



KLE Technological
University

Creating Value
Leveraging Knowledge

ANNUAL REPORT 2019-20

Vidyanagar
Hubballi (India)
www.kletech.ac.in



Our Parent Organization:

Karnataka Lingayat Education Society (KLE Society)

Initiatives by private organizations and dedicated individuals have played a critical role in the growth of higher education in India. In 1916, a dedicated group of individuals enabled a dream. Their vision was to create a strong education base in the neglected areas of North Karnataka and Maharashtra. This resulted in establishment of KLE Society on 13th November 1916 at Belgaum. This Society was started by seven dedicated teachers and three generous patrons. Their mission was to provide education, basically to the children of the farming community who constitute a significant majority in Karnataka. With the strong support by philanthropists and intellectuals of the area, the KLE Society started to grow, and today, it has become an important entity in the educational scenario of the country.

Apart from establishing educational institutions, the KLE Society has earned the distinction in the field of health care and other community services. It has entered into collaboration with universities abroad in USA, UK & Malaysia. Through its 264 institutions, KLE Society is rendering services in the areas of:

- Health Care and Medicine
- Engineering and Technology
- Management Studies
- Agriculture
- Arts, Science and Commerce
- Teachers training
- Primary and secondary education
- Law

With a visionary leadership of Chairman Dr. Prabhakar Kore, and members of Board of Management, the society's institutions serve more than 1,25,000 students. Over 16,000 dedicated faculty and staff work together to meet the high standards set by the management.

Chancellor's Message

It is a great time to be writing about our institution which scaled some wonderful heights this year in terms of academic excellence and establishing new standards in higher education.

My first and foremost duty is to recognize the faculty and non teaching staff in nurturing this phenomenal growth in terms of student intake, international academic recognition, industry recognition and improved ranking by NIRF.

Higher education in India is on the cusp of a revolution and I am glad to note that KLE Technological University is at the forefront of these sweeping reforms. Under the able leadership of our Vice Chancellor Dr. Ashok Shettar, the institution has pioneered many initiatives in teaching pedagogy and student evaluation techniques. This has been noticed by the academic world and many have approached for new ideas.

In this academic year, Five of our programs viz., Mechanical Engineering, Civil Engineering, Electronics & Communication Engineering, Computer Science & Engineering and Biotechnology have been accredited by NBA.

We were among the first institutions to develop a deep relationship with the industry. I am glad to note that we are running a number of industry academic programs. Many leading companies are showing interest in sponsoring research and development activities at our institution. This makes for a perfect backdrop to our academic programs and our ability to help students to adapt to the needs of the real world.

There is more good news on the entrepreneurship development side. Our incubation centre is taking shape and we are home to more than a dozen enterprises with products under test in the market.

This brings me to the question of why are we doing all of this. When I started this journey, the goal was to give the region of northern Karnataka an advanced institution for higher studies in science and engineering. However, today we have grown beyond that initial vision. We are now an institution to be reckoned with nationally. And I believe that this could not have been possible without our brilliant students who have proven their potential time and again. I now strongly believe that given the right environment, students will discover their true potential.

KLE Technological University is turning a crucial milestone. Next year, we will be entering a new era in learning experiences. We have lined up ambitious plans to take the student experience to the next level.

I wish everyone the best.



Dr. Prabhakar Kore
Chancellor



Foreword

We are proud to present the fifth annual report of KLE Technological University, Hubballi, for the year 2019-20. This report summarizes the achievements and progress we have made over the last year to improve our academic offerings and student services.

Our faculty is making progress towards providing a truly world-class learning environment by adopting holistic curricular reforms and innovative pedagogical practices. We are working hard to create a dynamic research environment to promote research excellence. This year, we embarked on a significant examination reform initiative that has been recognized by the AICTE and asked our team to spread it across the country.

We would like to extend our sincere thanks to our faculty, staff, students, alumni and industry partners for their continued support and remarkable contributions. Looking ahead, we will continue to work towards realizing our vision to be a leader in engineering education, and advancing research and innovation to support socio-economic development of the region.



Dr. Ashok S. Shettar
Vice Chancellor

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KLE TECH EXECUTIVE TEAM



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Leveraging Knowledge

Introduction

KLE Technological University (KLE Tech) has its roots in one of the premier engineering institution of Karnataka, B. V. Bhoomaraddi College of Engineering and Technology, Hubli (BVB). The founding organization KLE Society, Belgaum, established BVB College in 1947 with an aspiration of creating an institution that would lay the foundation of modern engineering education in northern region of Karnataka. Over the years, it evolved to reach and hold a unique position of pride in the technical education system of India. As we entered into the 21st century, the college undertook comprehensive reform process to adapt to the challenging global engineering education scenario. In pursuit of academic excellence, the College attained academic autonomy from University Grant Commission (UGC) in the year 2007. As an autonomous College, BVB established its distinctive character in the academic space through its curriculum and outstanding student experience. Over the time it gained tremendous credibility with the industries and employers and emerged as a brand to reckon with. The Alumni of the Institute have done exceedingly well in all spheres of life at both national and international levels and brought name and fame for themselves as well as to their Alma Mater.

The times have changed, and the higher educational institutions need to continually innovate to maintain and enhance their relevance to meet the ever changing demands of global economies. Apart from delivering good quality education, the institutions are expected to develop their capacity in research and innovation. They also need to undergo a fundamental transformation in terms of their role in the society, mode of operation, and economic structure and the scale at which they operate.

Keeping the above challenges in mind BVB College of Engineering and Technology, undertook strategic initiative of transforming itself into a University of national distinction. In 2014 the College was recognized as a state private University by Government of Karnataka. The rich heritage of BVB College as one of the best engineering college combined with brand equity of KLE Society are the starting points for KLE Technological University to emerge as a University with a national distinction.

KLE Technological University has received 2f status from the UGC.

Student Enrollment

Admission Process

The University does not conduct a separate test for the admissions. The admission to the programs of University is based on the Government of Karnataka rules for professional education institutions. The following is the mode of selection of students for admissions (as per rules of Government of Karnataka).



1. Common Entrance Test (CET) by Karnataka examination Authority (KEA): Admission to 45 % of seats are done by government of Karnataka based on CET ranking and reservation policies of the state. The seats are distributed through central counseling done by KEA. For the aided intake the 95% of the seats are allotted by the KEA. Equal weightage is given to score in CET entrance test and qualifying examination score, while allotting the ranks.

2. All India Examination conducted by the Consortium of Medical, Engineering & Dental Colleges of Karnataka (COMED-K): Admissions to 30 % of seats in unaided courses are done on the basis of COMED-K-rankings. The seats are allotted by COMED-K through central counseling. Equal weightage is given to score in COMED-K entrance test and qualifying examination score, while

allotting the ranks

3. The remaining 5% seats in aided courses and 25% seats in unaided courses are filled as management seats on the basis of academic records of qualifying examinations.

For post graduate programs, Post Graduate Common Entrance Test (PGCET) conducted by Karnataka examination authority, is used for the selection of students.

Undergraduate Programs

Sl.No.	Programme	Sanctioned Intake
1	Civil Engineering	120
2	Mechanical Engineering	240
3	Electrical & Electronics	120
4	Electronics & Communication	300
5	Computer Science & Engineering	300
6	Automation & Robotics	60
7	Bio Technology	60
8	Architecture	80
		1280

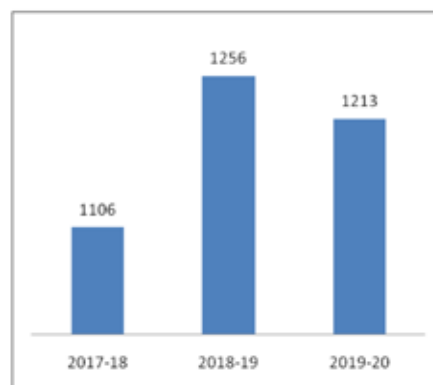
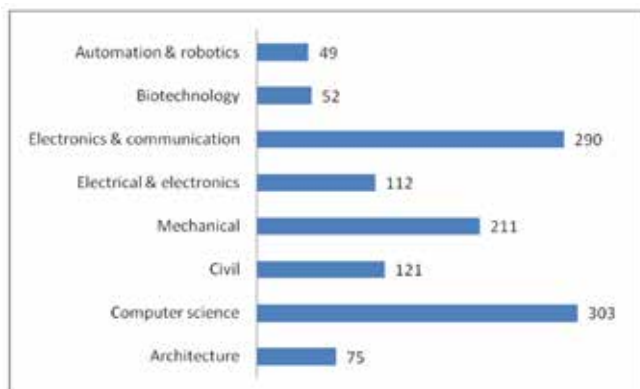
Postgraduate Programs

Sl.No.	Programme	Sanctioned Intake
1	Structural Engg.	18
2	Production Management	18
3	Energy Systems Engg.	18
4	Computer Science & Engg.	24
5	Digital Electronics	24
6	VLSI Design & Testing	24
7	Machine Design	24
8	Master of Computer Application	60
9	Master of Business Administration	60
		270

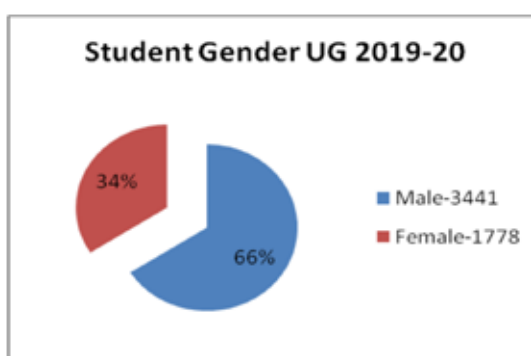
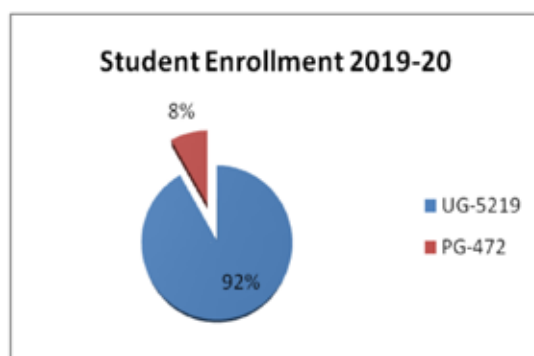
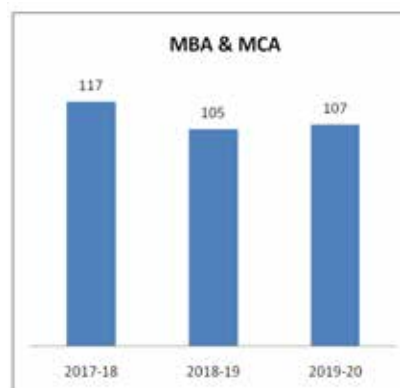
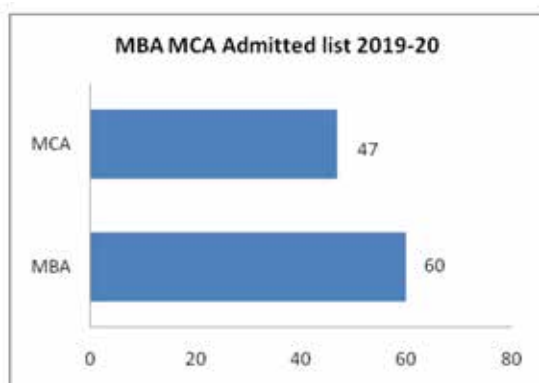
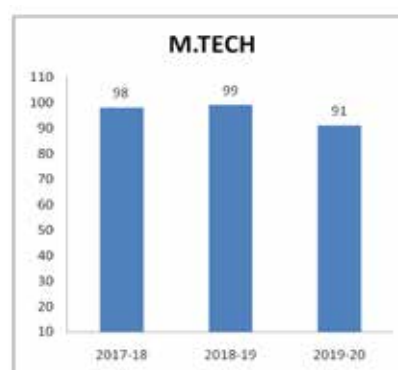
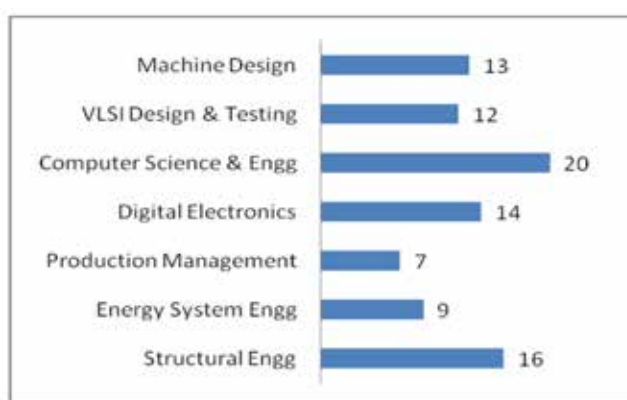
Research Programs

Sl.No.	Programme
1	School of Civil and Environmental Engineering
2	School of Computer Science & Engineering
3	School of Electronics and Communication Engineering
4	School of Mechanical Engineering
5	School of Management Studies and Research
6	Department of Electrical and Electronics Engineering
7	Department of Humanities & Social Science
8	Department of Biotechnology
9	Department of Physics
10	Department of Chemistry
11	Department of Mathematics
12	Center for Engineering Education Research

Student admissions for the year 2019-20 - UG



Student admissions for the year 2019-20 - PG





Academic Quality

Engineering education is going through a profound transformation driven by the new realities and opportunities created by the global knowledge society. To ensure the fitness of higher education system to negotiate new challenges, adaptation of proper academic frameworks and strategic interventions are necessary. Outcome Based Education (OBE) framework has emerged as a major reform model in the global engineering education scenario and has been mandated for accreditation of engineering programs for the Washington accord signatories. The

OBE approach is based on a student centered learning philosophy and focuses on the output (outcomes) instead of the input (content).

KLE Tech reform process by adopting OBE framework. The framework gives us an opportunity to build a culture of continuous improvement that strengthens our academic quality and inspires student achievement.

