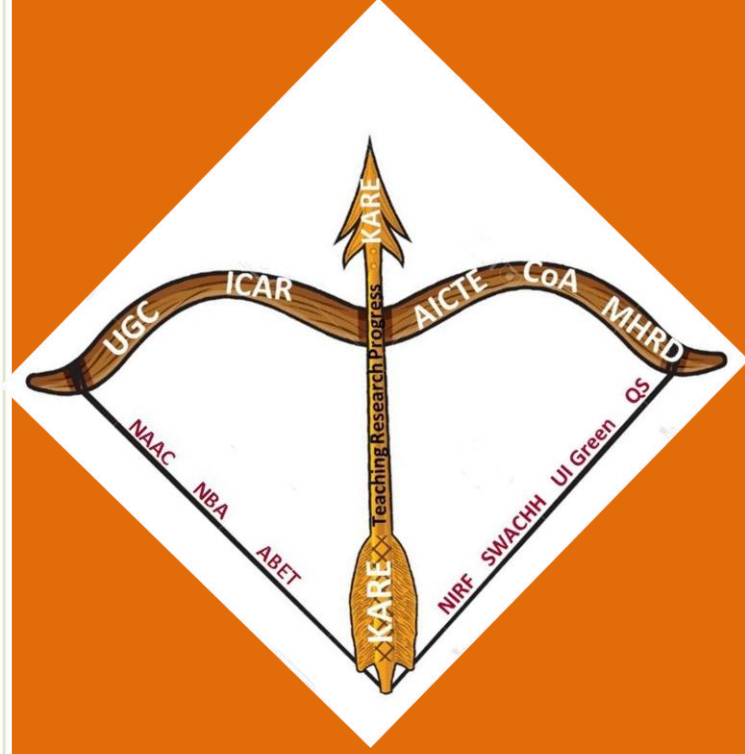# ANNUAL REPORT 2018-19

Kalasalingam Academy of Research and Education
(Deemed to be University)

December 2019

CONTENTS

1. GENERAL

ABOUT KALASALINGAM ACADEMY OF RESEARCH AND EDUCATION (KARE)
In 1984, the founder chairman of the institute, Kalvivallal Sri. T. Kalasalingam, started the institute as an engineering college with the name of Arulmigu Kalasalingam College of Engineering through the Kalasalingam Anandam Ammal Charity trust. His philanthropic vision to promote the dry-tract of the Virudunagar district through education gradually materialized. The institute obtained Deemed to be University status in the year 2006 and named as Kalasalingam Academy of Research and Education (KARE).

KARE is near the Thirumangalam-Kollam highway (NH 744) at a distance of 65 km from Madurai and 12 km from Srivilliputtur. The Alwars, who lived in the nearby town Srivilliputtur, which is popular due to the Lord Vishnu's temple, and the Siddha devotees of Lord Siva, who dwell in Chaturagiri hill forest temple, established this land as a seat of spiritual wisdom. While wisdom-seat was already established in ancient periods, the modern establishment is by KARE. KARE spreads over 163 acres in the foothill of Western-Ghat with a built-up area of 21,59,274 square feet in a pleasant green eco-friendly campus with 30% greenery of its total area.

KARE offers 32 undergraduate, 22 postgraduate and 17 Ph.D. programmes in all arts, science, management and technology domains. KARE is the first institution in India to offer B. Tech. for the Speech & Hearing Impaired Students (SHIP). A special B.Ed. (Hearing Impaired) programme approved by the Rehabilitation Council of India (RCI) is also offered. KARE's academic programmes have many innovative features like one-credit course by industry experts or researchers, laboratory course with mini-project, theory course with practical components and mandatory community service projects. Full-fledged CBCS system has been implemented with integrated courses (theory and laboratory integration) and more number of online courses (with credit earning) as a special feature. Innovative programmes are introduced such as M.Tech. (Manufacturing Engineering) specially designed for the employees of TAFE and MBA (Actuarial Science). KARE also offers B.Voc. programmes in 5 domains.

KARE was re-accredited by NAAC in 2015 with 'A' grade and CGPA of 3.11 out of 4 in the II cycle of accreditation. Six of undergraduate engineering programmes namely Biotechnology, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering, and Mechanical Engineering were accredited by NBA under Tier–I category. Among these, the B.Tech. Mechanical Engineering programme was accredited for six years while other programmes were accredited for 3 years.

KARE has received 40 new projects from Government agencies this year and continuing to maintain high ranking among the private institutions by Scimago Institutional Ranking for quality research with h-index 56 (*Scopus*). KARE publishes 'AKCE International Journal of Graphs and Combinatorics' through *Elsevier*. The Center 'n-CARDMATH', established with DST funding, is one of the important centers in the country for Discrete Mathematics. KARE has a TIFAC-CORE in Network Engineering and a Bosch Centre of Excellence. NI–KARE, a Centre of Excellence established with the help of National Instruments, USA, offers courses for Certified LabVIEW Associate Developer (CLAD) certification to students free of cost. KARE established an International Research Center has encompassing an Advanced Instrumentation Center to cater to the needs of researchers in the field of material science with high-end instruments worth more than Rs. 2 Crore with a research focus on composite materials, crystallography, solid state ionics including nanomaterials for energy and

biological applications. Sponsored projects worth more than Rs. 3 Crore are ongoing in this center. The International Research Centre (IRC) at KARE is equipped with state-of-the-art research equipments like Scanning Electron Microscope Energy Dispersive X-ray Spectrometer (EDX), X-Ray Diffraction Unit, FT-IR and Atomic Absorption Spectrophotometer, IRC caters to the needs of KARE members and offering services to nearby institutions and industries. Besides these, research is being carried out in various research centers.

KARE has modern ICT enabled learning facilities like virtual-laboratories, video-conferencing, LMS, interactive online course facilities, smart-classrooms, and Impartus-video capturing systems. KARE has impressive placement records with more than 138 companies visiting every year. About 47% of the faculty members are Ph.D. holders, and many of them are having post-doctoral experiences abroad. KARE's faculty members have established collaborations with more than 100 researchers in various countries resulting in joint publications. KARE has well-furnished hostels for men and women with ample A/C rooms, attached bathrooms hygienic kitchen and dining halls facilitation. There is a free in – house laundry and a bakery in the hostel.

KARE's product 'Automatic power-factor controller for three-phase AC power supply with very fluctuating load' got appreciation from the Tamilnadu Electricity Board. KARE installed a solar power plant with a capacity of 214 kW, generating 1070 units/day and 390550 kW/year. More than 160 solar-powered street lights (LED) of 11 kW capacity were installed in the campus. Ample facilities are available for sports including an Olympic size swimming pool and modern gym. Institute's health center has 39 beds for in-patients. Central library is fully automated with MODERNLIB software with an internet bandwidth speed of 246 Mbps + 1Gbps under National Knowledge Network and contains more than 82000 hardcopy books, more than 29000 e-books, more than 400 hardcopy, and 4200 e-journals.

KARE has introduced many scholarship schemes like the first-graduate scholarship, free hostel accommodations which are provided to students from economically weaker sections. Sports scholarships for provided to the students who excel in sports. KARE facilitates student exchange programme with partner Universities through the Semester Abroad Program. Decentralization of power is exercised through the School system. A well-established Grievance Redressal System is in place with the establishment of Anti-Ragging Committee, Anti-Discrimination Committee, Examination Monitoring and Grievances Redressal Committee, Internal Compliance Committee and the Discipline Cell. E-governance is followed in most of the administrative processes.

ACCREDITATION, RANKING, AND APPROVALS
NBA ACCREDITATION TO B.Tech. PROGRAMMES
Based on the application of KARE for extension of accreditation to B.Tech. programmes of Computer Science & Engineering, Biotechnology and Electronics and Communication & Engineering an NBA committee visited the institute on 15th September 2018 and provided the extension.

