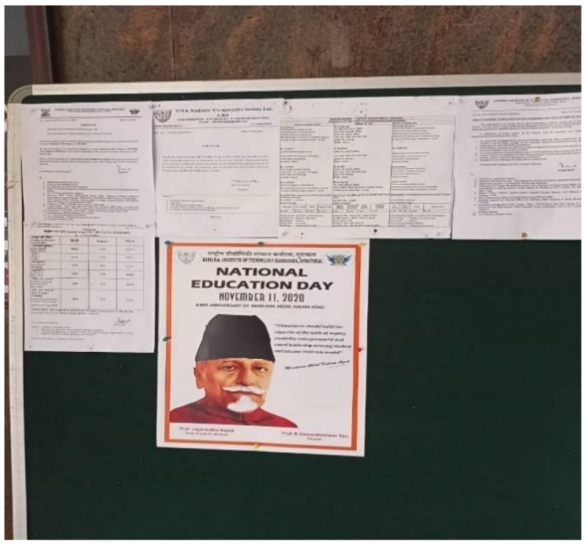
The National Education day was celebrated on 11-11-2020 in commemoration of birth anniversary of Maulana Abul Kalam Azad. On this

occasion, three events were organized in an on-line mode by the Hindi and Sanskrit club.

1. Presentation by the students on "National Education Policy (NEP) – 2020"
2. On-line Elocution Competition on the topic " An Ideal Education System'
3. Online Quiz Compitition on NEP - 2020.

Orientation Programme for First year B. Tech Students

Orientation programme for the first year B. Tech students was conducted on 12-12-2020 in an online mode. The program was coordinated by dean (SW). The Chairman BoG, The Director, the Deputy Director, all the Deans, Chairman CDC, Chief Warden, The Registrar and Joint Registrar addressed the students. Students were given an overall picture of amenities available in the campus. The program was well received and appreciated by the students and their parents. About 1000 students participated in the event.



Activities by the various Student Clubs:-

Several activities (at State level/ national level/ international level) were conducted in an online mode by the members of various Student Clubs. The Activities include 35 Workshops, 13 Skill development programs, 45 Competitions, 9 Awareness programs, 8 Mentoring programs, 2 Quizzes, 3 Hackathons, 5 Knowledge sharing programs, 2 Project exhibitions, 7 Motivational talks, 4 Webinars, 2 Seminars

Blood Donation Camp

NSS and CoE for Disaster Risk Reduction , NITK jointly organised the Blood Donation Camp on 29.1.2021 for the Blood Bank, Wenlock Govt. Hospital, Mangalore. The blood donation camp was arranged in Institute Mega Hostel Mess with the help of Medical Doctors/Staffs of Wenlock Hospital. The Camp was grand success with 86 participants donating the blood, and sent to blood bank of Wenlock Hospital Mangalrore.

International Women's day

International Women's Day was celebrated in Institute on March 8th 2021 in LHC Seminar hall with students of NITK Kannada Medium High School. Smt. Vidyalakshmi was the chief guest of the programme. Prof. Jagannatha Nayak, Dean(SW) presided over the function.

Bharat Darshan

On 26th January, 2021 , this Republic Day, Dance, Drama and Fashion Club virtually conducted its biggest cultural event of NITK, **Bharat Darshan.** Bharat

Darshan is a celebration of the diversity of India. The aim is to represent the traditions and cultures of different states through a variety of traditional dance forms. Students from different state participated in the event from their home.

Covid Awareness Programme

A Covid Awareness programme was arranged on 23-03-2021 in the pavilion of our Institute for the benefit of Faculty, Staff and students of the Institute. The programme well attended. On this occasion, Dr. Shrimathi, Resident Medical Officer of NITK delivered a talk on Covid Awareness. She discussed about the precautions to be taken, The SOPs to be followed and also procedure to be followed in case some body is found Covid +ve..

20. ASSOCIATED CENTRES

20.1. National Institute Of Technology Karnataka (STEP)

A YEAR LIKE NO OTHER...

The global economy is facing a deep recession with the ongoing impact of covid-19. Uncertainty remains around the outlook, alongside longterm forces that shape and influence countries' response to the virus and the recovery.

People all over the world have seen profound changes in their lives: economic recession, unemployment, climate change, technology and the automation of jobs, the rise of digital currencies, lower returns on their savings, and rising inequality and debt.