The initiatives undertaken to enhance the quality of education and student performance are presented under following three tenets of academic quality

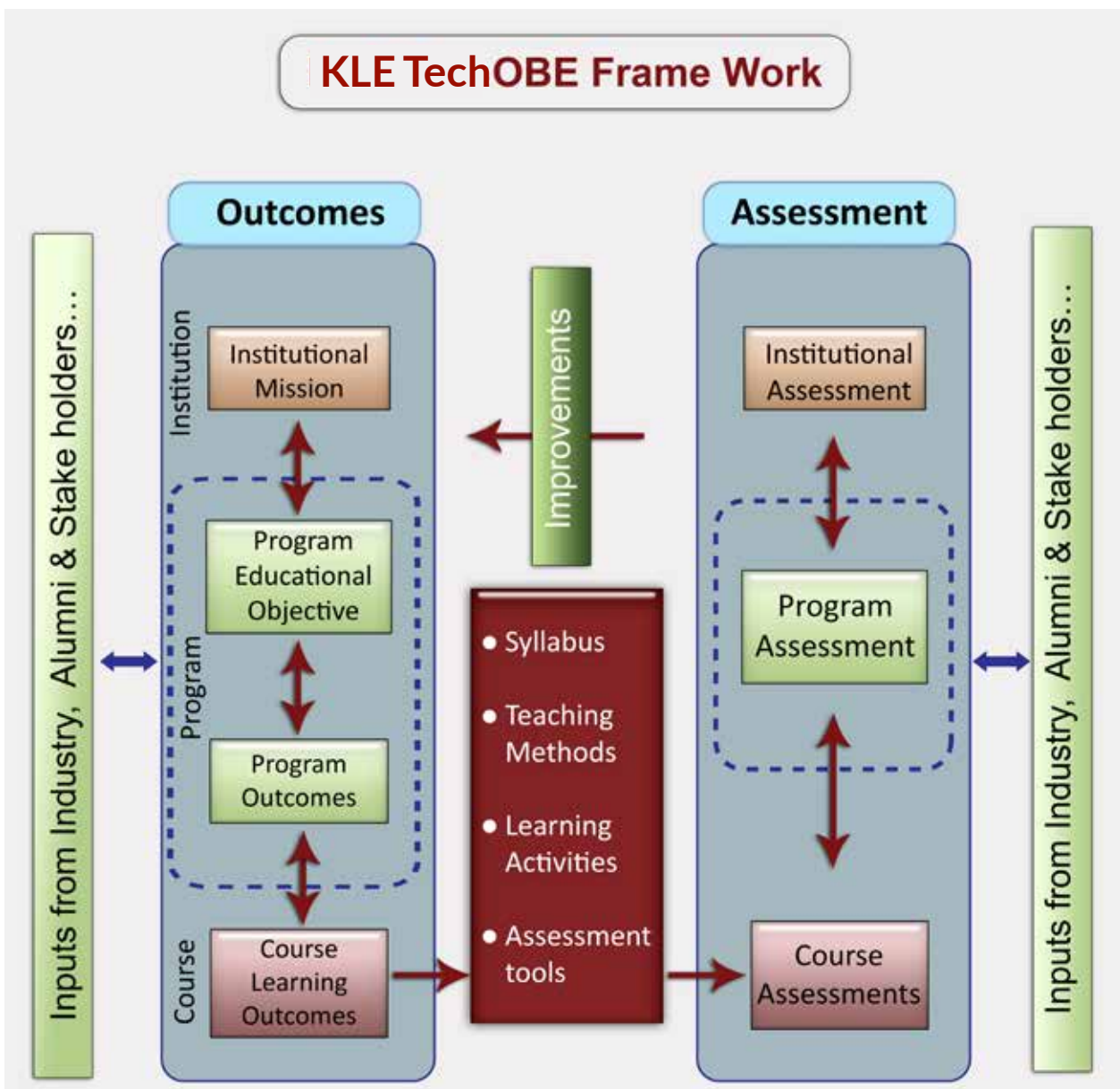
- Advances in Curriculum
- Faculty Development
- Student achievements

Advances in Curriculum

The curriculum of all the programs offered by KLE Tech are designed understanding the expectations of the stakeholders. Outcome Based Education (OBE) framework is used to design the curriculum. Each program has formulated Program Outcomes (POs) in line with Graduate attributes of NBA. These POs describe what students are expected to know and be able to do by the time of their graduation. These POs relate to the knowledge, skills, and behaviours that students acquire as they progress through the program. The courses designed for the programs are aligned to the expectations of POs.

Learning experiences in each of the programs are created focusing the millennial learner. Problem solving skills, research and entrepreneurship are embedded in the curriculum through a host of program core, program elective and open elective courses. Active, blended, collaborative, experiential and project based learning (PBL) practices are used bringing student to the centre of teaching – learning process. Assessment and evaluations are done aligning to learning outcomes to inform both the learner and the system. The frame work adopted by the University is depicted in the Figure below.

Developing and Institutionalizing Curriculum Framework



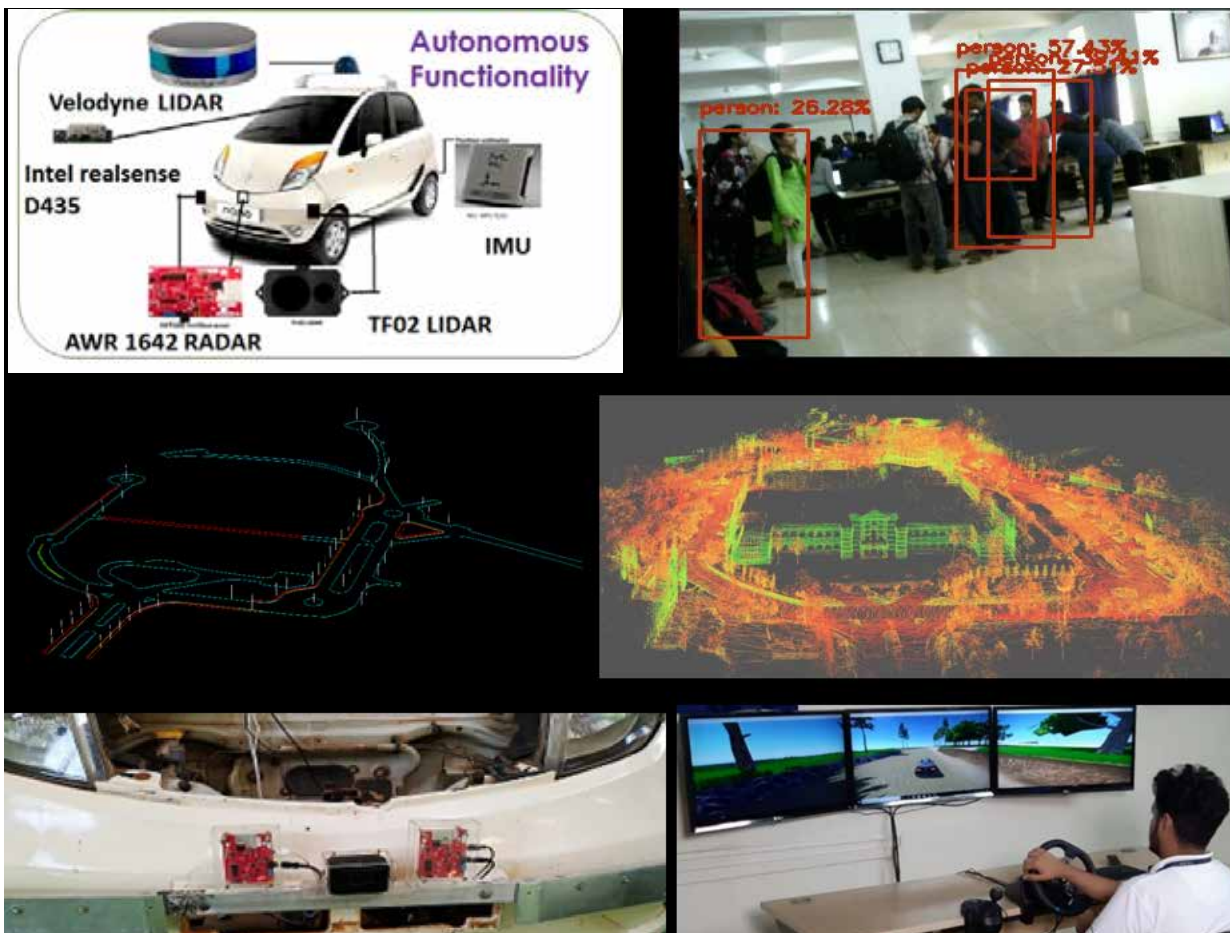
Major Academic initiatives Undertaken:

During the academic year 2019-20 following are the major academic initiatives undertaken to improve the teaching and learning process.

School of Electronics and Communication Engineering

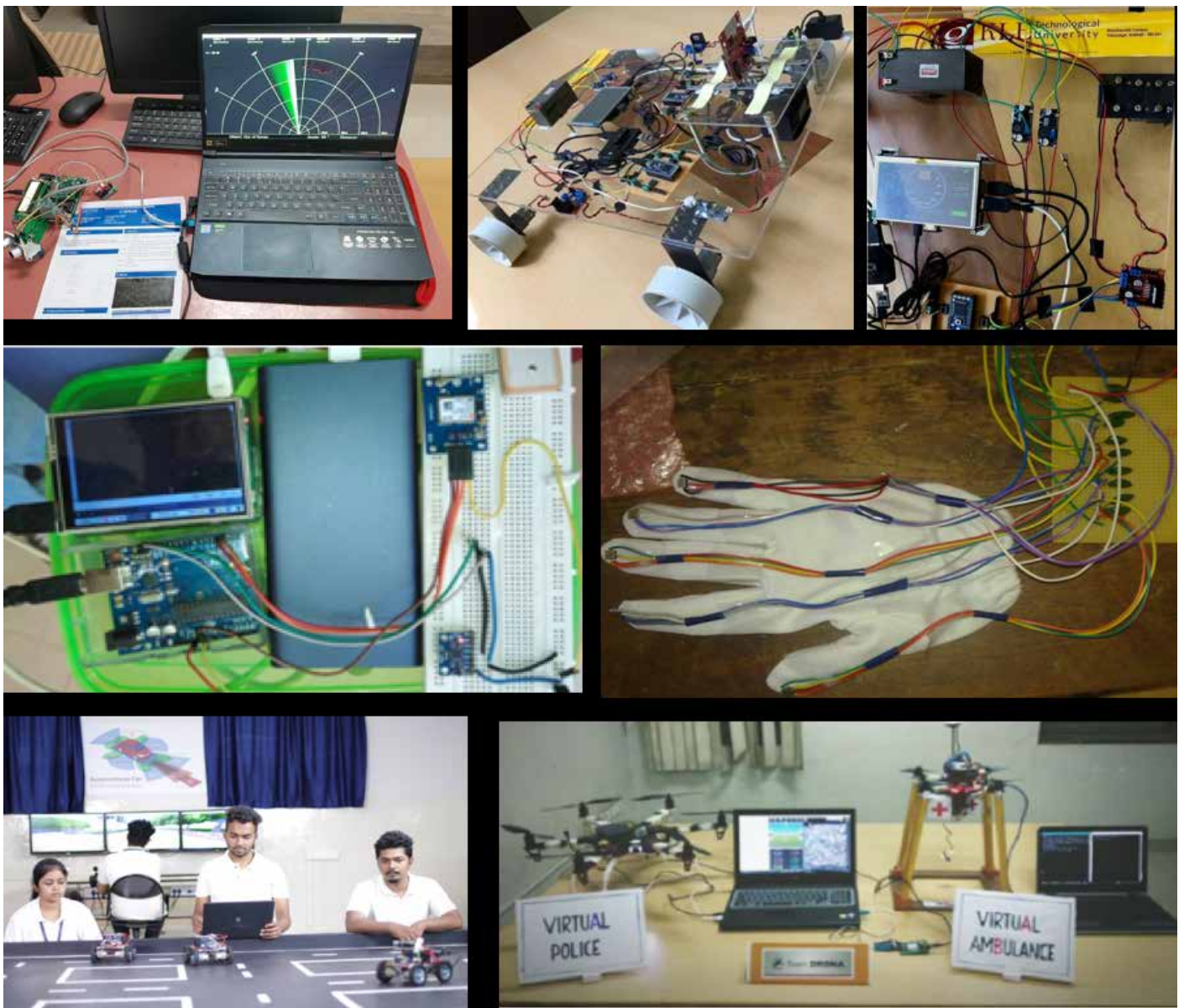
Automotive Electronics Initiatives

School of ECE offers automotive electronics as one of the application courses to strengthen Embedded Systems vertical. It has a vibrant collaboration with industry giants namely RBEI (BOSCH), and KPIT for course design and delivery. In automotive electronics the evolving technology now-a-days is focused on Model Based Design (MBD) with its application ranging from control prototyping to a system modelling, simulation, and synthesis paradigms. MBD simulation is part of “V” design model which is used for developing functionalities of automotive ECUs. This industry specific technology is introduced at third year of engineering. The theory and laboratory components of the course are designed in such a way that the functionalities of an automotive application are built using model-based design approach. The course includes a platform for state-of-the art engine-in-the-loop (EIL) simulation facility for system-level experimental evaluation of power-train interactions. The outcomes of the activity are measured by industry specific rapid prototyping skills demonstrated by the students. MBD technique incorporated in automotive electronics course has contributed in making students industry ready. This has led to increase in placements by the companies in the field of automotive electronics in Bosch, KPIT, Continental and Delphi, this has also enabled RBEI to award the college with highest number of placements across India in 2018-19 and 2019-20. Students actively participate and win prizes at the national level competitions like KPIT Sparkle and Bosch Inscribe, which foster innovation in them.