Ref.:
https://www.nbaind.org/accreditationprogram/AccreditedProgram?ID=qwlMeKvvRFkROOUyYkK
t0g==&lbl=eDu5wWlpPACyA1pvdpp7mw==&tier=9Qi/IwtMApXDLczJCj6HXA==&name=ldQpjjsX2
RYMqkNlr5DXiv++9MxhZ9q3HLtkn0hN+E9jb+nAj3iaWZm8iuFRQa2UqLnH/mOfPPJv5CgtlT/SLIzP
v4zTzYmscyrbqyatn4U=

NATIONAL BOARD OF ACCREDITATION
PROMOTING INTERNATIONAL QUALITY STANDARDS FOR TECHNICAL EDUCATION IN INDIA

Name of the Institution	Program	Level	Accreditation Status	Accreditation Latest
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Biotechnology	Under Graduate	ACCREDITED	Academic Year 2015-16, 2016-17 and 2017-18, i.e., upto 30-06-2018; Further Accredited for 2018-19, 2019-20 and 2020-21, i.e., upto 30-06-2021
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Computer Science & Engg.	Under Graduate	ACCREDITED	Academic Year 2015-16, 2016-17 and 2017-18, i.e., upto 30-06-2018; Further Accredited for 2018-19, 2019-20 and 2020-21, i.e., upto 30-06-2021
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Electronics & Communication Engg.	Under Graduate	ACCREDITED	Academic Year 2015-16, 2016-17 and 2017-18, i.e., upto 30-06-2018; Further Accredited for 2018-19, 2019-20 and 2020-21, i.e., upto 30-06-2021
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Civil Engg.	Under Graduate	ACCREDITED	Academic Year 2017-18, 2018-19 and 2019-20, i.e., upto 30-06-2020
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Electrical & Electronics Engg.	Under Graduate	ACCREDITED	Academic Year 2017-18, 2018-19 and 2019-20, i.e., upto 30-06-2020
Kalasalingam University (Kalasalingam Academy of Research and Education) (Virudhunagar)	Mechanical Engg.	Under Graduate	ACCREDITED	Academic Year 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23, i.e., upto 30-06-2023

NIRF RANKING
The NIRF (National Institutional Ranking Framework, MHRD, GoI) results were announced in April 2019. KARE raised to the rank of 61 in Engineering category in India. Among the institutions in Tamilnadu (includes IIT-Madras, Anna University, NIT-Trichy), this rank works to 11th place.

Ref.: https://www.nirfindia.org/2019/EngineeringRanking.html

Ref.: https://www.nirfindia.org/2019/OverallRanking200.html

Ref.: https://www.nirfindia.org/2019/UniversityRanking150.html

MHRD'S SWACHH RANKING

Based on the inspections by Ministry of Human Resources Development, Government of India, KARE was ranked 7th in Technical Institutions/Universities (Residential) category for Swachh Campus Rank 2018. The award was received by Vice-President *Dr. Shasi Anand* from the Honorable Minister of Human Resource Development *Mr. Prakash Javadekar* on 02.10.2018.
Ref.:https://www.aicte-india.org/sites/default/files/Swachh%20Campus%202018%20Rankings%20list.pdf

Vice-President Dr. S.Shasi Anand receiving the Swachh rank award from Honorable Minister of Human Resource Development Mr. Prakash Javadekar

UI GREEN METRIC RANKING

The UI Green Metric World University Ranking is an initiative of *Universitas Indonesia*, which was launched in 2010. The aim of this ranking is to provide the result of an online survey regarding the current condition and policies related to Green Campus and Sustainability in the Universities all over the world. For the year 2018, KARE was ranked as 281st among 691 institutions from across the globe and has been ranked as the **4th institution among the Indian Institutions**.
Ref.: http://greenmetric.ui.ac.id/detailnegara2018/?negara=India

ABET ACCREDITATION

Apart from national level NBA accreditation, it was decided to undergo International ABET Accreditation, USA (Accreditation Board for Engineering and Technology) for the following 11

B.Tech. Programmes. Automobile Engineering, Biomedical Engineering, Biotechnology, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Food Technology, Information Technology, Electronics and Communication Engineering, Electrical and Electronics Engineering and Mechanical Engineering.

CAREERS 360 RANKING

The 'Careers 360' ranking is based on factors like quality of students, research output, industry interface, publications, academic productivity and so on. The main objective of 'Careers 360' ranking is to help students decide the top-ranked engineering institutions where they can seek admission. For the year 2018-19, KARE was received AAAA rating among the institutions in India.
Ref.: https://engineering.careers360.com/colleges/ranking

SCIMAGO RANKING

Scimago ranking of institutions is a science evaluation resource to assess worldwide Universities and research focused institutions. Academic and research related institutions are ranked by a composite indicator that combines three different sets of indicators based on research performance, innovation output and societal impact. For the year 2018-19, KARE was ranked 105th in India.
Ref.:
https://www.scimagoir.com/rankings.php?sector=Higher%20educ.&country=IND&year=2012

RANKING BY THE WEEK MAGAZINE

'The Week' magazine conducts survey to rank institutions in association with Hansa Research since 2009. In the year 2018-19, engineering category of KARE was adjudged 67th rank among the institutions in India.

Ref.: https://www.theweek.in/theweek/cover/2019/06/07/best-colleges-the-week-hansa-research-survey-2019.html

31ˢᵀ CONVOCATION

The 31st convocation was held on 28.10.2018. Prof. Alok Prakash Mittal, Member Secretary, All India Council for Technical Education, New Delhi delivered the convocation address and distributed degrees to students belonging to various faculties of Engineering, Arts, Science. Rank holders in each of the programmes of study were given medals and certificates. Degrees were awarded to 547 B.Tech., 55 M.Tech., 121 Business Administration, 15 MCA, 15 B.Arch., 1 M.Arch. and 21 Ph.D. graduands. Further, 265 received of UG degrees, 45 received PG degrees in Arts and Science and 47 received of M.Phil., 7 received Master of Social Work degrees. Delivering the convocation address, Prof. Alok Prakash Mittal emphasized that academic grade alone is not sufficient in this information age but the soft skills play a vital role in successful career. He stressed on hard-work, dedication, zeal and converting failures as steps to achieve.

Prof. Alok Prakash Mittal, Member Secretary, AICTE, New Delhi delivering convocation address and distributing degree certificate

35th ANNUAL SPORTS DAY

35th Annual Sports Day celebration on 3rd April 2019, Dr. S. Shahul Hameed, Cyclist (Super Randonneur) and Half Marathon Runner at Tirunelveli was the Chief Guest.

NEW INFRASTRUCTURE
SEWAGE TREATMENT PLANT

A new hi-tech Sewage Treatment Plant with a treatment capacity of 5 lakh litres per day was inaugurated on 15.01.2019 in the campus to treat and recycle the wastewater generated from the hostels, academic blocks and staff quarters in the campus. Tertiary treatment of sewage water is carried out using rapid sand filter, activated charcoal, UV and Chlorine disinfection. The plant uses the advanced Sequential Batch Reactor technology against conventional Activate Sludge Process for efficient treatment confirming to the norms of regulatory bodies. KARE has a sewage Treatment Plant with a capacity of treating at least 500 kilo liters of wastewater each day, and an advanced UV disinfection technology. Using dual pipeline system, the treated water is used for flushing urinals and in sprinklers to flourish the green cover of the campus and irrigate vegetation like coconut groves.

NEW ELEVENTH BLOCK

Eleventh block is set ready for conducting first year engineering classes from the academic year 2019-20. The classrooms are air-conditioned with ICT facilities like Wi-Fi facility, LCD projectors etc and gallery type floor   and gallery type floor with an ultra modern outlook. Energy efficient lights and fans are used in this building. Dual pipe line is used so as to use recycled water for flushing the toilets and urinals. The trenches around the 11th block are set for rainwater harvesting and groundwater recharge with check-walls and gravel fill.

SODEXO

Sodexo is a French foodservice and facilities management company headquartered in Paris, France. Sodexo is one of the world's largest multinational corporations, with 4,20,000 employees and is present on 34,000 sites in 80 countries. A contract was signed with Sodexo to launch its catering arm in KARE from the 2019-20 academic year. Sodexo committed to provide hygienic and quality multi-cuisine food services to students. All hostel and canteen caterings will be by Sodexo from 2019-20.

2. ACADEMICS

QUALITY EDUCATION

Quality education is one which provides all students with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being.

KARE provides quality education as per the guidelines of United Nations Sustainable Development Goals (SDG-4). This is to ensure inclusive and equitable quality education and promote lifelong learning opportunities.

Equity in education means that the personal and social circumstances such as gender, ethnic origin or family background are not obstacles for achieving educational potential and that all individuals reach at least a basic minimum level of skills. KARE in particular focuses on gender equity and outcome based education. After the completion of the program, the students would have developed at least a minimum standard of skills.

KARE supports economically, socially backward disadvantaged students. The students who are pursuing the higher education are mostly first generation graduates. The university provides fee concession upto 100%, and free accommodations to the deserving students.

Moral values are inculcated to the students to make them good citizens of India. Soft-skill programmes, personality development programmes, Yoga and meditation are offered to develop a good mind and body. Career guidance programmes are offered to face the competitive examinations and interviews. Job oriented courses are also offered to make them entrepreneurs. Choice Based Credit System (CBCS) is followed in the university with academic flexibility.