These ongoing global forces and the current crisis can offer opportunities to build a better future for everyone. Working together in good faith and with shared goals can yield solutions to our most pressing problems, restore leadership and trust in institutions, and create a recovery that builds a global economy to serve everyone.

This year, as the world faced a crisis like no other, the step swung into action. As we moved towards, we looked back with pride at what we had been able to do in the last year.

We conducted 43 training programmes during the year.

NAME OF EVENT	NO OF PARTICIPANTS
WORKSHOP ON GEOMATICS CONDUCTED FOR M. TECH. STUDENTS OF MANIPAL INSTITUTE OF TECHNOLOGY	19
WORKSHOP ON PYTHON & ITS APPLICATIONS-REGISTRATION	12
CHEMICAL AND OIL SPILL MANAGEMENT (COSM-2020)	50
A SELF-FINANCED ONLINE SHORT-TERM COURSE ON DESIGN AND CONTROL OF POWER ELECTRONIC CONVERTERS AND ITS APPLICATIONS	128
A SELF FINANCED SHORT TERM COURSE ON PCB DESIGN USING OPEN-SOURCE TOOLS	162
FIVE SERIES OF WEBINARS ON INTRODUCTION ON RADAR SYSTEMS	61
FUNDAMENTALS OF IMAGE PROCESSING AND COMPUTER VISION USING PYTHON PROGRAMMING"	26
AAVISHKAR DIGITAL PLATFORM FOR DESIGN THINKING & PROJECT BASED LEARNING LAUNCHING	16
WORKSHOP ON COMPUTER VISION: A PRACTICAL APPROACH	24
WORKSHOP ON RASPBERRY PI: A PRACTICAL APPROACH	12
WORKSHOP ON ROBOTICS & THE CIRCUITS	7
WORKSHOP ON BRAIN COMPUTER INTERFACE (BCI)	17
WORKSHOP ON IOT: A PRACTICAL APPROACH	14
WORKSHOP ON PRACTICAL APPROACH ON INDUSTRY 4.0 & IOT	17

WORKSHOP ON PRACTICAL APPROACH ON BUILDING A CHAT BOT	16
PRACTICAL APPROACH ON POWER SYSTEMS USING MATLAB	25
PRACTICAL APPROACH ON DATASCIENCE	21
WORKSHOP ON PRACTICAL APPROACH ON TENSOR FLOW & KERAS	20
WORKSHOP ON HANDS ON ARDUINO PROGRAMMING	34
WORKSHOP ON PRACTICAL APPROACH ON TENSOR FLOW & KERAS	20
WORKSHOP ON HANDS ON ARDUINO PROGRAMMING	34
HANDS ON ELECTRIC VEHICLE USING MATLAB	41
PRACTICAL APPROACH ON ARTIFICIAL INTELLIGENCE	28
WORKSHOP ON PRACTICAL APPROACH ON MICROSOFT AZURE & PROTOCOLS	19
WORKSHOP ON PRACTICAL APPROACH ON COMPUTER VISION	29
INDUSTRIAL INTERNSHIP ON ELECTRICAL DESIGN USING MATLAB SIMULINK	14
INDUSTRIAL INTERNSHIP ON EMBEDDED SYSTEMS USING ARDUINO AND ARM7	20
INDUSTRIAL INTERNSHIP ON DEEP LEARNING USING CNN AND MATLAB	18
INDUSTRIAL INTERNSHIP ON IOT WITH MACHINE LEARNING USING PYTHON	51
INDUSTRIAL INTERNSHIP ON ELECTRICAL DESIGN USING MATLAB SIMULINK	3
INDUSTRIAL INTERNSHIP ON EMBEDDED SYSTEMS USING ARDUINO AND ARM7	1
INDUSTRIAL INTERNSHIP ON IOT WITH MACHINE LEARNING USING PYTHON	55
WORKSHOP ON 5G COMMUNICATIONS	6
WORKSHOP ON ARM CORTEX	7
WORKSHOP ON ARTIFICIAL NEURAL NETWORKS	6
WORKSHOP ON BOOST & BUCK BOOST CONVERTOR	3
WORKSHOP ON CYBER SECURITY	4
WORKSHOP ON MEDICAL IMAGE PROCESSING	26
WORKSHOP ON NS2	19
WORKSHOP ON RNN	3
FUNDAMENTALS OF INTELLECTUAL PROPERTY	19
WOMEN'S ENTREPRENEURSHIP DEVELOPMENT PROGRAM (WEDP-2021)	35
TECHNOLOGY BASED ENTREPRENEURSHIP DEVELOPMENT PROGRAM – (TEDP-2021)	25