Embedded Systems

Embedded Systems is one of the major vertical in Electronics and Communication Engineering supported by relevant courses and projects at multiple levels. Students are well exposed in the embedded system verticals with industry supported labs, courses as well as industry guided projects for designing real time embedded systems. As embedded systems became bigger, intelligent and complex, millions of lines of code are to be optimized to meet system deadlines, fit into the available memory, and meet power requirements to achieve the desired functionality. Developing such embedded system, to meet multiple design constraints is a considerable challenge. In order to meet this challenge code optimization techniques at multiple levels are introduced in curriculum focusing on machine dependent and independent optimizations. Architecture specific machine dependent optimization techniques are addressed at lower level courses like 8051 Microcontrollers and ARM processors, while machine dependent and independent optimization techniques are addressed at higher level courses like Real Time Embedded System and Course Projects. This exposure enables our students to be prepared for industry requirements and challenges, and has resulted in increased placements in embedded industries. As the vertical seeks attention from many industries and facilitates initiation of ideas, the project theme of the school also is made in line with the vertical to ensure hands on learning.



VLSI Initiatives

To meet the contemporary demands of semiconductor industry, KLE Technological University (KLE Tech) has undertaken an initiative to create specialised talent pool in the areas of digital and analog VLSI. The focus of the initiative is to reform the curriculum and learning experience to enable the graduates to be industry ready. Collaborating with experienced personnel from VLSI industry and IESA, reorientation of curriculum from foundational courses to advanced courses has been undertaken. Special emphasis is on project-based learning wherein students gain proficiency in industry- standard state-of-art VLSI EDA tools while solving problems relevant to the industry.

These initiatives are driven by joint group of experienced faculty, under the mentorship of industry experts

- Dr. Anand Bariya, Sr. Director at Broadcom, Ex Managing Director at NetLogic Microsystems
- Shri Shripad Annigeri, Ex- director Mega chips, Consultant in VLSI Industry.
- Mrs. Poornima Mohanachandran, Director Eklakshya.

Program Electives in VLSI stream handled in collaboration with industry

- Analog Circuit design and Layout
- Analog and Mixed Mode Circuits

Collaboration with Sankalp Semiconductors

- Advanced Digital Logic Design
- Advanced Digital Logic Verification

Collaboration with SEER and IESA

- CMOS ASIC design

Co-teaching by Dr. Anand Bariya and in-house faculty

- Physical Design- Analog

Co-teaching by Eklakshya and in-house faculty

To get an industry like experience of complete chip creation, from concept to post silicon testing, selected students undergo close to two years of professional exercise., As part of this initiative, a Tri partner agreement between KLE Tech., IESA and SEER, University has enabled design a program to create a, mixed signal IC - Elapsed Time Counter in UMC 0.18 μ m technology, under the guidance of faculty and industry experts.



Computer Vision and Graphics Initiatives

The Computer Vision and Graphics (CVG) group at KLETech focuses on the computer-based interpretation of 2D and 3D image datasets from conventional and non-conventional image sources. CVG group provides researchers to span the complete cycle, from signals to their interpretation, and to the resulting action. The research at CVG is focused in the fields of Image Analysis and Visualization, Object Recognition Localization and Tracking, Video Analysis, Scene Understanding, 3D Reconstruction, 3D data processing and visualization. CVGs objective is to develop universal concepts and methods with a finger at the pulse of international, ongoing research. CVG group operates in the context of many collaborations with other labs and institutes across the country, with a strategy to let difficult real-world applications drive the research and development. CVG group sees the collaboration with industry as an important plus for a research group.

The group conducts summer and winter workshops during vacations towards student capacity building. The conduction of summer and winter workshops, has led to many student's start-ups in the domain. The main goal of the workshop is to make students learn the basics of the domain and work towards addressing real world problems. The workshop is conducted in two phases, two weeks of conceptual learning with hands-on experience with tools, and four weeks of project phase. This workshop is observed to be effective in learning the courses beyond classroom teaching, as they explore the literature for state of art and design alternative solutions for the real time problems. Summer workshops are conducted during June-July and winter workshops are conducted during Dec-Jan, and around 900 students are trained with the help of 14 workshops till date.

CVG group has initiated collaboration with major research instates across India like IIT Delhi, AIIMS Delhi and Samsung (SRIB). The initiative for collaboration with Samsung Research Institute Bangalore (SRIB) was taken under the KLE Technological University's (KLE Tech) Industry Collaborative Initiatives towards curriculum design & delivery, collaborative projects for experiential learning, and capacity building of students & faculty.

Collaboration with Samsung (SRIB):

The objective of this collaboration is to strengthen the curriculum thread in undergraduate programs by involving the experts from SRIB in Board of Studies (BoS) and Introduction of state of art courses for UG and PG programs, where the industry experts are a part of designing course content, delivery, and evaluation. SRIB team is also actively involved in course conduction through co-delivery and conducting reviews towards evaluation. The SRIB team is in continuous discussions with faculty to arrive at the holistic curriculum thread.

The SRIB team contributes towards capacity building of students by conducting training programs, workshops, expert tech talks. Towards enhancing software competency SRIB team contributes in conducting Codethons and Hackathons. SRIB also provides student internships to students of KLE Tech under the initiative. Under the initiative SRIB also plays a role in capacity building of faculties by conducting faculty development programs (FDP), workshops, training programs, and also provide internships to faculties.

Under the initiative collaborative projects with faculties and includes activities like writing proposals to funding agencies, industry sponsored projects, institutional sponsored projects towards developing a POC, joint IP generation and publications. These activities paves ways towards experiential learning for students through collaborative projects evolving them to think beyond academia, and providing exposure to industry culture. The major contributions of this collaboration are in

- Curriculum design and delivery
- Capacity building of students and faculty
- Collaborative projects for experiential learning

Department of Electrical & Electronics Engineering

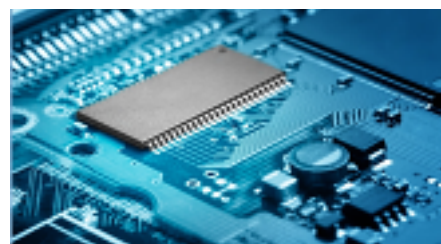
Curriculum structure of Department of Electrical and Electronics Engineering is designed to have three specializations which are relevant to current industry requirements and to maximize student placement opportunities. They are: 1. Embedded Systems, 2. e -Mobility, and 3. Modern Power and Energy Systems.

Flipped classroom describes a reversal of traditional teaching where students gain first exposure to concepts outside the classroom through lecture videos. Conventional lecture hours are used for discussion & problem solving of concepts learnt through videos. It promotes student centred learning and collaboration. This concept is being used to teach two courses in the department. Two courses, 1. Circuit Analysis (3rd semester) and 2. Linear Integrated circuits (5th semester) will be delivered through this mode.

A good algorithm usually comes together with a set of good structure that allow the algorithm to manipulate the data efficiently. Data Structure using 'C' is introduced to freshman students. This course will help students to understand what is going on inside a particular built-in implementation of a data structure. Students learn these data structures with hands on experience implementing them and applying for real world problems.

Embedded Systems Vertical (Electives)

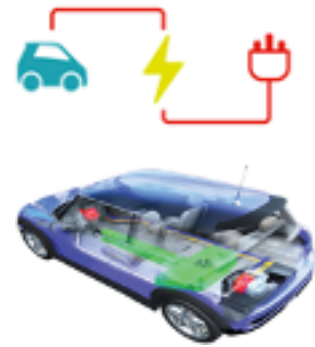
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labs, courses as well as industry guided projects for designing real time embedded systems. Architecture specific machine dependent optimization techniques are addressed at lower level courses like 8051 Microcontrollers and ARM processors, while machine dependent and independent optimization techniques are addressed at higher level courses like Real Time Embedded System and Course Projects. This exposure enables our students to be prepared for industry requirements and challenges, and has resulted in increased placements in embedded industries.

E-Mobility Vertical (Electives)

We have introduced e-Mobility vertical (Electives) from 6th semester onwards. e-Mobility is an abbreviation of electro mobility and is a general term used to describe the principles and concepts of utilising electric powered technologies (e.g. drivetrains). E-mobility moves away from existing carbon-emitting fossil fuels to using energy from electrical power sources (e.g. the National Grid) through external charging capability. In this vertical we have introduced 1. Battery Management Systems 2. Traction Systems for Electric Vehicles and Powertrain Control Laboratory, each with three credits.



Modern Power and Energy Systems Vertical (Electives)

We have introduced Modern Power and Energy Systems vertical (Electives) from 6th semester onwards. An electric power system is a network of electrical components deployed to supply, transfer, and use electric power. An example of a power system is the electrical grid that provides power to homes and industry within an extended area. Modern Power



systems are complex structures composed of an enormous number of different installations, economic actors, and system operators. Underlying this transmission system, function of the distribution grid is to conduct the power flow at lower voltage levels to customers, at medium or low voltage. In this vertical we have introduced 1. Modelling and Analysis of Hybrid Electrical Energy Systems, 2. Smart Grid Technologies and Flexible AC Transmission Systems, each with three credits.

To cope with industry requirements Machine learning, being one of the areas of Artificial Intelligence, is introduced as a part of curriculum for the 3rd year students. Machine Learning is the basis for the most exciting careers in Data Analytics today. Students learn the rudimentary concepts and apply them to typical real world problems using Python Stack.

Learning from textbooks, lectures and other study material does not suffice for holistic learning. Practical, hands-on learning are essential for better understanding of work processes and business functions. Industrial visits give greater clarity about important engineering concepts, as students practically experience how these concepts are put into action. In view of this background various industry visits were organized by the department for students of all semesters like Nuclear Power Plant Kaiga, Hydro Power Plant Dandeli, 220 kV Sharavati Receiving Station, Hubli, Loco Shed Hubli, Kirloskar Electric Company, Hubli and Solar Photovoltaic Power Plant at Chikkodi, Belgaum District.

School of Mechanical Engineering

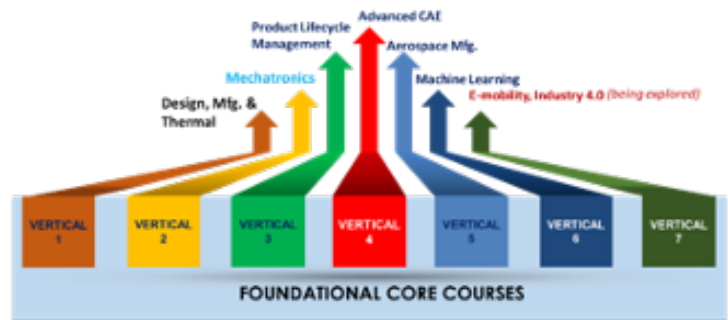
Accreditation

The School of Mechanical Engineering earned the distinction of one of the first Schools to be accredited for three years by the NBA in the University since its inception.

The accreditation teams visited us from 15th to 17th September 2019.

New Pedagogical Initiatives aligned with Industry Trends

The School of Mechanical engineering in response to changing technology trends has initiated several measures to bridge curriculum gaps to make it more receptive to new generation needs. The innovative pedagogical reforms through new courses in Product Lifecycle Management (PLM), Computer Aided Engineering (CAE) and



Aerospace Manufacturing (AM) have evolved through collaboration with lead industries. These specialized courses based on design thinking impart employment linked knowledge and skill-sets for assured recruitment. The enabling support infrastructure and ambience in place gives students an authentic experience of the industry-like orientation.

Course Design with Industry Collaboration

#	Technology Area	Courses	Industry engaged with	Students impacted	Remarks
1	Modelling and PLM Functional	CAD Modelling and PLM	EDS Technologies	300	Contributed significantly to placement of 65 students
2	PLM – Customization, Configuration and Integration	Product Lifecycle Management - Technical	Dassault Systemes, EDS Technologies, Intelizign	60	
3	JAVA for PLM Customization	Programming Fundamentals	EDS Technologies, Intelizign	60	
4	CAE : Pre-processing	Advanced CAE-I	Altair	60	
5	Advanced Manufacturing	Advanced Manufacturing for Aerospace Applications	AEQUS Aerospace	50	10 students placed in Aerospace sector

Industry-Institute Collaboration for On-line New Course Development

The Peer Learning EXPERIENCE Program (PLEXP) is an innovative online learning solution for any academic user of Dassault Systèmes' 3DEXPERIENCE platform, connecting educators and students in secondary and higher education within a cloud-based workspace to experience cutting-edge practices in Engineering, Design, and Project Management. As a part of industry institute collaboration and regular interactions with Dassault Systemes, 5 faculty members of "School of Mechanical Engineering" from KLE Technological University are part of development of PLEX Program. Faculties from our school are developing courses on Project Management with special emphasis on PLM, Topology Optimization, Modeling and Simulation etc.

Industry internship/summer training

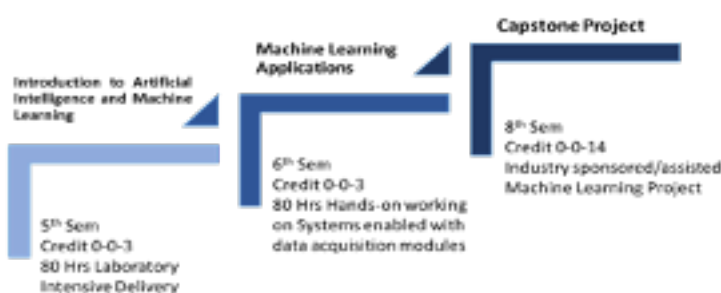
126 of the total of 250 students of 8th Semester were opted for internship and were selected by 35 companies. The internship includes training and capstone project. About 60% of these students were given offer letters is a testimony to the kind of value addition that has happened during these internships. Bosch has recruited all 25 students who were on internship with them.

CAD Modelling & PLM: Core Course + Mini Project (2-0-2 and 0-0-3)



This course has Dassault Systemes as active collaborator developed with an objective to help students realize work space where different technologies and people work together on a single platform. The variety of skills acquired through the course will help students compete for many jobs in the engineering services sector.