ACADEMIC COUNCIL MEETINGS

The XX academic council meeting of the year 2018-19 was conducted on 09.03.2019 in which following majors items were discussed and approval was accorded.
- Scheme and syllabi for M. Sc. (Data Science) and B. Sc. (Forensic Science) programs
- Credits revision for lateral entry students as per B.Tech. regulation of 2015
- Two new electives for M.Tech. Structural Engineering and 22 new professional electives for B.Tech. Mechanical Engineering and 3 new professional electives for B.Tech. Automobile Engineering
- Revision of guidelines for industrial training and internship for B. Tech. Engineering programs

The following external members Dr. K.S. Mani, Deputy Director, Reliability and Quality Assurance, Area at IISU, ISRO, Thiruvananthapuram, and Dr. S. Nehru, Principal, Mannar Thirumalai Naicker College, Madurai attended the XX academic council meeting.
The XXI academic council meeting was held on 31.05.2019 and the following items were discussed and approved.
- Revision of pre-requisites for core and electives courses of B.Tech. and B.Arch. programmes
- Revision of curriculum of B.Tech. Computer Science and Engineering with IBM supported courses in the streams (a) IoT & Smart City, (b) Cyber Security, (c) Artificial Intelligence & Machine Learning and (d) Data Analytics
- Revision of syllabus of three core courses of B.Tech. Biomedical Engineering
- Introduction of new open-elective course 'Engineering Design' by Department of Mechanical Engineering

- Introduction of six professional elective courses for B.Tech. Electrical and Electronics Engineering
- Introduced practical component in 11 courses and two open-elective courses for B.Tech. programs by the Department of Mathematics
- Revision of syllabus in 05 courses of BBA and 07 courses of MBA, and the introduction of 02 elective courses for MBA, revision of scheme and syllabus of MBA Actuarial Science
- Modification of non-CGPA courses for B.Sc. Agriculture, B.Tech. Agricultural Engineering and B.Sc. – Horticulture
- Revision of the syllabus of two courses of M.Phil. program

The following external members Dr. B. Venkatraman, Director, Health Safety & Environment Group, IGCAR, Chennai. Dr. C. Chandra Sekhar, Professor, Department of Computer Science and Engineering., Indian Institute of Technology-Madras, Chennai, Mr. P Raguraman, General Manager, BHEL, HPBP Unit-II, Trichy attended the XXI academic council meeting.

ONLINE VALUATION
On-screen valuation has been introduced by the office of Controller of Examinations for evaluation of answer scripts. On-screen valuation eliminates redundancies, and helps in error-free processing & quick result declaration.

FACULTY DEVELOPMENT PROGRAMS ORGANIZED

No.	Department	Title	Date	No. of beneficiaries
1	Biotechnology	Statistical and Analytical Techniques in Biotechnology Research	02.07.18 – 07.07.18	35
		Nanobiotechnology and its Applications	01.12.18 - 07.12.18	40
2	Civil Engineering	Fluid Mechanics	29.06.18 - 05.07.18	35
		Design of Concrete Structures	13.12.18 - 21.12.18	34
3	Computer Science and Engineering	Computational Intelligent Techniques	19.11.18 - 23.11.18	43
4	Electronics and Communication Engineering	Machine Intelligence and IoT	02.07.18 - 07.07.18	48
		Analog Integrated Circuits	12.11.18 - 24.11.18	39
5	Electrical and Electronics Engineering	Power Electronic converters for Renewable Energy systems	12.06.19 – 14.06.19	19
6	Information Technology	Computational Intelligence Techniques	19.11.18 – 23.11.18	14
7	Computer Applications	Deep learning with Tensor flow & R Programming	11.12.18 – 15.12.18	12
8	Commerce	An Overview of GST Transactions in Tally –ERP 9	12.07.18 – 14.07.18	12
9	English	Pedagogical Paradigms in Language, Literature and Criticism	25.06.18 – 27.06.19	24

No.	Department	Title	Date	No. of beneficiaries
10	Mathematics	Recent Trends in Engineering Mathematics	19.12.18 – 21.12.18	34
11	Chemistry	Pedagogy of Chemistry for Higher Education	28.05.18 - 01.06.18	19
12	Social Work	Art of Counseling	28.08.18- 31.08.18	12
13	Civil Engineering	Advanced Pre-Stressed concrete Structures	01.07.19- 03.07.19	17
14	Chemistry	Technology Important Crystalline and Amorphous Solids (TICAS-2019)	04.05.19- 04.06.19	100
15	Electrical and Electronics Engineering	Energy Engineering	30.10.18- 05.11.18	24

DEVELOPMENT PROGRAMS FOR NON – TEACHING STAFF

No.	Title	Date	No. of beneficiaries
1	Hands on training program on Total station	01.07.18- 03.07.18	4
2	Safety in Civil Laboratory	13.12.18- 21.12.18	5
3	Hands on training program on Office Automation	24.12.18	25
4	Fire Safety Program	22.10.18	50
5	Program on Emotional Balance	04.05.19	50
6	Sanitary Program for Sanitary and Mess Workers	18.05.19	60

WEBINARS ARRANGED

Resource Person	No. of webinars	No. of beneficiaries
Foreigners	34	1224
Indians	31	1023

FOREIGN RESOURCE PERSON FOR WEBINARS

Dr.Ramiro jordan,University of New Mexico,USA

Prof. Ramakrishna, National Academy of Engineering, Washington,USA

Prof. Steven F. Tello, University of Massachusetts, Lowell,USA

Dr.N.Prathipa, Australian Catholic University, Brisbane, Australia

Dr.Neeraj, Buch, Michigan State University, East Lansing, USA

Prof.Hang Liu, Stevens Institute of Technology, New Jersey, USA

Prof.Sohum Sohoni, Arizona State University, Arizona, USA

Uriel.cukierman, National Technological University, Buenos Aries, Argentina

PARTICIPATIONS OF FACULTY MEMBERS IN CONFERENCES, SEMINARS, WORKSHOPS AND FDPs

No.	Department or School	Resource persons	Total no of participants	No of faculty members benefitted
1	Aeronautical Engineering	-	36	05
2	Agricultural Science	-	216	16
3	Architecture	03	150	11
4	Automobile Engineering	-	66	11
5	Biomedical Engineering	-	76	06
6	Biotechnology	15	200	25
7	Business Administration	-	126	25
8	Catering Science And Hotel Management	02	40	06
9	Chemistry	07	166	17
10	Chemical Engineering		54	09

No.	Department or School	Resource persons	Total no of participants	No of faculty members benefitted
11	Civil Engineering	15	224	26
12	Commerce	01	66	11
13	Computer Applications	-	105	11
14	Computer Science and Engineering	07	275	31
15	Computer Science and Information Technology	02	55	07
16	Electrical and Electronics Engineering	08	112	15
17	Electronics and Communication Engineering	19	296	33
18	English	-	125	23
19	Food Technology	01	90	06
20	Information Technology	05	107	14
21	Instrumentation and Control Engineering	-	61	08
22	Mathematics	10	115	32
23	Mechanical Engineering	20	392	51
24	Physics	13	175	18
25	Social Work	-	61	03
26	Visual Communication	-	48	04

VALUE ADDED COURSES

No.	TITLE	DATE OF INTRODUCTION	NUMBER OF STUDENTS ENROLLED
1	Multimedia and its Applications	28.09.18	47
2	Introduction to Programming using Python	06.12.18	38
3	Training On Java Programming And Android Development	19.02.19	50
4	Certified Six Sigma Green Belt	23.01.19	27
5	Graphic Designing	24.04.19	60
6	Desk Top Publishing	13.11.18	45
7	IoT and Mob app	04.03.19	29
8	Soft Skill	23.01.19	68
9	Microsoft Technology Associate in Cloud Fundamentals	17.07.19	55
10	Red Hat Certified System Administrator (RHCSA)	02.04.19	30
11	Industrial Automation and Internet of Things	28.01.19	10
12	Application Development using ARM	14.08.18	10
13	VLSI, VHDL & PCB Design	19.08.18	57
14	Food Safety Training and Certification for Advance Manufacturing	14.01.19	43
15	Workplace Communication By Iitbombayx	06.09.18	30
16	Financial Literacy by IIT Bombay	04.03.19	11
17	Autodesk Fusion 360	27.09.18	57
18	Yoga	16.07.18	790
19	Meditation	16.07.18	630

3. STUDENT SUPPORT AND PROGRESSION

SCHOLARSHIPS AND FINANCIAL SUPPORT

KARE supports the students through many scholarships like merit scholarships (JEE based from 100 % tuition fee to 10% tuition fee, Physics-Chemistry-Mathematics based from 60% to 10% of tuition fee, NEET based from 50% to 25%, Kalasalingam Engineering Entrance Examination based from 50% to 50 of tuition fee), first-graduate scholarship, free hostel accommodations to economically weaker students, and sports scholarships.