EXISTING ENTREPRENEURS:

1. INDHRA DHANUSH AUTONOMOUS PLATFORMS (OPC) PVT.LTD.
2. DIME KLEAR PVT. LIMITED
3. BELLARE GIS CONSULTANCY PVT.LTD.,
4. SERPRO CONSULTANCY PVT.LTD
5. EXPERT VISION LABS PVT.LTD.
6. AAKRUTHI3D PRIVATE LTD.
7. KAMBALA SOLUTIONS PVT.LTD.
8. PENZIGO TECHNOLOGY SOLUTIONS PVT.LTD
9. SRI SHASHA PRAYATHI TECHNOLOGIES LIMITED
10. APHATECH
11. HITHAM HERBAL PRODUCTS
12. DRI-EV TECH SOLUTIONS PVT LTD

EXISTING ENTREPRENEURS NITK FACULTY MEMBERS:

1. DR. PATHIPATI SRIHARI, - (SRI SHASHA PRAYATHI TECHNOLOGIES LIMITED)
2. DR. ARUN MOHAN ISLOOR, - (M/S APAHATECH SOLUTIONS LLP)
3. DR. B DASTAGIRIREDDY, - (DRI-EV TECH SOLUTIONS PVT LTD)

STUDENT STARTUP:

1. SHILPA K NAYANA (FOUNDER AND 1ST STUDENT WOMEN ENTREPRENEUR) MBA STUDENT @ NITK (2021), BIOTECHNOLOGY AND BIOCHEMICAL ENGINEER.

20.2 CENTRE FOR CONTINUING EDUCATION (C.C.E)

Sl. No.	Title of the Course	Duration	Organized through	Name of the Course Coordinators	No. of Participants attended	Course Intended for
1	"OPEN-SOURCE NETWORK EXPERIMENTATION"	14-12-2020 to 18-12-2020	Department of Computer Science Engineering, NITK	Dr. Chandavarkar and Dr. Mohit P. Tahiliani	25	Faculty and Students of NITK, sponsored by NITK, Surathkal

21. FINANCE AND ACCOUNTS

Expenditure position for the four three years

Year	Oh.35 (Capital)	Revenue Grant 31&36	Total
2017-18	9084.36	12764.00	21848.36
2018-19	5413.50	15067.04	20480.54
2019-20	1094.76	16311.21	17405.97
2020-21	2595.03	14750.97	17346.00

BALANCE SHEET AS AT 31-03-2021			
			(AMOUNT - Rs.)
PARTICULARS	**SCH. NO.**	**CURRENT YEAR**	**PREVIOUS YEAR**
SOURCE OF FUNDS :			
CORPUS/CAPITAL FUND	1	(14,51,50,623)	(75,85,777)
DESIGNATED/ EARMARKED/ ENDOWMENT FUNDS	2	3,48,95,68,844	3,27,81,89,351
LOANS/BORROWINGS	3	67,50,36,722	12,65,88,449
CURRENT LIABILITIES AND PROVISIONS	4	6,16,03,93,430	5,85,52,99,993
TEQIP PROJECT - PHASE III	26	3,47,42,810	1,59,07,028
TOTAL		**10,21,45,91,183**	**9,26,83,99,044**
APPLICATION OF FUNDS :			
FIXED ASSETS	5		
Tangible Assets	5(A)+(D- ii)	3,87,09,86,176	3,58,19,80,526
Intangible Assets	5(c)	1,53,39,833	247
Capital Works-In-Progress	5(B)	1,06,23,66,295	78,84,56,410
INVESTMENTS FROM EARMARKED/	6		
ENDOWMENT FUNDS			
Long Term		3,56,11,26,301	3,29,25,71,692
Short Term		-	-
INVESTMENTS - OTHERS	7	-	-
CURRENT ASSETS	8	88,48,61,865	1,01,36,60,383
LOANS, ADVANCES & DEPOSITES	9	78,51,67,903	57,58,22,757
TEQIP PROJECT - PHASE III	26	3,47,42,810	1,59,07,028
TOTAL		**10,21,45,91,183**	**9,26,83,99,044**