Introduction of Artificial Intelligence and Machine Learning (AI/ML) – New Vertical



The industry today is in the cusp of shifting focus from 'highly automated processes' to 'adaptable processes' with machine power to augment human intellect leading to optimized output in both qualitative and quantitative sense. A similar transformation was evident three decades ago, when highly human centered 'standardized processes' were automated. Our interactions with industry

experts and intellectuals from Institutes of higher learning indicated that there was an urgent need for present graduates to eye on radically new jobs being created in the missing middle (between highly standardized and highly automated).

Department of Master of Computer Applications

Practice-Based Learning (PBL)

The PBL enables the students to acquire the essential knowledge and skills to enhance employability. The key features of PBL:

- Integration of theory and laboratory sessions for Experiential Learning (Learning-by-doing) based on real-life IT projects.
- Course delivery comprises lectures, demonstration and hands on assignments aimed at skill development.
- Activity based learning is based on individual as well as team activities, which encourage peer evaluation and team spirit.



Certification Courses

- Robotic Process Automation (RPA) aims to automate human interactions with computerized processes that are rule-based, repeatable, and time-consuming and of high volume in nature, which increases productivity and reduces the costs. The RPA course provides insights into RPA technology, concepts of UI Automation using UiPath & Automation Anywhere, skills in building workflows in RPA tools. The University has MoU with Automation Anywhere and UiPath Academic Alliance, in order to provide internships for MCA students and placement opportunities in the RPA domain
- The students have the provision to enroll for approved MOOC courses during summer vacation at the end of II semester and complete it by IV semester.



Trending Technology: MEAN-Stack

Mean-Stack is the new course introduced in the curriculum. It helps to build secured, dynamic web applications (end-to-end encryption) for deploying on the cloud.

The MEAN-Stack is a free and open-source stack, which provides structured methods for creating rapid prototypes in cloud-based applications.

Faculty Development Programmes

Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year 2019-20

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Vinayak Naikar	Workshop on "Climate Change, Challenges, Mitigation and Adaption" held at Sahu College Pune during 23-24 Jan 2020	WORKSHOP	4955.00
2019-20	Shivaraj Raddar	Workshop on "Modern Spectroscopic Techniques "held at SSN College of Enn, Chennai during 24-25 Oct 2019	WORKSHOP	4650.00
2019-20	Sanjay Kotabagi	Workshop on "Socially Relevant Tech Education" held in IIIT Chennai during 6-7 Dec 2019	WORKSHOP	28075.00
2019-20	Anusha Kodalli + 2 Fac	Workshop at IEMS on writing Paper and Publication during 16 Dec 2019 at Hubli	WORKSHOP	1700.00
2019-20	Gurubasav H	Workshop on "Power Eelctronics Converters : Operation & Control held during 2-6 Nov 2019 at IISc Bangalore	WORKSHOP	4600.00
2019-20	Rohini Malagi + Pratima B	Workshop on "Techniques of Paper Writing for Built Environment" held at PDACE, Kalburgi during 11-13 Sept 2019	WORKSHOP	15295.00
2019-20	Shraddha Hiremath & Nagartna S	Workshop on PDK rule writing on 17 Sept 10 at Mentor Graphics Bangalore	WORKSHOP	4400.00
2019-20	Vinay Tigadi	Workshop on VR by VIZ Experts held at SVCE and Tech, Bangaloe on 18 May 2019	WORKSHOP	2748.00
2019-20	Roopa Kuri	National workshop on "Experimental Structral Dynamics" held at Godawath University Kholapur during 8-9 Sept 18.	WORKSHOP	2352.00
2019-20	Vinay Tigadi	Workshop on "Cold Formed Steel Structures" at IIIT Hyderabad held during 22-23 March 2019 3.	WORKSHOP	9939.00
2019-20	P P Revankar + Rakesh + Vijaylaxmi M	Workshop on ARIA at CMRIT, Bangalore during 19 March 2019	WORKSHOP	8244.00
2019-20	Yogeeshwar Umathar	1 day worksof & 3 day Int Conf on Recent Trend in Mathematics held at RCU Belagavi during 26-29 Dec 18.	WORKSHOP	4430.00
2019-20	Altaf H M	Workshop on "Blockchain and its Potential Applications" held at B'lore during 25 Feb to 1 Mar 19. .	WORKSHOP	6864.00
2019-20	N R Banapurmath	Seminar on " FISITA world automotive congress" held at Chennai during 2-5 Oct 18.	SEMINAR	21859.00
2019-20	Kalpesh Patel	Seminar on "Frame 2019 Conclave" held at Kala Academy Panaji during 16-18 August 2019	SEMINAR	16554.00
2019-20	Praveen C	National Seminar on "Application of Mthematics in Engineering" scheduled on 24-26 May 2019 at Ahamedabad Gujarat	SEMINAR	8605.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	P.C. Nissimgoudar	All India Seminar on "Electrical Vehicle Prospects and Challenges" held at SDM CET Dharwad during 1-2 March 2019	SEMINAR	1050.00
2019-20	Geeta Bellad	National Seminar on "Sustainable Advanced Wastewater Treatment Technologies and Mitigation Strategies for Lifetime Structures" held on 29 March 19 at Dayananad Sagara College BLR.	SEMINAR	10050.00
2019-20	Nalini Iyer	Seminar on "TieCon Hubli 2019 "during 25-26 Jan 19 at Denissons Hubli. Uma M & Meena S M.	SEMINAR	4500.00
2019-20	Fateli S	Seminar on" Enterprise Portfolio Management in Civil Engineering" hosted by KLS V DIT Haliyal during 21-22 Feb 19.	SEMINAR	1600.00
2019-20	Roopa K	IEEE 5th Int Conf to be held at IEEE Bombay during 29-31 Mar 19.	Conference	7000.00
2019-20	S V Desai	Conference on "KSTA KUD Kannada Science Tech" at Dharwad during 23 Nov 18.	Conference	1734.00
2019-20	Anil Nandi	International Conference on "ASSC using Neural Networks" held during 24-25 Jan 2019 at Goa University.	Conference	6000.00
2019-20	Unnati K	International Conference on Innovations in Computational Intelligence and Computer Vision (ICICV-2020) at ICICV 2020 held at Jaipur during 17-19 Jan 2020	Conference	18886.00
2019-20	Rakesh T	7th International Conference on Advances in Energy Research (ICAER 2019) held at IIT Mumbai during 10-12 Dec 2019	Conference	14716.00
2019-20	Revankar PP	7th International Conference on Advances in Energy Research (ICAER 2019) held at IIT Mumbai during 10-12 Dec 2019	Conference	14958.00
2019-20	Zabin B	Int Cnf on Advances in Materials, Ceramics & Engineering Sciences (AMCES-2020) held at DSU, BLR during 17-18 Jan 2020	Conference	11754.00
2019-20	Sachin K	Int Cnf on "Industry 4.0 Current Perspectives and Future Directions" hosted at IMS Ghaziabad held during 6-7 March 2020	Conference	3500.00
2019-20	Suvarna K & Ashok C	5th Int CNF on "Inventive Computation Technologies" (ICICT 2020) held at RVS Tech Campus Coimbatore during 26-28 Feb 2020	Conference	12538.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Prakash Hegde	7th International Conference on Transformation In Engineering Education (ICTIEE 2020) held at Anurag Inst Hyderabad during 6-8 Jan 2020	Conference	9556.00
2019-20	Vijayalakshmi M	4th Int CNF on "Information and Communication Technology for Compitative Strategies" (ICTCS 2019) held at Nobles Univ, Udaipur during 13-14 Dec 2019	Conference	12842.00
2019-20	ayanti Shinghe & Sujata N	Int CNF on "Transformation In Engineering Education" (ICTIEE 2020) held at Anurag Group Institute, Hyderabad during 5-8 Jan 2020	Conference	22345.00
2019-20	S V Desai	Int CNF on "Transformation In Engineering Education" (ICTEE 2020) held at Anurag Group of Inst, Hyderabad during 5-8 Jan 2020	Conference	16182.00
2019-20	Nagaraj Ekabote	International Conference on "Design ,Automation & Control" (ICDA 2020) held at VIT Vellore during 6-8 Jan 2020	Conference	13766.00
2019-20	Kapatkar	Int CNF on " Multifunctional Materials" (ICMM 2019) held at Gitanjali College of Engg, Hyderabad during 19-21 Dec 2019	Conference	5926.00
2019-20	Veena Chowdapur	Int CNF on 64th DAE Solid State Physics Symposium (DAE) at IIT Jodhapur organized by BARC during 18-22 Dec 2019	Conference	25451.00
2019-20	Prema Malali	Int CNF "24th HYDRO 2019" held at Osmania University hyd during 18-20 Dec 2019	Conference	15273.00
2019-20	Yogesh Umathar	Nat CNF on "Recent Trends Applied Math & Applied Math" held at Tirupati & BGM during 6-8 Dec & 10-11 Dec 2019	Conference	9069.00
2019-20	S D Desai	Int CNF on "Computing & Network Communications" (COCONET 2019) held at trivendrum during 17-21 Dec 2019	Conference	17862.00
2019-20	G H Joshi	Int CNF on "Transformation IN Engineering Education" (ICTIEE 2020) held at Hyderabad during 7-8 Jan 2020	Conference	5985.00
2019-20	Prakash Hegde	3rd Int CNF on Computing & Network Communications (CoCoNet'19) held on 18-20 Dec 2019 at IIITM-K Trivendrum	Conference	7591.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Shivanand Seeri	3rd Int CNF on Data Engineering & Communication Systems (ICDECS 2019) held at RNSIT, BLR during 19-20 Nov 2019	Conference	13911.00
2019-20	Priyadarshini Patil	4th Int CNF on Information and Communication Technology for Competitive Strategies (ICTCS 2019) held on 12-13 Dec at Udaipur.	Conference	11800.00
2019-20	Kavita Chachadi & Priyadarshini Patil	Int CNF on Information and Communication Technology for competitive strategies - 2019 (ICTCS 2019) held on 12-13 Dec at Udaipur.	Conference	28896.00
2019-20	S V Desai	7th Int CNF on "Advances in Energy Research" (ICAER 2019) held at IIT Mumbai during 9-12 Dec 2019	Conference	15340.00
2019-20	Raju G U	Int CNF on "Design, Materials & Manufacture " (ICDEM 2019) held at NITK during 6-8 Dec 19 (Paper prst by Co-author Stud)	Conference	8914.00
2019-20	N R Banapurmath	Nat CNF on "Internal Combustion Engines and Combustions" (NCICEC 2019) held during 1-4 Nov 2019 at NIT Kurukshetra	Conference	4000.00
2019-20	Vinayak K	Int CNF on "9th World Engineering Education Forum 2019" (WEEF-2019) held during 13-16 Nov at Chennai organized by VIT Vellore.	Conference	33100.00
2019-20	Kishor Upadhyaya	Int CNF IWPSD 2019 to be held during 16-18 Dec at S N Bose, Kolkata	Conference	23698.00
2019-20	Sangeeta Kuvalekar	Int CNF on "Recent Trends in Science, Engineering & Mathematics" (ICRTSEM 2019) held during 21-22 Sept 2019 at Goa.	Conference	4720.00
2019-20	Shraddha H	Int CNF on Global Conference for Advancement in Technology held at Nagarjuna College of Engg, BLR during 18-20 Oct 2019	Conference	18764.00
2019-20	Kishor U	Int CNF on "Multifunctional Materials" (ICMM-2019) to be held on 19-21 Dec 2019 at Geetanjali College Hyderabad.	Conference	10573.00
2019-20	Vinod M + Sachin K + PP	International Conference on Advanced Trends In Mechanical And Aerospace Engineering" (ATMA- 2019) held at Dayanand Sagar University, BLR during 7-9 Nov 2019.	Conference	36273.00
2019-20	Roopa K	Int CNF on "Recent Advances in Material and Manufacturing" (ICCRAMM 2019) held at KLE's college Blgaum during 12-14 Sept 2019	Conference	8749.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Suneeta B	3rd Int CNF on Computing and Network Communications (CoCoNet19) to be held during 18-21 Dec 2019 at IIITM Trivandrum.	Conference	12905.00
2019-20	Saroja S	3rd Int CNF on Computing and Network Communications (CoCoNet19) to be held during 18-21 Dec 2019 at IIITM Trivandrum.	Conference	12905.00
2019-20	Jyoti Bali	Int CNF on "Recent Innovative Trends in Computer Science & Applications" (ICRITCSA 2019) held at Ramaiah Institute of Technology during 25-26 Oct 2019	Conference	10241.00
2019-20	Jayachandra Y	5th Int CNF on "Polymer Processing and Charecterization"(ICPPC 2019) at M G University, Kottayam during 11-13 October 2019	Conference	18886.00
2019-20	Shilpa K	6th CNF on "ISD & Intelligent Applications" to be held in Visakhapatnam, AP during 1-2 Nov 2019	Conference	8000.00
2019-20	Kavita Chachadi	Int CNF on "ICTCS 2019" to be held on 12-13 Dec at Udaipur.	Conference	11800.00
2019-20	Nalini Iyer	Int CNF "ASIA Oceniac Engineering Conference 2019 " held during 17-18 at Bangalore and Global Cnf for advancement in Technologies held during 19-20 at Bangalore	Conference	11901.00
2019-20	Priyadarshini Patil	Int CNF on " PReMI 2019 "to be held in Tejpur University during 17-20 Dec 2019	Conference	14000.00
2019-20	Vijaylakshmi M	Int CNF on "Information and Communication Tech for Computative Strategic" 2019 to be held in Udaipur during 13-14 Dec 2019	Conference	10192.00
2019-20	Raghavendra S	Int CNF on " I7C 2019" to be held at Sri Sairam College Bangalore during 28-29 November 2019	Conference	13500.00
2019-20	Anil Kabbur & Jyoti Patil	Int CNF on "9th World Engineering Education Forum" (WEEF 2019) at Chennai during 13-16 Nov 2019 organized by VIT Vellore	Conference	30600.00
2019-20	Nagraj ekbote	Int CNF On "9th World Engineering Education Forum "(WEEF-2019) to be held 13-16 Nov 2019 at Chennai	Conference	17000.00
2019-20	Praveen Petkar	Int CNF on Advanced Trends & Aerospace Engineering (ATMA 2019) to be held at Dayanand sagar University on 7-9 Nov 2019	Conference	8260.00
2019-20	Suhas B S	Int Cnf on "ISDA 2018 held at VIT Vellore during 6-8 Dec 18.	Conference	8500.00
2019-20	Rajashekar Shettar	Int Cnf on " ICECNS 2018" at Panaji during 19-21 Oct 18.	Conference	16000.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Hemanth Kelagadi	Int Cnf on "Engineering Computers and Natural Science"(ICECNS 2018) at Panaji during 19-21 Oct 18.	Conference	18000.00
2019-20	Uday Kulkarni	International Conference on ICRTAC - CPS 2018 held at VIT Vellore during 10-11 Sept 18. .	Conference	7080.00
2019-20	Uma M + Meena S.M+Nalini Iyer + Uday Kulkarni	6th Int Cnf on "Advanced Computing, Networking, and Informatics" (ICACNI 2018) held at NIT Silchar during 4-6 Jun 18.	Conference	31550.00
2019-20	Shankar H	Int CNF on "Advance Materials and Manufacturing application" held at Amrita University BLR during 17 August 2019 .	Conference	11638.00
2019-20	Deppak A Yeraguppi	3rd Int CNF on "INGB-2019" to be held at Goa during 6-8 Nov 2019	Conference	11800.00
2019-20	Praveen D	3rd Int CNF on Emerging Research in Electronics, Computer Science and Technology" (ITIP2R 2018) at PES Mandya held during 23 August 2018	Conference	5700.00
2019-20	Ujwala Patil	6th Int CNF on "Advanced Computing, Networking & Informatics" (ACNI 2018) for paper prst at NIT Silchar during 4-6 June 2018	Conference	12200.00
2019-20	Gireesh H.M	9th Int CNF on "Innovations in Bio-Inspired Computing and Applications"(IBICA) held during 18-19 Dec 2018 at TOC Inst, Kochi	Conference	16779.00
2019-20	Sanjay Eligar	Int CNF on " Intelligent Computing and Sustainable System" (ICICSS 2018) held on 20-21 Sept 2018 at ACET Coimbatore.	Conference	6000.00
2019-20	Gireesha C	Int conf "NSRD 2019" held at B'lore during 2-3 July 19.	Conference	5014.00
2019-20	N R Banapurmath, Shankar H & Venkatesh	1st International Conference Cnf on" Recent Advances in Materials and Manufacturing "(ICRAMM 2019) to be held at Belgaum during 12-14 Sept 19.	Conference	22500.00
2019-20	Vinayak Kulkarni	1st Int CNF on Manufacturing Material Science & Engineering -2019" (ICMMS-2019) at CMRIT, Hyderabad during 16-17 August 2019.	Conference	5780.00
2019-20	Rajeshwari Bankar	Int Cnf on " Inventive Communication and Computational Technologies" (ICICCT 2019) held at Gnanmani College of Technology, Namakkal, TN during 29-30 April 2019	Conference	15750.00
2019-20	Meenaxi Raikar	Int Cnf" AFITA/WCCA 2018 "held at IIT Mumbai during 24-26 Oct 2018	Conference	2572.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	P C Nissimgoudar	3rd IEEE International Conference Cnf on Electrical, Electronics, Communication, Computer Technologies & Optimization Techniques (ICECCOT 2018) held at GSSS Institute at Mysore during 14-15 Dec 2018	Conference	11940.00
2019-20	Shantala G	Int Cnf on " Data Sciences, Machine Learning & Applications (ICDSMLA 2019" for paper presentation which was held on 29-30 March 2019 at Coimbotore,	Conference	19436.00
2019-20	Girish C	National Symposium on "ROTOR DYNAMICS" to be held during 2-3 July 2019.	Conference	14160.00
2019-20	Rohini Hongal	Int cnf "ICC 2019" to be held on 7-8 June 2019 at Dayanad Sagar University, Bangalore.	Conference	14000.00
2019-20	Roopa Kuri	5th Int CNF on "Convergent Technology 2019" held during 29-31 March 2019 at IEEE Bombay Section, Pune	Conference	3905.00
2019-20	Venkatesh Mane + Jyothi Patil + Vishal P+Gireesha H. M +Shrishail P + Rakesha Tapaskar +Vinay Talageri	6th Int CNF "Transformations In Engineering Education" (ICTIEE 2019) at Chitkaara University, Chandigarh during 10-11 Jan 2019	Conference	160384.00
2019-20	Kishor Upadhyay	Int Conf on "Advanced Material" during 6-7 Mar 19 at Jamia Milia Islamia Delhi	Conference	19684.00
2019-20	Sandeep Kurandwade	Int Conf on "Advanced Material" during 6-7 Mar 19. at Jamia Milia Islamia Delhi	Conference	24635.00
2019-20	Manikanta Pujar	6th Int CNF on Transformation In Engineering Education (ICTIEE 2019)" ICTIEE 2019" held at Hyderabad during 7-8 Jan 19.	Conference	4485.00
2019-20	Hemantaraj M Kelagadi	3rd Int Conf on "ICECCOT" organized at GSSSIETW held at Mysore during 14-15 Dec 18.	Conference	9140.00
2019-20	Suneeta V B	Nat Conf on "Communication NCC 19" held at IISc B'lore during 20-23 Feb 19.	Conference	24796.00
2019-20	Suneeta B + Saroja S + Ujwala P	6th Int CNF on Transformation In Engineering Education (ICTIEE 2019) held during 7-8 Jan 2019 at Vardhaman College of Engg, Hyderabad	Conference	14907.00
2019-20	Praveen D	2nd International Conference on Recent Trends in Image Processing & pattern Recognition 2018 (RTIP2R 2018) held at Solapur during 21-22 Dec 18	Conference	5500.00
2019-20	Vani Y	"MCEM 2019" held at IMT Hyderabad during 18-19 Jan 19.	Conference	4720.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	G. Fatepur, N. Vijaykumar, Satish C, Sachin Angadi	Int CNF ICTIEE 2019 held during 7-8 Jan 2019 at Vardhaman College of Engg, Hyderabad	Conference	21133.00
2019-20	V.B. Patil	16th Symposium on Earthquake Engineering held during 20-22 Dec 2018 at IIT Rourkee	Conference	8000.00
2019-20	Soumya Patil	9th Int Cnf on Technology for Education (T4E-2018) during 10-13 Dec 2018 at IIT Chennai .	Conference	13998
2019-20	Shankar + 2 Faculty & 3-Students	Int CNF" ICVGIP 2018" held during 18-22 Dec 2018 at Hyderabad .	Conference	82731.00
2019-20	Ashwin Kubasadgoudar	Int CNF (ICTIEE 2019) held during 10-11 Jan 2019 at Chitkara University, Chandigarh	Conference	21755.00
2019-20	Totad S G & Patil P R	"Smart Water Tech Conference " held at M.V. Auditorium FKCCI Bangalore during 6th & 7th March 2019	Conference	8222.00
2019-20	Gangadhar M	Int CNF on "Thermo-Fluids & Energy Systems" at BNMIT, Bangalore during 27-28 Dec 2019 .	Conference	8367.00
2019-20	Prakash Hegde	Int CNF "ICAN 2020" at Chitkara University, Chandigarh during 14-15 Feb 2020	Conference	18041.00
2019-20	Gireesha & Nissimgoudar	Int CNF on 11th world congress on Nature and Biological Inspired Computing (NABIC 2019) held at Vardhaman College of Engg, Hyderabad during 13-16 Dec 2019	Conference	26836.00
2019-20	Amit T & Vinod M	International CNF "ICMSMT 2020 "to be held in Coimbatore during 9-10 April 2020 .	Conference	9000.00
2019-20	G Tennali	International Conference on Transformation in Engineering Education (ICTIEE 2020) from 5th -8th Jan 2020 to be held in Anuragh University at HYD	Conference	13738.00
2019-20	Roopa K	International Conference on Transformation in Engineering Education (ICTIEE 2020) from 5th -8th Jan 2020 to be held in Anuragh University at HYD	Conference	5500.00
2019-20	Patil N R	Poster Titled on "Analysis of Preferential Solvation And Quantum Yield of Coumarin Derivatives In Different Solvents" in Trombay Symposium on Radiation & Photochemistry (TSRP-2020), held at Bhabha Atomic Research Centre, Mumbai, India, during January 5-9, 2020.	Conference	13500.00
2019-20	Namrata Hiremath	(ICIC 2018) held at Amrita Vishwa Vidyapeetham, BLR 25-27 Oct 2018	Conference	7080.00