Scholarships and Financial Support	Number of Students benefitted	Amount (Rs.)
Financial support from institution(first-graduate, merit-scholarship and sports scholarship)	1442	3,82,01,900
Financial support from government or national scholarship	36	8,94,500
Number of students who received International/ National recognitions	4(Start-up-NIDHI) 12(IEDC) 385(DST-NIMAT)	20,00,000 8,00,000 1,00,000

SEMESTER ABROAD PROGRAM (SAP)

There is a provision in the B.Tech. curriculam to study courses and / or to carryout projects at Universities abroad. Some of the students availed and visited universities abroad with which KARE has MoU and collaborations are listed below.

No.	Name	Reg. No.	Branch	University Visited
1	Ms. Iswarya Selvarajan	9914014026	B.Arch. Architecture	Cracow University of Technology, Poland.
2	Mr. Kaushik Vijayan	9916009094	B.Tech. Mechanical Engineering	Korea tech University, Korea.
3	Mr. Shailesh Bandari	9915009358	B.Tech. Mechanical Engineering	SzentIstvan University, Hungary.
4	Mr. TejaVakulDiwakar Chowdavarapu	9816009029	B.Tech. Mechanical Engineering	SzentIstvan University, Hungary.
5	Ms. Taj Sabreen	9915001094	B.Tech. Biotechnology	Universiti Tecknologi Petronas, Malaysia.

SOME OF THE STUDENTS' INTERSHIP/SUMMER TRAINING PROGRAMME/SPONSORED PROJECT

No.	Name	Reg. No.	Programme	Event/Scheme	Name of the Sponsoring Agency	Award
1	E. Dhivya Praba, Swetha Saravanan, R. Priyanka Mahalakshmi	9915002002, 9915002012, 9915002007	B.Tech. Chemical Engineering	Chhatra Vishwakarma Award	AICTE, Government of India	I Prize

No.	Name	Reg. No.	Programme	Event/Scheme	Name of the Sponsoring Agency	Award
2	M. Shubham Sawant, L. Prakkash Subbu, R. Thangavelraj	9914003064, 9914003044, 9914003072	B.Tech. Civil Engineering	Project award	Tamil Nadu State Council for Science and Technology, Government of Tamil Nadu	10,000 + best project award
3	Santhosh Kumar, Abubhakkar Sidhik	9915006029, 9915006002	B.Tech. Electrical and Electronics Engineering	Project award	IEDC	10,000
4	Subhan Raj, Jawhar Akash	9916006038, 9916006017	B.Tech. Electrical and Electronics Engineering	Project award	IEEE	10,000
5	A. Ariffa Parakath, P.Kavithra, M.Narmadha	9917110004, 9917122001, 9917110006	M.Tech. Civil Engineering Branches	Project competition, TechSpardha2k18	National Institute of Technical Teachers Training and Research, Chandigarh	30,000
6	C.M.Mukesh Vaidya	9917009009	B.Tech. Mechanical Engineering	Project Award	Indo Universal Collaboration For Engineering Education -Annual Student Conference	First place
7	Akash Awasti	9916004229	Computer Science Engineering	IEEE SS12 Project Competition	NSBM Green University,Srilanka	IV Prize
8	Akash Awasti	9916004229	B.Tech. Computer Science Engineering	Internship	IIT, Kanpur	-
9	Kinjal Pravinbhai Rohit, Vivek Kumar Singh	9916003093, 9916003097	B.Tech. Civil Engineering	Summer internship	Academy of Scientific and Innovative Research (AcSIR), CSIR, Government of India	Rs. 25,000 + Travel

CHHATRA VISHWAKARMA AWARD

The Honorable Vice-President of India, **Shri. M. Venkaiah Naidu** is presenting Chhatra Vishwakarma Award to the team of Ms. E. Dhivya Praba, Ms. Swetha Saravanan and Ms. R. Priyanka Mahalakshmi of B.Tech. Chemical Engineering and Mrs. V. Aruna Janani, Faculty of Chemical Engineering. The team received the award for their project on 'Eco-friendly Sanitary Napkins' under the theme 'Empowerment of Villages through Technologies' of AICTE SAGY Initiative on 20.01.2019.

PLACEMENT SUMMARY

The office of Corporate Relations organized a series of placement training programs by experts to facilitate the students to be competent and to provide the students an exposure to the needs of the industries. The objective is to make the students efficient in technical, aptitude and soft skills. The training included communication skills, personality development, mathematical, technical, verbal aptitude, analytical and reasoning, group discussion, interview skills, soft skills, etc. The Yoga and physical education trainings play a significant role in placements.

Program	Academic Year	No. of students graduating in minimum stipulated time	No. of students placed	Median salary of placed graduates(Amount in Rs.)	No. of students selected for Higher Studies
UG 3Yrs	2018-19	492	293	276000	93
UG 4Yrs	2018-19	1144	1040	367000	48
UG 5Yrs	2018-19	26	20	300000	2
PG 2 Yrs	2018-19	192	145	360000	2
PG 3 Yrs	2018-19	21	15	327000	0

ONLINE COURSES CLEARED, INTERNATIONAL CERTIFICATIONS OBTAINED BY STUDENTS

No.	Name of the Departments	International certifications (BEC, Labview etc)	Online courses (NPTEL, CourseEra etc)
1	Architecture	-	06
2	Biomedical Engineering	38	12
3	Biotechnology	28	37
4	Business Administration	-	67
5	Chemical Engineering	-	07
6	Civil Engineering	54	45
7	Commerce	-	31
8	Computer Applications	45	-
9	Computer Science and Engineering	218	70
10	Computer Science and Information Technology	29	30
11	ECE	80	204
12	Electrical and Electronics Engineering	03	08
13	English	-	-
14	Food Technology	33	46
15	Information Technology	6	29
16	Instrumentation and Control Engineering	13	12
17	Mechanical Engineering	73	45
18	Physics	-	02
19	Chemistry	-	02

LIST OF NATIONAL SYMPOSIUMS ORGANIZED BY STUDENTS

No.	Department or School	Title	Date(s)	No. of participants
1	School of Architecture	QUERNCIA	28.09.18 – 29.09.18	150
2	Business Administration	KARMA 2019	25.03.19	137
3	Chemical Engineering	ALCHEMICAR 2019	11.04.19	91
4	Civil Engineering	VISWAR2018	27.09.18 – 28.09.19	50
5	Computer Applications	Softnival-2019	23.02.19 – 24.02.19	129
6	Computer Science and Engineering	Digital Dreams2k19	16.03.19	420(Internal) 52(External)
7	Computer Science and Information Technology	Technophilia'19	23.03.19	61
8	Electrical and Electronics Engineering	WATT'S ON 2K19	22.03.19 – 23.03.19	140
9	Electronics and Communication Engineering	TARANG 2k19	15.03.19	350
10	Instrumentation and Control Engineering	EUPHEMOZ 2018	28.09.19	50
11	Mechanical Engineering	Engineers Day 2018	15.09.18	125

12	Catering Science and Hotel Management	Aduppankarai	07.01.19	80
13	Information Technology	INFOSPARKS 2K18	01.03.18	35
14	Physics	PHYSIKA'18	27.10.18	256
15	Food Technology	ESSENPROSSO-2K18	13.04.18	185

STUDENT STARTUP NIDHI AWARD

No.	Product Title	Student Name	Company Name
1	Low cost smart cleaner for solar panel	G.P.Santhosh Ram M.Abubakkar Siddhik	Thanniyal Private Limited
2	Floor Tiles Through Pet Bottle	V.B.Saravanan, G. Ramkumar	CompiMero Makers Pvt.Ltd
3	Smart Cart for Super Market	Vengat Rahul	Yugti Smart Solutions (P) Ltd
4	Design and Development of Low Cost Photomotograph for Identification of Thyroid Dysfunction	N.Pothirasan V.Muneeshwaran R.Raja Sudharsan	Raj Bioelectronics and Bio control (P) Ltd
5	Bio polymer and graphene nano sheet based food packing material which can be efficiently used for carbonated beverages packaging	Ritujashree Anet B George Sreelakshmi	-

NATIONAL CADET CORPS (NCC)

NCC Senior Division (SD) Sub-Unit of 4(TN) Engineering Company NCC/Madurai, was started in November 2003 at Kalasalingam Academy of Research and Education. A technical unit is functioning at KARE with a sanctioned strength of 104 cadets.