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31-03-2021			
			(AMOUNT - Rs.)
PARTICULARS	**SC.NO.**	**CURRENT YEAR**	**PREVIOUS YEAR**
INCOME:			
ACADEMIC RECEIPTS	10	36,69,59,475	35,92,31,468
GRANTS/SUBSIDIES	11	1,47,77,76,456	1,63,11,21,368
INCOME FROM INVESTMENTS	12	1,33,89,090	1,61,63,188
INTEREST EARNED	13	86,30,628	35,82,379
OTHER INCOME	14	11,66,12,190	23,35,78,847
OTHER RESEARCH PROJECTS		8,12,39,079	14,50,39,136
PRIOR PERIOD INCOME	15	2,27,62,724	-
TOTAL (A)		**2,08,73,69,641**	**2,38,87,16,386**
EXPENDITURE:			
STAFF PAYMENTS & BENEFITS	16	1,61,26,21,655	1,63,01,17,311
ACADEMIC EXPENSES	17	42,12,89,114	43,43,99,141
ADMINISTRATIVE & GENERAL EXPENSES	18	21,66,25,530	32,09,03,127
TRANSPORTATION EXPENSES	19	15,52,745	15,65,442
REPAIRS & MAINTENACE	20	10,30,54,761	12,76,88,498
FINANCE COST	21	2,10,56,390	54,80,327
DEPRECIATION	5	19,98,56,085	20,12,30,981
OTHER EXPENSES	22	4,84,92,081	7,92,92,644
PRIOR PERIOD EXPENSES	23	-	-
TOTAL (B)		**2,62,45,48,361**	**2,80,06,77,471**
BALANCE:			
EXCESS OF EXPENDITURE OVER INCOME	(A-B)	**53,71,78,720**	**41,19,61,085**
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES & NOTES ON ACCOUNTS	25		

RECEIPTS & PAYMENTS FOR THE YEAR ENDED 31-03-2021									
RECEIPTS			Current Year	Previous Year		PAYMENTS		Current Year	Previous Year
Opening Balances:						Establishment and Administrative expenses		1,72,49,44,456	1,90,02,56,585
(a) Cash in hand			33,617	7,178					
(b) Bank Balances:						Payments Against Earmarked/Endowment Funds		13,91,88,395	21,22,36,366
(i) In current accounts			1,69,11,111	6,98,91,862					
(ii) Savings acconts			8,54,50,844	4,38,36,079		Payments Against Sponsored Projects/Schmes		21,32,62,888	24,91,54,725
(iii) HEFA acconts			4,35,985	9,125					
Grants Received:						Investments		1,75,80,66,635	1,68,50,09,359
(a) From Govt. of India									
Capital Grant	7,52,75,000					Expenditure on Fixed Assets &		77,66,12,279	34,20,05,221
Revenue Grant	1,50,26,25,447		1,57,79,00,447	1,90,34,66,432		Capital Work - in - progress:			
(b) From State Governement			-	-					
						Deposits & Advances		1,78,46,91,696	1,37,68,89,484
Academic Receipts			42,28,29,233	44,48,23,110					
						Payments made against			
Receipts Against Earmarked/Endowment Funds			36,11,36,326	45,69,85,431		Funds for various projects:		2,80,82,00,316	2,60,29,22,362

Receipts Against Sponsored Projects/Schmes/Plan			15,10,09,623	61,55,75,239		Any Other Payments :			59,34,74,021	98,65,68,646
Income on Investments.			1,33,89,090	1,61,63,188		Closing Balances:				
						(a) Cash in hand			14,973	33,617
Interest Receved :			1,04,25,338	35,82,379		(b) Bank Balances:				
						(i) In current accounts			5,33,34,913	1,69,11,111
Deposits & Advances			1,64,38,15,622	1,58,51,53,408		(ii) Savings acconts			5,07,93,004	8,54,50,844
						(iii) HEFA acconts			22,26,654	4,35,985
Investments Encashed/matured			1,60,55,94,740	98,32,47,879						
Any other receipts:			4,01,58,78,253	3,33,51,32,995						
TOTAL			**9,90,48,10,229**	**9,45,78,74,305**		**TOTAL**			**9,90,48,10,229**	**9,45,78,74,305**