Year	Name of the teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee provided	Amount of support (in INR)
2019-20	Ramesh Tabib	International Conference on "Computer Vision (ICCV 2019)" to be held at CCC Seoul, Korea during 25 Oct - 4 Nov 2019.	Conference	25017.00
2019-20	Moin Mulla	Int CNF on Emerging Research in Electronics, Computer Science & Technology 2018 (ICERECT 2018) held at PES Mandya, during 23-24 Aug 2018	Conference	6000.00
2019-20	Narayan D.G	3rd International Conference Cnf on Computational and Information Technology for Sustainable Solutions CSITSS-2018 held on 20-22 Dec 2018 in RVCE Bangalore	Conference	21240.00
2019-20	Roopa Kuri	National Cnf on "Advances in Sustainable Construction Materials ASCM-2019" held on 15-16 March 2019 at Warangal.	Conference	6135.00
2019-20	N R Banapurmath	International Conference on Advanced Materials on 6th & 7th March 2019 at Jamia Millia Ishamia New Delhi	Conference	10100.00

Placement

Students of 2019-20 pass out batch got ample of placement opportunities. Both Core & Services companies recruited in large numbers.

Important highlights are as follows:

1. Highest package offered reached all time high: Amazon Software Development Centre recruited one CSE student offering a package of 30 LPA.
Other higher package offers include Amazon AWS recruited 7 students with 19 LPA, Analog devices recruited 1 student with 15 LPA, Texas Instruments recruited 3 students with 13 LPA and Akamai recruited 5 students with 12.5 LPA.
2. 38 companies offered more than 5 LPA salary package.
3. Among core recruiters, big recruiters include: Robert Bosch recruited 68 students, KPIT recruited 82 students and Mercedes Benz R&D India recruited 18 students.
4. Among Software Services companies our biggest recruiters include: Accenture recruited 323 students, TCS recruited 110 students, DXC Tech recruited 45 students
5. Average Salary offer was 6 LPA
6. Total number of offers are more than 900.

Our Recruiters for 2019-20 Batch are:

Robert Bosch , Amazon, Microsoft, Mercedes Benz R&D, SONY, Toshiba, Informatica, Texas instruments , Akamai, Applied Materials, Cypress Semiconductors, Juniper Networks, Siemens Healthcare, Bosch Ltd., KPIT Tech, Cadence, Continental, INSZoom, Accenture, Infosys, TCS, DXC Tech, Wipro, ACC Cements RMX, ADM Agro, Agaze Tech, Aissel, Automotive Axles-Meritor, Cerium systems, Deevia S/w, Easi Engg, Multitech Automations, Pelatro, Promantia, Quest Global, Sankalp semiconductors, SLK S/w, Starmark S/w, Subex, Tata Elxsi,Vyuhgenics, Alten Calsoft Labs, Analog Devices, CommercelQ, ComViva, Contineo, Dassault Systems, Deevia S/w, Faurecia, Hexaware, JSW paints, Mukand Sumi Special Steels, OneTrust, Prodapt, Saankhya Labs, Sasken Technologies, Shilpa Medicare, Sifive, SOROCO, SmartDrive Systems, Tata Motors, TEK Systems, Total Environment, Veoneer, Amagi

Research and Innovation

To meet its growth aspirations, one of the challenges faced by the University is to transform itself from a good teaching institute to an excellent teaching and research institute. It is important that we need to further the research and developmental activities for the following:

- To sustain academic and professional reputation in knowledge-based economy
- To attract and retain high quality faculty and students
- To maintain cutting-edge curriculum and create stimulating learning environment
- To improve undergraduate teaching, because a researcher;
 - (i) Is a better thinker and problem solver
 - (ii) Can promote active teaching &
 - (iii) Can create enthusiasm
- To align academic activities with economic development of the region.

KLE TECH has 13 research centers with 79 doctoral faculty guiding 72 registered doctoral students at KLE Tech and 70 students registered in other universities. The following table presents details about the research centers.

Table 1: Details of registered and awarded candidates at 12 research centers

Sl. No.	Name of School/Department/Center	No. of Eligible Supervisors	No. of PhD registered at KLE Tech	No. of PhD registered at other universities
1.	Civil Engineering	8	5	13
2.	Computer Science & Engineering	14	20	7
3.	Electronics & Communication Engg	9	6	24
4.	Mechanical Engineering	16	14	8
5.	Biotechnology	6	7	4
6.	Electrical & Electronics Engg.	2	1	1
7.	Management Studies and Research	4	2	3
8.	Humanities and Social Sciences	1	3	--
9.	Engineering Education and Research	--	2	--
10.	Chemistry	2	6	2
11.	Mathematics	11	2	1
12.	Physics	3	4	7
13.	Automation & Robotics Engineering	3	--	--
	Total	79	72	70

Summary of publications

The following table summarizes the number of publications of research work in refereed conferences and journals at national and international level.