NCC Examination

No.	Examination	Date	Number of Cadets Passed
1	B Certificate Exam	16.02.19 – 17.02.19	27(Mech-1)
2	C Certificate Exam	23.02.19 – 24.02.19	34(Mech-1)
3	B Certificate	16.02.19	27
4	ENG RCOY C	18.04.19	1
5	ENG RCOY B	18.04.19	1

Number of Camps Attended by Cadets

No.	Date	Name of the Camp	Number of participants
1	13.05.19 – 22.05.19	CATC Camp	61(Mech-2)
2	21.01.19 – 04.02.19	Army Attachment Camp, Secunderabad	1
3	2018	CATC Campany Annual Training Camp-2018	1
4	2018	IGC Inter group firing I-2019	1
5	May-2019	IGC Inter group firing II -	1

		2019	
6	13.05.19 – 22.05.19	CATC	1
7	18.04.19	ENG RCOY, NCC, Madurai	2

Army Attachment Camp was held under 16 Dogra Regiment. In this camp,Regn No:880124 SGT Shyam Dev received the best cadet award in Camp at Secunderabad held from 20th Oct 2018 to 2nd Nov 2018. To appreciate the cadet a function was celebrated on 17th Nov 2018.

KARE NCC organized many social service events like tree plantation, awareness programs for open defecation, rainwater harvesting, government hospital cleaning mission as a part of Swachh Bharat Abhiyan and blood donation camp.

Promoted to Lieutenant

NCC coordinator of KARE, Prof. S.K.M. Pothinathan underwent pre-commisioned training (PRCN-SD 164) course at Kamptee, Nagpur, MP for a period of 3 months from 02.07.2018 to 29.09.2018 and was promoted to Lieutenant Grade. He was promoted to Associate NCC Officer in KARE.

NATIONAL SERVICE SCHEME (NSS)

Unusual heavy rains severely affected kerala in the month of August 2018. The NSS volunteers participated in the relief activities by contributing materials (Dress, Eatables, Stationeries etc). In the last week of August 2018 faculty members and students visited in teams at different locations of Kerala and distributed relief materials worth Rs.2,50,000/-. They took a lead role in participation. A team of KARE members headed by Dr.B.Perumal, NSS Coordinator, visited Kerala Flood Relief Camps at Pallippadu, Alappuzha Dist, Kerala, and distributed materials for the use of needy people. The materials were received by Mr. Raju Abraham, MLA, Raani constituency of Kerala on behalf of campin-charges.

During 24 and 25th of November 2018, for Gaja cyclone relief, KARE team headed by Dr.B.Perumal, NSS Coordinator and Prof. P. Velumani, Coordinator of Youth Red Cross NSS and YRC (55) Volunteers visited Thanjavur delta region for relief works. Relief materials, worth Rs. 5,00,000/- collected from KARE members, were distributed to the farmers, and cleaning works were also carried out.

Relief materials carried from KARE to Thanjavur Delta

KARE NSS & YRC members cleaning the road after Gaja cyclone

Relief materials carried to Kerala

MLA of Raani constituency, Kerala receiving relief materials

Unnat Bhart Abhiyan (UBA)

The villages adopted UBA of KARE in Virudunagar district are (1) Vadugapatti, (2) Mullikulam, (3) Pillaiyarnatham, (4) Villupanur and (5) Malli. The Department of Agriculture has also adopted the following villages to give awareness on Vermicompost preparation and its usage Kansapuram, Pattupuchi, Aththikoil and Ramasamiyapuram. Due to the continuous efforts by the UBA volunteers, 100% Open Defecation Free (ODF) status was achieved in the Vadugapatti village for which they have received Appreciation certificate from the Virudhunagar District Collector.

No	Village	Block	District
1	Vadugapatti	Watrap	Virudhunagar
2	Mullikulam	Srivillputtur	Virudhunagar
3	Krishnapuram	Srivillputtur	Virudhunagar
4	Villupanur	Srivillputtur	Virudhunagar
5	Mattu Mullikulam	Srivillputtur	Virudhunagar

Activities
- ODF Achieved - more than 85%
- Swachhata Hi Seva programs such as medical camps, tree plantations, Vermi-compost yard construction, cleaning
- Educating tribal children
- Awareness camps – solar use, banana cultivation, polio, AIDS

SPORTS

International Level Achievements
- Mr. K. Murugan, (9916018023) III B.Sc. Computer Science, participated in the 2nd South Asian Silambam Championship - 2018 Organized by All India Silambam Federation and under the Auspices of The South Asian Silambam Federation held at CSI Auditorium, Kanyakumari during 13.07.18 to 15.07.18. He won 3 Gold Medals and a Silver Medal.
- Mr. K. Murugan, (9916018023) III B.Sc. Computer Science, participated in the South Asian Vietnam Vocotruyen (Silambam) Workshop 2018 Organized by Vietnam Vocotruyen Federation of India (VVFI) under the auspices to The World Federation of Vietnam Vocotruyen (WFVV) held at J.J Indoor Stadium, Chennai, during 27.06.18 to 01.07.19.

National Level Achievement
- Ms. M. Rajeswari, (9918016029) First Year Student of B.A. English represented the Tamil Nadu State Taekwondo Team to participate the 37th National Senior Kyorugi and 10th National Senior Poomsaei Taekwondo Championship – 2018 which was organized by Govt.

Mahakoshal Arts and Commerce College, Jabalpur, Madhya Pradesh from 18th to 22nd September, 2018.

Mr. V. Siva Prasanth, (9918021053), First Year B.Com. represented Tamil Nadu State Water Polo Team in the 31st State South Zone Aquatic Championship – 2018, organized by Andhra Pradesh Amateur Aquatic Association, held at Sir Vizzy Municipal Corporation Swimming Pool, Vijayawada from 27th to 29th December 2018 and won the bronze medal.

State Level Achievements

- Ms. M. Rajeswari (9918016029), first year student of B.A. English participated in the 31st State Level Senior Kyorugi & 8th State Level Senior Poomsae Taekwondo Championship programme – 2018 organized by Thiruchirapalli District Amateur Taekwondo Association, Trichy on 30th June 2018 & 1st July 2018 and she won the Gold Medal.
- Basketball women team secured 4th place in the Tamil Nadu State level Inter University Basketball (Men & Women) Tournament, organized by on Sports Development Authority of Tamil Nadu held at Noorul Islam University, Kanniyakumari from 20th to 22nd September 2018.

Basketball women team receiving the award from Dr.S.Manickam,Vice Chancellor,NICHE, on 22.09.18.

- Men and Women swimming teams participated in the Tamil Nadu state level inter university swimming competition for men & women organized by Sports Development Authority of Tamil Nadu at Kalasalingam Academy of Research and Education on 25th & 26th September 2018. Men team secured a silver medal with cash award Rs. 7500 and a bronze medal with cash award Rs. 5000; women team won silver medal with cash award Rs. 7500 and a bronze medal with cash award Rs. 5000.
- Women volleyball team participated in the 3rd state level Avinashilingam Ayya Memorial volleyball trophy for women organized by Avinashilingam Institute for Home Science and Higher Education for Women (Deemed to be University), Coimbatore on 27th September 2018 and secured 2nd place with cash prize Rs. 4000.

Women Volleyball team receiving the award from Dr.V.Premavathy,Vice Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women , on 27.09.18.

- Swimmer Mr. S. Abinash (9918022050), I Year B.Com. participated in the 1st Tamil Nadu State Level Age Group Swimming Championship – 2018 organized by Theni District Swimming Association and he secured bronze medal in the 100 m breast stroke.
- Swimmer Mr. S. Abinash (9918022050), I Year B.Com. participated in the 1st State Level Swimming Championship organized by Paavai Group of Schools, Namakkal on 4th November 2018 and he won the gold medal in 50 m breast stroke.
- Ms. R. Dhana Durka (9918021049), First Year B.A. (English) participated in the 31st Tamil Nadu State Level Junior Kyorugi Taekwondo Championship – 2018, organized by Thoothukudi District Amateur Taekwondo Association, Thoothukudi on 24th & 25th November 2018 and won the 2 gold medals and 1 silver medal.
- Women Volleyball team participated in the 44th State Level Open Volleyball (Women) Tournament organized by Madathur Volleyball Club, Madathur, Tenkasi on 9th February 2019 and received the Winner Trophy with cash award Rs. 5,000.

Women Volleyball team receiving the award

- Mr. V. Siva Prasanth (9918021053), first year B.Com. participated in the 31st State South Zone Selection Aquatic Championship (2018) - "Water Polo" which was organized by Tamil

Nadu State Aquatic Association held at Aquatic Complex, Sports Development Authority of Tamil Nadu, Chennai from 7th to 9th December 2018 and won the gold medal.

- Ms. M. Rajeswari (9918016029), First Year B.A. (English) participated in the Virudhunagar District Taekwondo Championship – 2018 held at Sivakasi on 23rd December 2018 and won the gold medal.

CLEAN WATER AND SANITATION

KARE provides safe and purified drinking water to all stakeholders in the campus. KARE regularly analyzes the water quality parameters and compares with BIS standards. The following table shows the quality of drinking water in the month of January 2019, as a sample.

No.	Parameters	Our value	BIS Standards
1	pH	7.6	6.5-8.5
2	Turbidity	-	1 NTU
3	Conductivity (μ mhos)	90.4	<250
4	Hardness (ppm)	40.71	200
5	Total Dissolved Solids (ppm)	58.5	500
6	Chloride (ppm)	32.07	<250
7	Salinity (ppm)	74.3	<500
8	Nitrates (ppm)	-	45
9	Sulphates (ppm)	6.85	200
10	Phospate (ppm)	0.01	1.5
11	Fecal Coliform counts/ml	-	-

As per the guidelines of United Nations Sustainable Development Goals (SDG-6), wastewater generated in the campus is recycled properly and reused. The Sewage Treatment Plants with a treatment capacity of 8 lakh litre/day to treat and recycle the waste water generated in the campus. Advanced sequential Batch Reactor Technology is used for wastewater treatment which confirms to the norms of regulatory bodies. Tertiary treatment of sewage water is carried out using rapid sand filter, activated charcoal, UV and Chlorine Disinfection. The recycled water is used for flushing urinal and sprinklers to flourish the green cover of the campus. The campus is clean, green and eco-friendly.

4. RESEARCH

KALASALINGAM ENDOWMENT LECTURE SERIES

Inauguration of Founder Chairman Kalvivallal Thiru T. Kalasalingam endowment lecture series was held on 14th December , 2018. The Chief Guest for this programme was Shri.Ramanathan Ramanan, Director NITI, Atal Innovations Mission, New Delhi and he delivered a lecture on "Innovations – Indian scenario". The endowment lecture series inaugural function was held in the presence of the University's Chancellor Dr. K. Sritharan The University's Vice-President Dr. S. Shasi Anand welcomed the gathering. Pro- Chancellor Dr. S. Arivalagi, Board Member Dr. Chandrakanth Koktae, Vice-Chancellor Dr. Nagaraj, Registrar Dr. V. Vasudevan, Dr. Ramkuamr and Geetha Ramanathan gave felicitations.

Inauguration of Founder chairman "Kalvivallal" Thiru T. Kalasalingam endowment lecture series
Chief Guest: Shri. Ramanathan Ramanan, Director NITI, Atal Innovations Mission, New Delhi

RESEARCH AND DEVELOPMENT SUMMARY

No.	Item	Count
1	h-index as in Scopus	56
2	No. of publications in calendar year 2018 (Scopus)	398
3	No. of Ph.D. awarded	17
4	Major On-going Projects from Government Agencies	37
5	Minor On-going Projects from Government Agencies	08
6	No. of International Conferences organized	01
7	No. of Patents applied	37
8	No. Patents granted	63
9	No. of full-time Ph.D. scholars	132
10	No. of part-time Ph.D. scholars	241
11	Post-doctoral fellows	13

Research funds sanctioned and received from various funding agencies, industry and other organizations

Nature of the Project	Name of the funding Agencies	Grant Sanctioned (Lakh Rs.)	Grant Received (Lakh Rs.)
Major projects	SERB, DRDO, DST-NSTMIS, DST-SEED, SERB-TARE,UGC-DAE, International Bilateral Cooperation Division, Poland National Science Academy, ICMR,etc	1108.78	904.92
Minor projects	TNSCST, IEI	0.5	0.15
Inter-disciplinary projects	ICMR	21.00	7.97
Students research projects	TNSCST, DST-NITHI & IEDC	25.00	19.00

SUPPORT TO RESEARCH BY KARE

To promote research activities, KARE provides stipend to full-time Ph.D. scholars if a scholar is not receiving any financial scholarship from other sources. Further, young researchers with Ph.D. qualification are also invited to the institute to continue their research. Such Post-Doctoral scholars are also provided the financial scholarship. The following table provides details of such financial supports provided to scholars in 2018-19.

No.	Department	Number of Doctoral and Post-Doctoral Scholars Supported	Annual Fellowship (Rs.)
1	Automobile Engineering	4	498000
2	Biotechnology	13	2195000
3	Civil Engineering	5	362000
4	Computer Science and Engineering	13	1378000
5	Electronics and Communication Engineering	19	2336000
6	Electrical and Electronics Engineering	5	575000
7	Instrumentation and Control Engineering	4	432000
8	Information Technology	2	240000
9	Mathematics	8	1030000
10	Physics	16	2131000
11	Chemistry	16	2131000
12	Business Administration	5	584000
13	Computer Applications	7	1096000
14	Mechanical Engineering	7	942000
15	English	1	110000
	Total	**125**	**1,60,40,000**

RESEARCH INCENTIVES FOR PUBLICATIONS AND PATENTS

KARE encourages faculty members to do research by 'Professional Development Allowance' and 'Research Incentive Awards'. Professional development allowance varies from Rs. 2,500 to Rs. 25,000 per month and there are many faculty members receiving this allowance. For those who are not eligible for professional development allowance, cash rewards are provided based on the number of papers published in journals having more than impact factor 3.0, impact factor between 0 and 3, number of papers published in Scopus listed journals, number of book publications and number of patents published. The detail is given below.

No.	Department	Publication Details				Cumul. Impact Factor	Reward (Rs.)
		Scopus Indexed	SCI Indexed	Book Chapter	Book		
1	Biotechnology	-	5	-	-	4.875	75000
2	Civil Engineering	8	2	-	-	4.168	115000
3	Computer Applications	2	-	-	-	-	20000
4	Computer Science and Information Technology	6	15	-	-	34.667	310000
5	Computer Science and Engineering	1	2	-	-	2.975	40000
6	Electronics and Communication Engineering	3	-	1	-	-	40000
7	English	1	-	-	-	-	10000
8	Electrical and Electronics Engineering	2	4	-	-	6.727	80000
9	Information Technology	3	1	-	-	1.114	45000
10	Instrumentation and Control Engineering	1	-	-	-	-	10000
11	Physics	1	7			21.252	140000
12	Tamil	-	-	-	1	-	10000
13	Chemistry	-	2	1	1	2.995	60000
14	Mechanical	1	-	-	-	-	10000
	Total	**29**	**38**	**2**	**2**	**78.773**	**9650000**

PUBLICATIONS IN PEER REVIEWED & INDEXED JOURNALS

Number of publication in calendar year 2018 as per *Scopus* database is 278. Among these 278 publications, details of collaborations with authors of other countries are provided in the table below.

No.	Country of collaborating author(s)	No. of publications	No.	Country of collaborating author(s)	No. of publications
1	Malaysia	18	21	Estonia	02
2	South Korea	15	22	Nigeria	02

No.	Country of collaborating author(s)	No. of publications
3	USA	14
4	Saudi Arabia	13
5	China	09
6	South Africa	08
7	Brazil	08
8	Egypt	08
9	Thailand	06
10	Indonesia	06
11	Poland	04
12	United Kingdom	03
13	Portugal	03
14	Italy	02
15	Russian Federation	03
16	Australia	03
17	Romania	03
18	Ethiopia	03
19	Singapore	03
20	Turkey	02

No.	Country of collaborating author(s)	No. of publications
23	Pakistan	02
24	Botswana	01
25	Ecuador	01
26	France	01
27	Iraq	01
28	Morocco	01
29	Slovakia	01
30	Taiwan	01
31	Belgium	01
32	Colombia	01
33	Finland	01
34	Germany	01
35	Japan	01
36	Oman	01
37	Slovenia	01
38	UAE	01
39	Undefined	01

No	Subject	No. of Publications
1	Computer Science	168
2	Engineering	159
3	Material Science	98
4	Chemistry	58
5	Environmental Science	15
6	Physics and Astronomy	43
7	Agricultural and Biological Sciences	06
8	Medicine, Pharmacology, Toxicology, Pharmaceutics, Microbiology, Nursing, Neuroscience and Psychology	18

No	Subject	No. of Publications
9	Mathematics	82
10	Decision Sciences	14
11	Energy	09
12	Social Sciences	09
13	Chemical Engineering	37
14	Biochemistry, Genetics and Molecular Biology	25
15	Business Management and Accounting	06

Department wise publications for the year 2018 are given below.