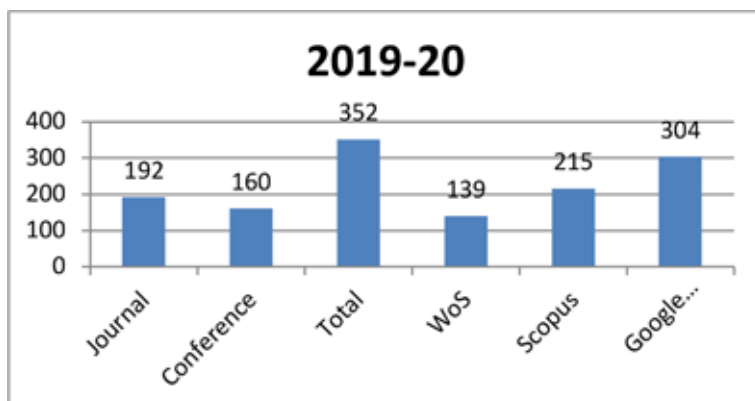
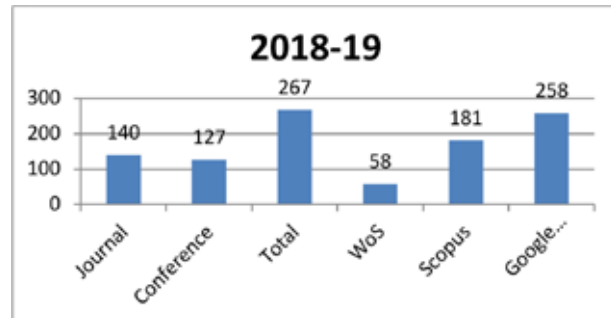
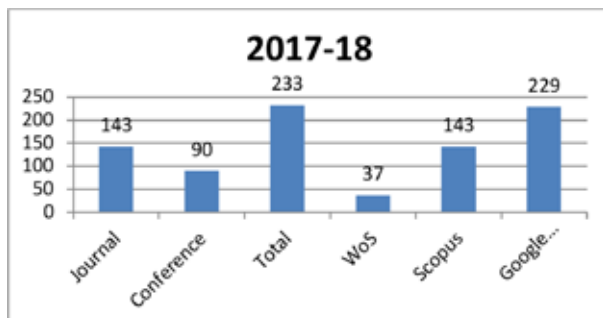
Table 2: Summary of papers published during 2017-18, and 2018-19 & 2019-20

Indexed in: W- Web-of- science S- Scopus G- Google scholar

Details	2017-18				2018-19				2019-20			
	Journal		Conference		Journal		Conference		Journal		Conference	
	IJ	NJ	IC	NC	IJ	NI	IC	NC	IJ	NI	IC	NC
# of Publications	141	2	87	3	139	1	117	10	188	4	155	5
	143		90		140		127		192		160	
Total	233				267				352			
W	37				58				139			
S	143				181				215			
G	229				258				304			

Indexed in W—Web of science, S-Scopus, G-Google scholar

Graphs



Summary of Patents

Patents: 2017-18

Total Number of Patents Applied: 3

Total number of patents published: 1

Patents: 2018-19

Total Number of Patents applied: 2

Total number of patents published: 3

Patents: 2019-20

Total Number of Patents Applied: 0

Total number of patents published: 2

Summary of External funded projects

Research grants received: 2017-2019

S.N	Year	Number of projects	Amount sanctioned in Lakhs	Funding Agency
1.	2019-2020	08	131.55	MSME, DASSAULT SYSTEMS, AICTE
2.	2018-2019	04	165.00	DST, VGST, UAS
3.	2017-2018	03	66.50	GoK-USAD,SRIB,VGST
	TOTAL	15	365.05	

Research Experience for Undergraduates (REU)

Undergraduate research opportunities help the student to experience and learn how to identify and define the problems and solve them, how to find and evaluate evidence, how to consider and assess competing interpretations, how to form and test their own analysis and interpretations and how to communicate their ideas and findings. These learning's enable them to take part in the research missions in their future career inside or outside academia.

Probably our college is the first institution in India to introduce 'Research Experience for Undergraduate (REU)s' in the curriculum as an optional course in 2011. The response from the students and faculty mentors has been overwhelmingly positive. The students and faculty mentors have devoted considerable time and effort to make the experience worthwhile and fruitful.

Summary of outcome of the REU course is reflected in the following table.

Year	# REU students	# REU Supervisors	# of Publications from REU	# REU students pursuing PG
2017-18	73	68	50	2
2018-19	73	60	67	2
2019-20	67	63	50	--

Research Promotion Schemes

University -Research promotion Schemes

To promote research in emerging and high impact areas, the institute has undertaken initiative to identify and nurture research clusters/research groups (RC/RGs) and fund for Product Design and Development Grant (PDDG), and also faculty student start-up grant (FSSG) initiatives.

The institute also supports Institutional Research Projects (IRP), Sponsored Research Projects (SRP) approved by the university R&D center.

Two new RGs are identified in 2019-20

- Sustainable Biosolutions: Development of biocontrol & biofertilizers
- Development of Process and Product for Healthcare and Environmental Applications

Identified Institute Research Projects (IRP) 2019-20

- AEV: ADAS/Autonomous functions, Coordinator: Nalini C. I.
- Smart System for resource management, Coordinator: Saroja S.
- India Chip, Coordinator: Saroja S.
- Humanoid, Coordinator: Arun G.

Identified Institute Sponsored Projects (ISP) 2019-20

- Security and Surveillance, Coordinator: Meena S. M.
- KLE Tech Cloud, Coordinator Narayan D. G
- Quadcopter Drone, Coordinator Banapurmath, Satish

Identified Sponsored Research Projects (SRP) 2019-20

- India Heritage in Digital Space-Crowd Sourcing Platform, Coordinator: Uma M
- Digital Poompuhar - Underwater IP and 3D reconstruction, Coordinator: Uma M

Outcomes of IRPs

Year	# Papers Communicated /Published	# Proof of Concepts	# Prototypes	# of Products	# Patents applied
2018-19	9 Communicated 15 Published	7	5	3	1
2019-20	35 Communicated 39 Published	27	8	3	1

Details of Sanctioned IRP ISP SRP Projects

Year	Number of Projects	Amount Sanctioned	Amount Utilized	Number of Students working	Number of faculty working
2020-21	(IRP) 6+2 (SRP)	10.5 L	Ongoing	103	41
2019-20	(IRP) 7+2 (SRP)	20.00 L	6.42 L	44	30
2018-19	6 (IRP)	10.00 L	9.55 L	64	31

Institute funded capacity building projects for individual faculty

Year	Total projects	Total amount in Lakhs
2017-18	15	27.92
2018-19	19	36.53
2019-20	12	29.26
2020-21	20	56.05

Incentives given to faculty for quality publication, funded research and guiding doctoral students

Sl. No	Year	# of incentives	Total amount in Rs.
1.	2015-16	3	19,000/-
2.	2016-17	10	2,33,320/-
3.	2017-18	31	4,30,000/-
4.	2018-19	13	1,94,000/-
5.	2019-20	36	7,65,000/-
		Total	16,41,320/-

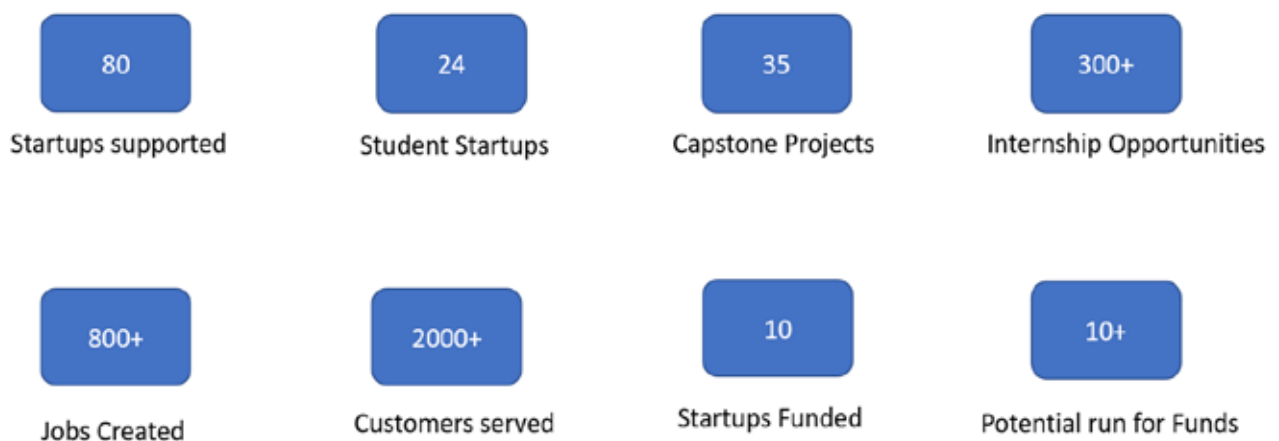
Entrepreneurship

Centre for Technology Innovation and Entrepreneurship (CTIE):

With focus on experiential learning and project-based learning in today's era, the entrepreneurial wing of KLE Technological University, contributes by giving essential skills required for an engineer to excel well in his life. With its various programs and events run across the year, it adds significant value in uplifting the creativity quotient of budding engineers and inclines them to being entrepreneurial. Each of the activity conducted under CTIE springs a concept of innovation. This further lays a foundation of entrepreneurial mindset in students, encouraging them to take up journey of entrepreneurship. This contributes to local ecosystem by retaining the talent and improving the knowledge skills of semi – urban cities.

CTIE attracts a lot of local entrepreneurs, alumni entrepreneurs, student entrepreneurs and industry experienced veterans who wish to start something of their own. This is due to gamut of service that it offers to budding start-ups.

- Electronics Enabling Lab (EEL) – housing RF Testing Equipment and Anechoic Chamber for rapid prototyping and testing
- Idea to Prototype ESDM Lab to support ESDM Startups and contribute to build region as ESDM Cluster
- Maker's Space, Tinkering Lab and lab facilities at various departments.
- Access to skilled student pool who come on board to deliver real time projects by way of internship and minor projects.
- Experienced mentors, who handhold the start-ups in various technical and non – technical areas and upskill them.
- Access to funding opportunities by connecting to right investors



MIB Outbound Program

Make in BVB (MiB) is the student front of KLE – CTIE. This is the team of young enthusiasts who drive all the student events and activities at the centre. The outbound program focuses on inducting the new team members to the group and planning for execution of the events in the academic year.



Pupa Orientation Program

Pupa is the first event organized by the MIB students in the odd semester. To start off the event, an orientation session was organized to facilitate participants to understand the format of the event. During the event, Dr. Nitin Kulkarni spoke to participants on importance of participating in PUPA, how it would help them to overall, look at the product journey right from understanding customer problem, to defining the product, building the product and finally selling it to the end customer. Each team is given a seed capital of Rs. 500, to build the product, on the exhibition day is when they sell the products built and make a revenue.



Pupa Exhibition – 19th October 2019

Pupa, has been receiving a roaring response since its inception. With just 20 ideas exhibited in the first series of the competition, we had 220 engineered ideas showcase their product in PUPA 2019. The Vice Chancellor of the University, took a special note of various exceptional ideas such as Smart Bin, earthing tester, Bamboo water sipper, Miniature drill machine, Smart irrigation system, PCB etching machine, Multipurpose stool. Each team was given a seed fund of Rs. 500 to build the product. Many teams made a breakeven and had profits by sale of their product.





Ideation Camp – 14th & 15th February 2020

The Ideation Camp – a two-day event, conducted for students of KLE Technological University was indeed a great success. With 50 students participating in the event, from different streams and different year of engineering, the event sowed a seed of entrepreneurship in each participant. Students were randomly distributed into teams, depending on their interest of being a Technical person, a Business person and a team builder. They were

then provided with pre – ideated ideas by Make in BVB (MiB) students, the write up on same were shared. Each team had to pick one of the topics for building on it further during the two – day event. The teams filled up different templates, on Understanding the problem supported by key facts & data and their insights on it, Identifying user segment, selecting main user and discussing problems associated with this user segment, selecting the problem by using importance versus frequency map, defining the problem statement, selecting solution on level of uniqueness versus value mapping, describing the solution further, and finally making preparing a pitch deck for the same. Each of the team was mentored by a student mentor, one who had already attended Ideation Camp in previous years and by Dr. Nitin Kulkarni & Ms. Soumya Kudagi. At end of day two, the teams were evaluated by judges, Mr Sagar Virapannavar & Ms. Deepika M. Top three teams were awarded with cash prizes.

IIC Council Meeting

KLE – CTIE, drives all the IIC activities at KLE Technological University. As part of the schedule, the IIC Council at KLE Technological University was established and four council meetings were held in the year. The agenda of the meetings were primarily to drive IIC events on campus and get due recognition to the university. With the efforts of the council members KLE Technological University received a FIVE STAR rating in the IIC and stood first in the SWRO (South West) Region. The IIC Council also supports on ARIIA data collection. With the help of the council members, the university is categorized as 'BAND A' institution (ranked between 6 – 25) in category of 'University & deemed to be University (Private – Self Financed)'



Electronics Enabling Lab (EEL) Inaugural – 21st September 2019



The Electronics Enabling Lab (EEL) was inaugurated by Vice Chancellor of KLE Technological University, Prof Ashok Shettar, in presence of Mr. Ajit Samasgikar from MMRFIC and Dr. Nitin Kulkarni, Director, KLE – Centre for Technology Innovation & Entrepreneurship. EEL is one of its kind labs having RF, Thermal, Vibration Testing Equipment. The lab is funded by DST and has state of art equipment to enable ESDM start-ups with specific and precision testing equipment. It also housing an Anechoic Chamber which helps for testing

of Antennas at zero interference of signal. This facility helps for rapid prototyping and testing and taking the product faster to the market for start-ups.

Two – day workshop on Research, Technology & Innovation – Jan 31 – Feb 1, 2020.

The two-day FDP provided practical, hands-on, experiential training to prepare faculty to become a researcher, build industry relevant technologies, develop innovations for industry and society, understand IP creation, protection, and monetization to enable KLE Tech as one of the premier universities in India. Along with learning best practices, group activities to identify multi-million dollars research opportunities, leveraging students' project work, identifying research collaborators within and outside of India, developing research proposal, and emerging models of innovation were held. The aim of this FDP was to create a long-term positive impact in driving and embedding research, technology and innovation at KLE Tech University through Department research and KLE-CTIE initiatives. Over 40 faculty from 8 different engineering schools of KLE Tech, participated in it.