No.	Department	No. of Publications in Peer Reviewed journals(SCOUPS And Others)
1	Architecture	01
2	Biomedical Engineering	17
3	Biotechnology	60
4	Business Administration	01
5	Catering Science and Hotel Management	03
6	Chemistry	29
7	Civil Engineering	34
8	Commerce	04
9	Computer Applications	112
10	Computer Science and Engineering	39
11	Computer Science and Information Technology	44
12	Electrical and Electronics Engineering	34
13	Electronics and Communication Engineering	20
14	Information Technology	36
15	Instrumentation and Control Engineering	03
16	Chemistry	29
17	Mechanical Engineering	58
18	Physics	40
19	Social Work	02

ABROAD VISIT BY FACULTY MEMBERS

KARE generously supports visit of faculty members to abroad institutions to promote collaborations in research, faculty and student exchange. The following are the abroad visit by faculty members from KARE in 2018-19.

No.	Name of the Faculty	Abroad Institution	Date	Nature of Participation
1	Dr. N. Lakshmi Thilagam, Dr.V.Balasubramanian, Architecture	Faculty of Built Environment, University of Mallaya, Malaysia	11.06.19	Discussion on International Collaboration
2	Dr. C. Ramesh Babu, Dr. C. Sivapragasam, Dr. Pl. Meyyappan, Prof. P. Saravanan, Civil Engineering	UniversitiTeknologiPetronas, Malaysia, and Mahsa University, Malaysia	13.08.18 To 15.08.18	Participation in Conference and Research Collaboration Discussion
3	Dr.T.Arunprasath, Electrical and Electronics Engineering	Cracow University of Technology, Poland	23.03.18 To 10.06.18	Post – Doctoral Research

No.	Name of the Faculty	Abroad Institution	Date	Nature of Participation
4	Dr.P.Aruna Jeyanthy, Electrical and Electronics Engineering	Asia Pacific University, Malaysia	15.11.18	Guest lecture& Conference Paper Presentation
5	Dr.N.Rajini, Mechanical Engineering	Istanbul University, Istanbul	08.11.18	Research Collaboration & Visiting Professor
6	Dr.K.Mayandi, Mechanical Engineering	Istanbul University, Istanbul	08.11.18	Research Collaboration
7	Dr.P.Balamurgan, Mechanical Engineering	Cracow University of Technology, Poland	05.05.19	Project Meeting
8	Dr.S.Sureshkumar, Mechanical Engineering	Karadeniz Technical University, Turkey	07.04.18	Post-Doctoral Fellowship
9	Dr.M.Adamkhan, Mechanical Engineering	University of Johannesburg, South Africa	29.04.19	Post-Doctoral Fellowship
10	Dr.K.Gurushankar, Physics	University of Airlangga, Kampus B, Surabaya, Indonesia	July-October 2018	Post-Doctoral research
11	Dr.Josphine Selle, Electronics and Communication Engineering	IEEE TENCON 2018, Jeju island, Korea	28.10.18 To 31.10.18	To present paper in International Conference(IEEE TENCON 2018)
12	Dr.B.Perumal, Electronics and Communication Engineering	Cracow University of Technology – Krakow - Poland	23.03.18 To 10.06.18	Post-Doctoral Fellowship
13	Dr.R.Ramalakshmi, Computer Science and Engineering	Singapore	18.11.18 To 21.11.18	Paper Presentation in Conference
14	Dr. V. Deepak, Biotechnology	Emory University, USA	Feb, 2017-Dec, 2018	Post-Doctoral Fellow
15	Dr. Naresh Kumar Sharma, Biotechnology	UniversitiTeknologiPetronas, Malaysia, and Mahsa University, Malaysia	13.08.18 To 15.08.18	Conference
16	Dr. Shantkriti, Biotechnology	Institute of Marine Biology, National Taiwan Ocean University, Keelung, Taiwan.	18.11.19 To 05.01.19	Visiting Faculty
17	Dr.K. M. Ashifa	University of Kelaniya, Colombo, Sri Lanka	19.08.18	Attending workshop and Paper Presentation

LIST OF INTERNATIONAL SEMINARS AND CONFERENCES ORGANIZED

No.	Department	Conferences and Seminars Title	Date	No. of Participants
1.	Electrical and Electronics Engineering	Intelligent Techniques in Control,Optimization and Signal Processing (INCOS'19)"	11.04.19 To 13.04.19	160
2.	Mechanical Engineering	Impactful Research Publications And Meta-Heuristics Techniques	08.08.19	25
3.	Biotechnology	New Frontiers in Biotechnology	20.09.18	200
4.	Biotechnology	Thermophilic Bioprocessing	01.01.19 To 02.01.19	25

SOME OF THE EMINENT VISITORS (CONFERENCES AND OTHER EVENTS)

Mr. Gopinath, Head Corporate Services, Fidelity Information Services, Chennai	Mr. I. Karthik,Managing Director,Nuesta Ventures, Bangalore
Ar . Mahesh Radhakrishnan, Founder and Principal, Madras Office for Architects and Designers Office, Chennai	Mr. Mohamed Yahia,President,Consumer Rights Committee, Virudhunagar
Dr. G. Subbaiyan, Head of Department, Department of Architecture, N.I.T. Trichy	Mr. R. Arumugam,Managing Director, Nila Soap Pvt Ltd., Sivakasi
Dr. M. Ellango, Associate Professor, School of Architecture & Planning, Anna University, Chennai	Mr. A.S.P. Arumugaselvan,Director, Sri Kaleeswari Fire Works Pvt. Ltd, Sivakasi
Dr. G. Sangeetha, Assistant Professor, Department of Architecture, NIT, Trichy	Dr. Jang Sang Tae,Lead Researcher,Pohang University of Science and Technology, Pohang
Ar. Murali Murugan, Principal Architect, Murali Architects, Chennai	Dr . G. Bharath,Assistant Professor, Department of Chemical Engineering, Khalifa University of Science and Technology, Abu Dhabi
Ar. Himanshu Patel, Vernacular Architect,6th D Design Studio, Ahmedabad, Gujarat	Dr. V. Deepak,Researcher, University of Calgary, Alberta
Dr. T. Thiyagarajan, Teamleader Cum BEC Trainer, Cambridge University, London, UK	Dr. A. Subramania,Professor & Head, Centre for Nanoscience and Nanotechnology Pondicherry University, Puducherry
Dr. Vasily Sachnev, Professor, Department of Information, Communications and Electronic Engineering,Catholic University of Korea, Seoul	Dr. Sivasubramanian,Former Vice-Chancellor, Bharathiar University, Coimbatore
Dr. Mahardhika Pratama, Professor, Department of Software and Information Systems, Nan Yang Technological University, Singapore	Mr. J. Arumugam Scientist, NIELIT, Calicut
Dr. N. Sundararajan, Professor, Department of Electrical and Electronics Engineering, Nan Yang Technological University, Singapore	Dr. Lakshmi Narayanan Samavedam,Associate Professor, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore

Dr. Ganesh Kumar Venayagamoorthy, Professor, Department of Electrical and Computer Engineering, Clemson University, South Carolina, USA	Dr. Sundaram Suresh, Associate Professor, Department of Aerospace, Indian Institute of Science, Bangalore
Mr.Kishor Zingre, Senior Lecturer, Department of Architecture and Built Environment, North Umbria University, Newcastle, UK	Dr. Giancarlo Marafioti, Senior Research Scientist, Department of Mathematics and Cybernetics , SINTEF, Trondheim, Norway
Dr. Giovanni Palmieiri, Professor, Department of Engineering, University of Sannio, Benevento, Italy	Dr. Geir Mathisen, Professor Department of Engineering Cybernetics, Norwegian University of Science and Technology, Trondheim, Norway
Mr. Srini Ramswamy, R & D Technology Head for Innovation, ABB Inc, Beachwood, USA	Mr. Rajesh Nair, Visiting Scholar, Product Design, Commercialization & Entrepreneurship Department of MIT, Massachusetts, USA
Mr.Savitha Ramaswamy, A-star, Singapore	

MEMORANDUM OF UNDERSTANDING (MOU)

No.	Department/KARE	MoU with	Date	Areas of Collaboration
1	Electrical and Electronics Engineering	Multimedia University, Malaysia	-	Joint Research Events, Projects Student Exchange Program
2	Civil Engineering	UniversitiTeknologiPetronas, Perak, Malaysia	19.12.18	Biological Treatment of Hazardous Sludge from Petroleum Refinery Industry
3	Business Administration	Intelligence Quality Olympia Technology Park, Altius Block No –1, Chennai	25.01.19	Intelligence Quality
4	Architecture	CAD Centre, Rajapalayam	-	Computer Application
5	English	Cambridge University	06.09.18	Business English Certificate
6	Mechanical Engineering	Mahatma Gandhi University, Kerala	10.10.18	Research and Faculty Exchange
7	Electronics and Communication Engineering	Xilinx University Program	11.07.18	AWS Cloud with Xilinx FPGAs, R&D of compute Acceleration for Data Center Workloads, Python Productivity for Zynq
8	Computer Science and Engineering	Redhat Academy, A-201 Supreme Business Park, Powai, Mumbai	14.05.18	Training and Certification
9	Computer Science and Engineering	Pearson VUE, Bloomington,United States	09.11.18	Testing Center

10	Computer Science and Engineering	IBM Innovation Center for Education, Bengaluru	07.05.19	Offer Specialization Programs
11	Computer Science and Engineering	NIT, Andhra Pradesh	23.01.19	Collaboration Research
12	Biotechnology	Universiti Teknologi Petronas, Malaysia	22.11.18	Research in Environmental Biotechnology
13	Social Work	Bosch Limited, Bangalore	29.11.18	Collaboration to initiate their Bridge centre as part of Bosch's CSR initiative.