Mentor Me MENTOR

44 Mentor Me MENTOR sessions were conducted in the current year spanning over 30 Startups and 8 prospective students Startups. The Mentoring sessions were done by experts like Dr. Anant Koppar, a Serial Entrepreneur & Mr. Anand Kadakol, veteran from Industry.

Investor Meets

KLE - CTIE enabled with help of its Mentors, 8 Investor Meets during this year. The Investors who showed interest in investing in CTIE startups were Mr. Arun Bellary, Mr. Timmanna Gowda C, Mr. Sanjay Belawal, Ms. Savita Samat, Mr. Sandeep Bidasaria, Mr. Anand Kadakol, Mr. Chetan Mehra, Ms. Dharti Desai, Mr. Vivek Oberoi, Mr. Anand Sankeshwar and Mr. Vivek Dahiya, Boudhik Ventures.



Chai pe Charcha with KLE - CTIE Start-ups



Chai pe Charcha is a networking event with start-ups at CTIE, just to catch up with recent developments in the start-up and see if there are opportunities to collaborate and to promote every start-up to every other person present. We started doing the sessions as we wouldn't find many inter-startup interactions. These sessions will only help them to get to know each other's strengths, to leverage upon it, so that better results be delivered.

Screening of Startups

During the year, startup who pitched for Incubation were Pequerel Microelectronics, Kalpas Innovations, AJ Deals, Astr Tactical Pvt Ltd. Each pitch was vetted by a team of panellist who approved their support for incubation.

Elevate 2020

Two startup were selected for funding under Elevate 2020. Suereno Energrene & Kalpas Innovations were chosen for funding by Government of Karnataka

Recognition of KLE - CTIE TIDE 2.0 G2 Centre by MeitY

KLE - CTIE is recognized as TIDE 2.0, G2 Centre by MeitY. The centre was provided with 4 Entrepreneurship in Residence (EiR) & 4 Grant support each amounting to Rs. 4Lacs & Rs. 7Lacs respectively. A pamphlet was rolled out for potential startup/entrepreneurs to apply. We received 13 EiR & 13 Grant Applicants for funding of which 2 were chosen for Grant Fund Disbursement & 4 for EiR fund Disbursement.

Other Events conducted

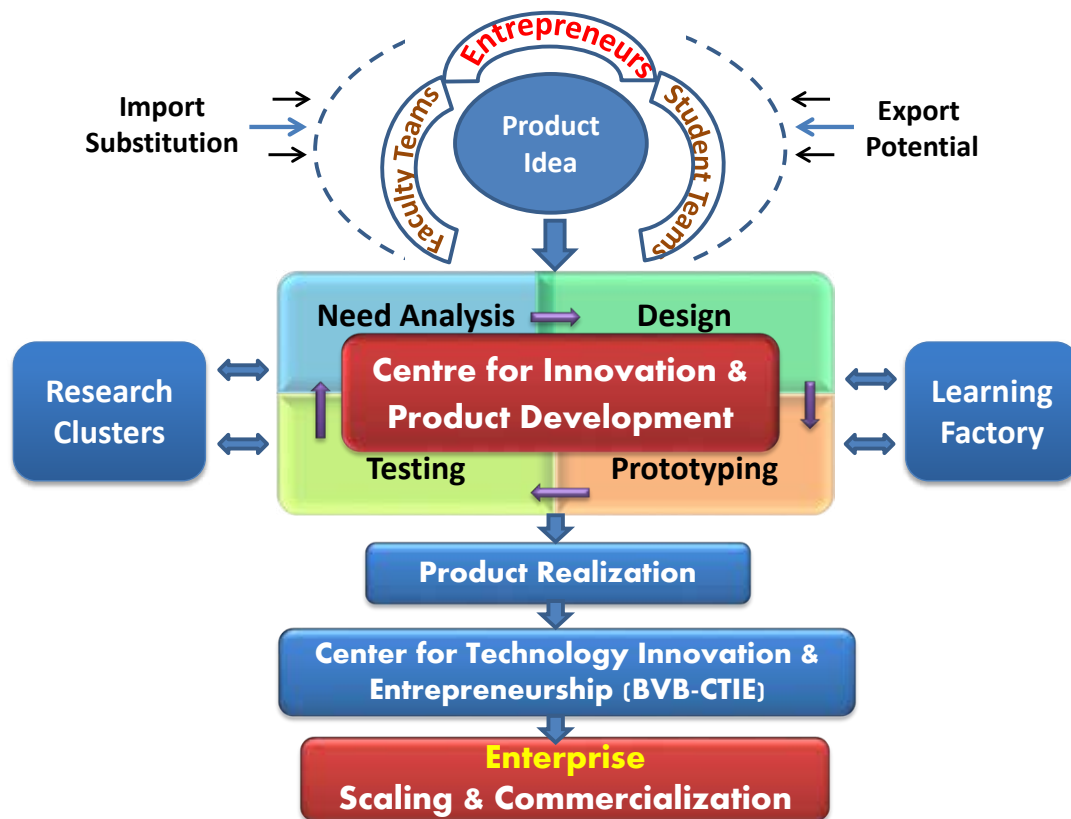
- Innovator's Life and Crossroad by Mr. Anand Kadakol – 25th October 2019
- Entrepreneur's Life and Crossroad by Mr. Vivek Pawar – 25th October 2019
- Valuation Method Workshop by Mr. Anand Kadakol - 19th November 2019
- Lean Startup and Product Design workshop by Mr. Anand Kadakol - 29th & 30th November 2019
- Fundamentals of Business, Venture Capital Investment & Intellectual Property workshop by Mr. Anand Kadakol – 5th & 6th December
- Seminar by Fintel – 10th January 2020
- A Seminar on Entrepreneurial & Job Opportunities in VLSI Design by Mr. Shripad Annigeri – 22nd February 2020



CIPD - Centre for Innovation & Product Development

Over Arching Philosophy of CIPD

KLE Tech Centre for Innovation & Product Development [KLE Tech - CIPD]



The Center has been established to develop capabilities in Product Innovation and Development for students, faculty and start-ups within KLE Technological University. The Mission : To be a premium product innovation and development center in India by 2020 within the academic arena

The following strategic initiatives shall be deployed to achieve our goal:

Collaboration: With Industry, students, faculty and society to develop innovative product ideas

Organizational alignment: Academic courses to be aligned to achieve an end goal of product realization. All NPI, Innovation and PDD courses to be aligned towards a common goal. Faculty members from various departments to be in a team which shall work towards the 2020 goal

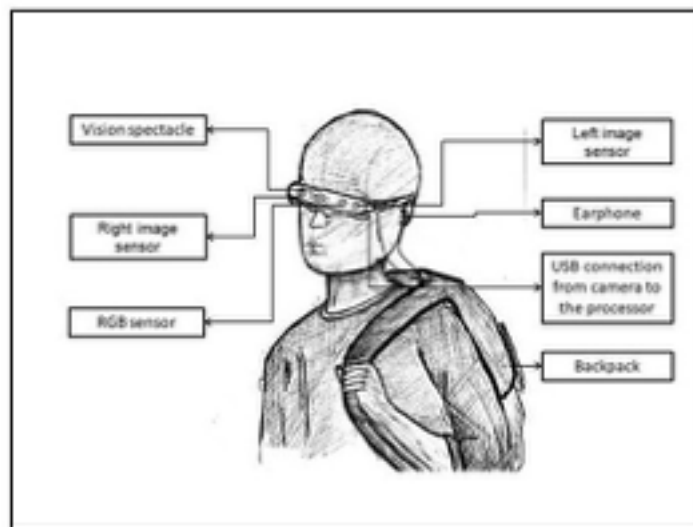
Develop eco-system for product innovation and Intellectual Property Management – processes and tools

Capability Building: Develop Product Innovation, Design and Development curriculum; Training programs and workshops for faculty and industry partners

PRODUCTS IN DEVELOPMENT STAGE

Vision – A system solution (patented) to aid in navigation and provide safety to visually impaired - Visual impairment is a significant and growing problem in the world, especially in India as it is home to one-fourth of the world's blind population. Globally, there are 39 million people who are visually impaired. In 2018, India has a total of 12 million people who are visually impaired. Due to this problem that largely persists, the visually impaired people are unable to lead an independent life in terms of mobility, be it on roads, streets or at the safety of their own homes. It is also found that independent travel is a source of anxiety for many visually impaired people and indeed some avoid it altogether. Sight is one of the primary senses of human body, yet another research indicates that the audio response time is faster than visual response time. It is a fact that hearing is one of the primary senses after sight and that the hearing ability of visually impaired people is enhanced through practice and adaptation. Although the modern-day devices i.e. head-mounted wearable devices and smart cane, help them in avoiding the obstacles, they are not meeting with the customer needs in terms of pricing or satisfaction. The concept of the proposed system is such that it gives the visually impaired user access to information about obstacles and the environment that lie immediately in the vicinity via voice assistance or audio messages.

Traffic Management System - CIPD has designed an innovative (patented) traffic management solution system, (Traffic Suraksha) which is cost effective and easy to implement without any considerable change to the existing road infrastructure. The solution provides safe navigation for vehicles and pedestrians at a traffic intersection. The solution can be deployed for normal traffic, rapid transport and mixed transport intersections. The solution is also apt for railway crossings, security gates and private roads. CIPD shall be working closely with BRTS Hubballi-Dharwad to implement the aforementioned system.

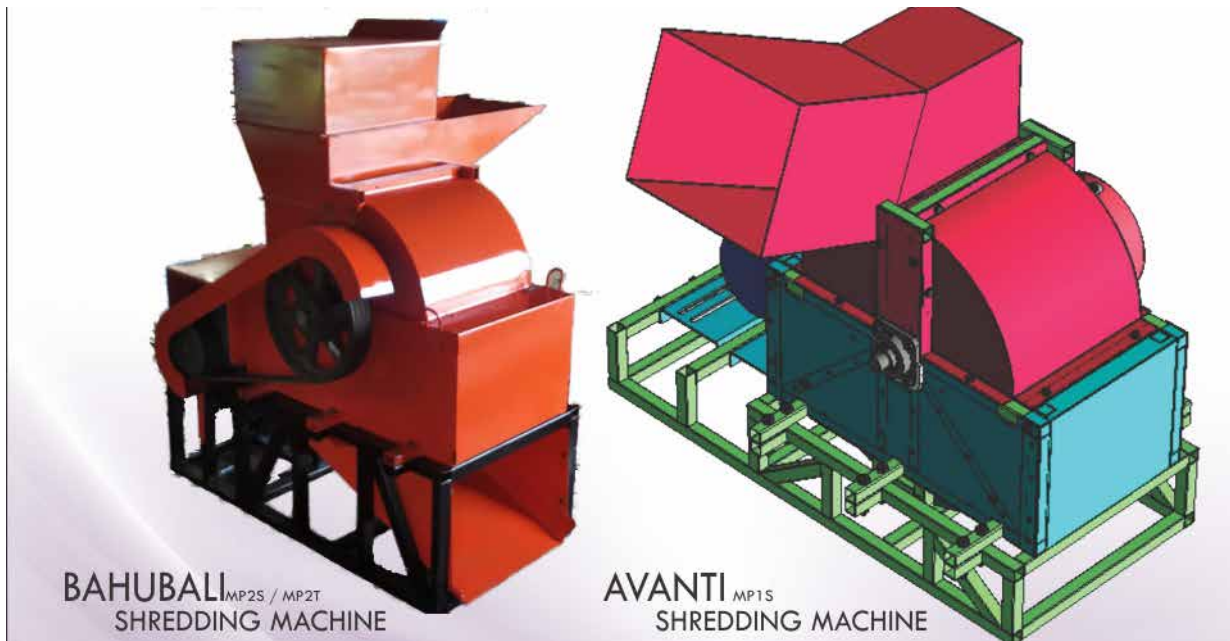


BAHUBALI

Shredding machine can shred agricultural domestic and industrial waste

Machine delivers shredded material of specified size with consistency. Large number of shear blades ensure higher efficiency.

Unique low density biomass shredding machine for shredding crop residue, the shredded biomass is perfectly suited for pellet and briquette manufacturing.



PRADHAAYA

"Meant to Serve" (Automated Guided Vehicle)

Guided robot to serve food in covid 19 wards, thus protect covid warriors from dangerous exposure of corona virus

Application : To carry material like meals, drugs, waste etc.

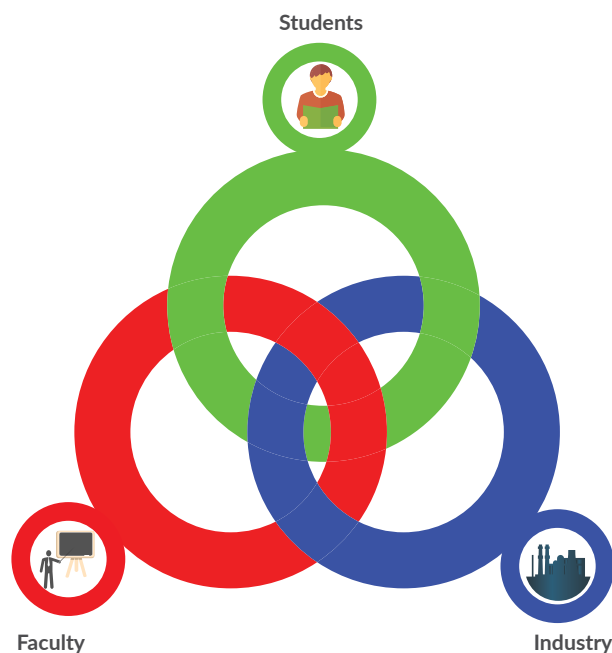
Food and Beverages: For transport products like drinks, cereals, snack food etc

Office: To carry material like files, stationary etc.