CONFERENCES, SEMINARS, WORKSHOPS, TRAINING PROGRAMS, CERTIFICATION PROGRAMS ORGANIZED

No.	Department	Conferences, Seminars	Workshops, Training, Certification Programs
1.	Aeronautical Engineering	-	2
2.	Architecture	-	3
3.	Biomedical Engineering	-	3
4.	Biotechnology	1	7
5.	Business Administration	1	7
6.	Catering Science and Hotel Management	-	6
7.	Chemical Engineering	-	1
8.	Chemistry	-	1
9.	Civil Engineering	2	4
10.	Commerce	-	2
11.	Computer Applications	1	10
12.	Computer Science and Engineering	-	7
13.	Computer Science and Information Technology	-	6
14.	Electrical and Electronics Engineering	3	4
15.	Electronics and Communication Engineering	-	14
16.	English	-	2
17.	Food Technology	1	2
18.	Information Technology	-	5
19.	Instrumentation and Control Engineering	-	4
20.	Mechanical Engineering	9	12
21.	Visual Communication	-	2
22.	Physics	-	3
23.	Social Work	1	4
24.	IPR Seminars	12	-
25.	Pedagogy Webinars	26	-
26.	Entrepreneurship Webinars	5	-
27.	Research and Other Webinars	34	-

Extension Activity

No.	Title of the activities	Organizing Unit/ Agency/ Collaborating Agency	Number Of Teachers Coordinated	Number Of Students Participated
1	Azolla Cultivation	School of Agri.Science	1	47
2	Quick Multiplication By Earthworm	School of Agri.Science	1	60
3	Interaction Farmers In Koomapatty Village	School of Agri.Science	1	55
4	Vermicompost demonstration in farmers fields	School of Agri.Science	1	60
5	Advanced Diploma in Industrial Automation and Internet of Things	KARE & NIELIT	2	18
6	Interaction with Public in venkatrayapuram Village	IT/KARE	10	43
7	Swachh Bharat	UBA-KARE	3	114
8	Cauvery Delta Gaja Cyclone Relief	NSS, NCC, YRC	10	50
9	Kerala Flood Relief	NSS, NCC, YRC	10	50
10	Andal Temple, Srivilliputhur car festival	NSS	1	50
11	Yoga awareness Special Camp	NSS	9	195
12	7 days Special Camp for Clean and healthy awareness	NSS	8	145
13	Training for Automobile Servicing	Automobile	2	10
14	Free Emission Check Camp	Automobile	2	10
15	Training for Masons	Civil Engineering	2	5
16	Computer Training for School teachers	Computer Science and Engineering	2	5
17	Maths Olympiad Training to School Students	Mathematics Department	2	3
18	Science Olympiad Training to School Students	Physics	2	5
19	Awarness on Global warming and its impact	Chemistry	2	3
20	Temple Cleaning Activity	NSS	1	25
21	Cleaning of tank	Green Army, NSS	3	60
22	Tree Plantation	Green Army, NSS	3	60
23	Eye Camp	NSS, Biomedical Department	4	10
24	Blood donation camp	NSS, NCC	2	30

5.MISCELLANEOUS

IQAC QUARTERLY REVIEW MEETINGS
IQAC quarterly review meetings were conducted on the following days 17.09.2018, 17.12.2018, 16.03.2019 and 19.06.2019. The following external members were present in the meetings.
1. Dr. N. Alagumoorthy, Professor, Department of Mechanical Engineering, Pondicherry Engineering College, Pondicherry.
2. Dr. Arun Rajagopalan, Director, Data Science, Evive Software Analytics, Bengaluru.
3. Dr. K. Janakiraman, Head Technical, OBO Bettermann, Chennai.

IQAC regularly collects the feedback from the students, faculty members, alumni, parents and employers and the analyzed summary were discussed in the quarterly review meetings. Further, the 'action-taken' report on minutes was placed in the Board of Management meeting and approved.

A total of 265 participations have participated in Refresher course, 50 participants have participated in Orientation Programme, 315 participants have participated in Short term course and ~~288~~ 431 participants have participated in Faculty Development Programme during the Academic Year 2018-19.

AUTONOMY COURSE
The OBE system expects a graduate to posses certain skill sets which qualifies him/her to be almost like a professional engineer at the time of graduation. These skill sets are specifically defined by solutions, applying ethical principles, competency in team work, communication skills & project management and finally an ability to engage in independent lifelong learning. NBA in terms of 12 programme outcomes which incorporate skill sets such as proficiency in engineering knowledge, problem analysis, ability to design solutions, ability to conduct research investigation, competency in using modern tools, responsibility to society and incorporate sustainability in engineering .The teachers role is primarily to guide and help the students achieve the skill sets through curriculum courses. This in turn necessitates flexibility in teaching and evaluating the course.

IQAC-DAY 2018
KARE organized 4th IQAC day on 25.09.2018. The function started with a speech by Dr. S. Shasi Anand, Vice-President. This was followed by the distributing awards to faculty members and students. The summary of the awards are listed in the table below.

Award Title	No. of recipients
Teaching Competency Award to Faculty Member	38
Research Competency Award to Faculty Member	24
Advisorship (UG mentoring) Competency Award to Faculty Member	14
Motivation Award to Faculty Member	75
B.Tech. Capstone Project Award to Students	31
B.Tech. Laboratory with Mini-project Award to Students	37
Wardenship Award	07
Best Volunteer Award (NSS) – for Students	10
Motivation Award to Students	03

Among the engineering and technology streams, the best performance award was given to the Department of Mechanical Engineering. Among the arts and science streams, the best performance award was given to the Department Computer Science & Information Technology.

INDEPENDENCE DAY

The teaching and non-teaching staff members of KARE celebrated the 72nd Independence Day in the sports ground on 15th August 2018 at 8.30 am. Dr. S. Saravanasankar, Vice-Chancellor hoisted the flag and commanded the Independence Day parade. Dr. S. Saravanasankar delivered the Independence Day address.

REPUBLIC DAY
The teaching and non-teaching staff of KARE celebrated Republic Day on 26th January, 2019 at 8:30 am. Dr. P. Nagaraj, Vice-Chancellor hoisted the flag and commanded the Republic Day parade. Dr. P. Nagaraj delivered the Republic Day address and promoted NCC cadets on this occasion.

AQUATICS & CROSS COUNTRY EVENTS
State level 'Aquatics & Cross Country Sports Meet' was organized by the Tamil Nadu police at the swimming pool facility of KARE on 19.10.2018. In this sports meet around 300 swimmers and cross country runners participated. Mr. M. Rajarajan, IPS, Superintendent of Police presided over the function and Mr. Premkumar, IPS, Inspector General of South Zone, Tamil Nadu distributed the certificates and the prizes to the winners.

<mark>**LIST OF PROGRAMS CONDUCTED**</mark>

1	Quality Sustenance through Quality Research- Awareness program on Good Research Practices	04.07.2018
2	Quality Awareness Program on Six Sigma	05.07.2018
3	A One Day Quality Awareness Program on "Outcome Based Education"	10.07.2018
4	Workshop on Total Quality Management in T-L	12.07.2018
5	Workshop on the Revised NAAC Accreditation Manual	06.07.2018
6	A Workshop on the New Methodology of NAAC	28-08-2018 to 28-08-2018
7	A one day Quality program on "Change, Conflict and Resource Management"	29-08-2018 to 29-08-2018
8	New Methodology of NAAC- Collaborative workshop with Younus College of Engineering and Technology	18.06.2018
9	One day Training Programme for "Quality improvement in Teaching Using Impartus Lecture Capturing System"	11-07-2018 to 11-07-2018

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