MakerSpace

The 'MakerSpace' is a central facility created to promote product development and realization eco-system on the campus. It intends to provide students with unique learning experiences on real industry problems and products in a work-emulating environment. It helps them understand industry needs, professional requirements and the product realization process. The MakerSpace provides modern design, prototyping, and manufacturing facilities required for realization of any electro-mechanical product. It also provides expert supervision and training to use the facilities.

The MakerSpace is administered by the University as a resource for all engineering departments. Facilities, with an investment of about 3.0 crores of rupees, occupying 10,000 square feet, include a machine shop (4000sq. ft), model shop (2000sq.ft) and project work area (4000sq.ft). Engineering student can use the MakerSpace for concept design & realization, course-related activity and/or competition projects such as SAE Formula, SAE- BAJA, SAE- ecokart, SAE-Efficycle, ROBOCON, etc. The shop is open 8 am-8 pm weekdays and on weekends as needed.



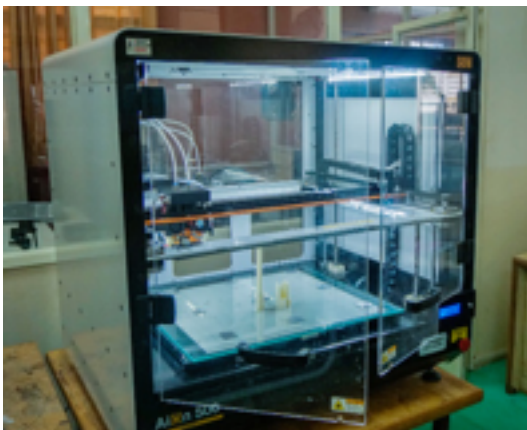
MakerSpace

MakerSpace – Added with more facilities



DMG-MORI 600V
Vertical Milling Machine

It is a state-of-the-art machine extensively used by aerospace parts manufacturers. Students will gain exposure on machining aerospace parts on this same machine.



AION-500 3D Printing Machine

Another addition to existing 3D Printers' family with a capability to print bigger parts i.e. 500mmx500mmx500mm

12 Station Assembly Arena with Power Tools

Student teams can assemble a product/prototype without having to roam around for tools.



Industry Partnership

It is essential that the institute continues to strengthen its association with the industries to enhance its student learning experience and relevance of its research activities.

Curriculum intervention:

Board of studies of every program is having at least two senior members from Industries like Microsoft, GE, Tata motors, TCS, Samsung, Sankalp etc.

Industry Oriented Courses:

Fundamentals of Gas Turbines:

Has been offered for the Mechanical stream departments in collaboration with Quest Global (now Aequs).

Active Directory Services: Has been offered in Collaboration with Microsoft IGTSC for the students of CSE, ISE and EC branches.

Fundamentals of IT: Has been offered by the Mechanical stream departments in collaboration with Infosys.

Automotive Electronics: Has been offered

in Collaboration with Robert Bosch and KPIT. This has led to increased placements for the companies in the field of automotive electronics in Bosch, KPIT and Continental.

Manufacturing technology: Has been offered for the Mechanical stream departments in collaboration with Aequs.

Robotic Process Automation (RPA): Has been offered for the Computing sciences stream departments in collaboration with UI Path and Automation Anywhere.

Industry based projects:

Around 150 capstone projects have been carried out in collaboration with Industries like Microsoft, Juniper Networks, Sankalp, Ion Idea, Hi- WI etc. along with startup companies

MOU's:

Mou's have been signed with:

1. UiPath
2. Automation Anywhere
3. Hescom

3rd Smart India Hackathon 2019:

Smart India Hackathon was organized in association with MHRD, AICTE, and other Industries

Samsung Codethon:

A Codethon was conducted in association with Samsung R&D, Bengaluru and code chef.

Internships:

470 students were offered full time Internship by various Industries like Microsoft, Bosch, Infosys, Amazon, Samsung, Cypress Semiconductors, Informatica, Juniper Networks, Mercedes Benz R& D, Siemens Healthcare, Volvo, SAP Labs, Sankalp, INS-Zoom, Salarpuria, Sattava Group Bangalore, HAL, JSW steels etc. with stipend ranging from Rs 5000 to Rs 30000 per month.

Education Research

Centre for Engineering Education Research (CEER)

About CEER:

KLE Tech is playing the vital role of creating engineering education system offering opportunities for students to realise their potential and prepare themselves for a professional career. This includes designing industry-relevant curriculum, practising active, collaborative and experiential learning pedagogies and assessment and evaluation. Today KLE Tech is recognised for innovations in this space. Need to learn from these innovations and sustain them resulted in establishing Centre for Engineering Education Research (CEER). CEER was established in 2010 to promote innovations in engineering education, learn from these innovations, collect best practices and institutionalise them.



Vision: To promote innovation and research in Engineering Education to bring about a qualitative change in students' learning experience.

CEER works with the following objectives:

1. Empower faculty members with the best practices in curriculum design, teaching-learning and assessment through training, workshop and allied activities
2. Encouraging innovation in curriculum design, teaching-learning and assessment
3. Influence faculty mindsets to recognise the importance of research-driven instructional practices
4. Design and offer innovative courses and programs
5. Identify and build strategic global partnerships and collaborations to elevate our research capabilities and those of the wider engineering education community
6. Conduct outreach activities like workshops, trainings and conferences.

The processes and practices towards accomplishing these objectives have made significant contributions to enriching the engineering education ecosystems of the University. The number of engineering education research publications is growing steadily since the last five years. CEER has earned a respectable position among the practitioners of engineering education. A good number of Engineering Colleges in India have taken inspiration and have set up such centres in their respective Institutions taking best practices and courses from CEER

PhD in Engineering Education

KLE Tech is one of the few Institutions in India offering PhD in Engineering Education. This program is started in 2015-2016 and has been designed with a vision of contributing to leadership development in Engineering Education. Experiences of a few of the leading universities in the world are used in designing the program.

The reconstituted advisory board for the program consists of leaders in engineering education from prestigious universities.



Prof. Vinod Lohani
Virginia Tech



Prof. William Oaks
Purdue University



Prof. Sohum Sohoni
Professor, Milwaukee
School of Engineering



Dr. Rohit Kandakatla
Director: Strategy,
Operations and Human
Resource Development
- KGR CET



Prof. Ashok Shettar,
VC, KLE Tech



Prof. P. G Tewari
Dean (Academic Affairs), KLE Tech



Prof. G H Joshi
Director, CEER, KLE Tech

MITRA Certificate Distribution Ceremony



MITRA- Mentors In Thinkering Lab, this initiative was started in 2017-18 even semester, as a pilot run. The objective of this initiative is to increase availability of expert support students during design and construction phase of Engineering Exploration course project. The MITRAs are alums of Engineering Exploration and are typically 2nd or 3rd year engineering students who volunteer. MITRAs are recruited and trained in 2nd month of the semester and is eventually supported by weekly monitoring and

assessment of challenges. Recruited MITRAs are rewarded with certificate of appreciation and with LoR. As a part of this MITRA initiative, certificate distribution ceremony was organized on August 17, 2019 in LHC 101. Dr. P G Tewari and Dr. Gopalkrishna Joshi were distributed the certificates to students. The event was organized and hosted by Ms. Jyoti Gadad. Total 28 MITRAs were attended this event.

Faculty Induction Program 2019

Faculty Induction training for newly recruited faculty members was organized by Centre for Engineering Education Research (CEER), KLE Technological University, Hubballi on 04th, September 2019. The newly recruited faculty of the institute actively participated in the deliberations during the training. The event served as a platform for learning new ideas and practices followed across the various schools and Departments of the KLE Technological University.

AICTE Examination Reforms workshops

All India Council for Technical Education, New Delhi (AICTE) constituted a committee to recommend reforms in engineering education examinations. The committee was headed by Prof. Ashok Shettar, VC, KLE Tech. Awareness about the recommendations of the committee were brought through a series of workshops in 19 identified cities in the country. More than 3000 faculty members participated in these workshops representing affiliated and autonomous engineering colleges and technical universities. Prof. Ashok Shettar, Prof. Prakash Tewari and Prof. Gopalkrishna Joshi conducted these workshops as workshop leaders. This team was ably supported by Ms. Preethi Baligar, Mr. Kaushik M, and Mr. Sanjeev Kavale.



REGIONAL RESEARCH SYMPOSIUM ON PBL

To develop awareness about PBL and build critical mass of PBL practitioners in the region (Asia – Pacific, particularly India). Total number of 208 registrations from 26 institutions from 07 states on India. RRSPBL was inaugurated by Dr. Rajive Kumar, Member Secretary, all India Council for Technical Education (AICTE) on November 22, 2019. Dr.

Anette Kolmos was guest of honor and Prof. Ashok Shettar presided over the function. Four keynotes were delivered by eminent resource persons from both industry and academia on topics of relevance to engineering education.

We received a total of 77 abstracts of which 26 full papers were accepted for presentation and were published in the proceedings of RRSPBL. The proceedings was brought out as a special issue by Journal of Engineering Education Transformations (JEET, Special Issue No.1 November 2019 Volume No.33 eISSN 2394-1707). A total of 08 workshops were organised on various important PBL themes as part of the symposium. This opportunity was well utilized by the delegates resulting in 93% capacity utilization.



Prayog Sharat-2020

PRAYOG is a course project exhibition for a freshman course, Engineering Exploration. This exhibition is conducted twice a year, as PRAYOG Vasant and PRAYOG Sharat. Every year approximately 250 Course projects are showcased by approximately 1100 students (118 projects in the first semester i.e. PRAYOG- Sharat and Approx. 140 projects in the second semester i.e. PRAYOG- Vasant). The exhibition gave an opportunity for the freshman to

showcase their projects to peers, faculty, and delegates from various industries. Prayog Sharat is an exhibition conducted in the last week of the spring semester. This year the event was conducted on 7th December 2019. 107 projects by 437 first-year students on different need statements were exhibited during the exhibition.

Prof. P M Khodke from NPIU, Prof. Ashok Shettar, Vice-chancellor, Prof. P G Tewari, Dean Academics, and Prof. Gopalkrishna Joshi, Director Centre for Engineering Education Research KLE Technological University inaugurated the exhibition followed by the release of the compendium for Prayog Sharat 2019-20. Parents, students from higher semesters, Faculties from different departments, Higher primary school children as a part of Agastya visited the exhibition.



Award received by Dr. Gopalkrishna Joshi

We are delighted and proud to announce that, Prof. Gopal Joshi, Director, Centre for Engineering Education Research was honored with "IUCEE Showcase Award for Leadership in Teaching-Learning Centre" at ICTIEE-2020 conference held at Hyderabad during January 5th to 8th 2020. Prof Krishna Vedula, Executive Director, Indo Universal Collaboration for Engineering Education (IUCEE) and Prof. Veena Kumar, Executive Director of the IUCEE international Educators' Certification Program presented the award. Congratulations Dr. Joshi



Prof. William Oakes's visit to CEER

It was a pleasure to have Prof. William Oakes, Director of EPICS from Purdue University on our campus on 2nd March 2020. Prof Oakes interacted with the faculty members and research scholars at Centre for Engineering Education Research, KLETECH. It was an enlightening discussion on Engineering Education Research.

PRAYOG VASANT 2020 – Virtual Exhibition

“Engineering Exploration” course is a unique innovation born in the educational eco-system of KLE Tech. This first-year course is co-designed and team-taught by faculty from multiple engineering disciplines. It follows PBL pedagogy and students work in teams to solve identified problems. Prayog Vasant is an exhibition conducted in last week of spring semester, and it serves as a platform for peer learning and celebration of students' success.

Prayog Vasant was conducted during July 09-10, 2020. This exhibition showcased 171-course projects done by 700+ first-year undergraduate engineering students during the lockdown period. The exhibition provided an opportunity for the visitors to virtually see the projects and interact with the students' teams and their mentors virtually. A total of 1550 visitors from different locations visited the exhibition. The representations included from the United States, United Arab Emirates, Australia, Hong Kong, Canada, Germany, Kuwait, Nigeria, Netherlands, Nepal, Saudi Arabia, United Kingdom, Pakistan, Qatar and Sweden.

IT Platforms and Services

The present IT infrastructure of KLE TECH was redesigned in the year 2014-15, as to cater modern engineering day's needs and challenges. We have upgraded the basic network infrastructure under TEQIP Grants; we upgraded Campus back bone from Copper to OFC.

Key features of KLE Tech IT Infrastructure: at KLE Technological University

Campus back bone is of OFC (Ring structure) 10Gbps.

Department Internal LAN is 1Gbps.

Number of nodes in Campus is 2400 plus (desktops).

With 8 VLANs / sub nets and internal LAN with different topologies.

Internet bandwidth is 560 Mbps leased line (service provider is BSNL, TATA and AIRTEL).

95 wireless access points across campus and 118 across hostels. (with SSID KLE _Tech)

More than 47 servers and 21 Workstation to cater academic needs of students.

DGX-1 super computer for research activities.

Firewall, AAA Server, Access point controller unit which can withstand 30 lakh concurrent sessions with highly secured network. (Viz. SophosXG-450, Aruba Controller etc...)

Every single machine in campus is connected with internet facilities.

Every single classroom and laboratories in campus are well equipped with audio visual facilities.

Video conferencing and teleconferencing tools at seminar halls. (Cisco WebEx with 70s smart board and Polycom)

12 Well-equipped studio rooms for lecture capturing systems

Well defined IT policy for smooth procurement, and managing IT infra across campus.

Telephone & EPABX: Matrix – ETERNITY MENX16SDC Hybrid PBX with Analog Extension – 248, Trunks -8, DKP-1, PRI- 1

Mat Lab campus wide License for students and staff for academic use.

Antivirus – Sophos End Point Advance. Intercept X with 2000 Licenses.

Microsoft Academic Alliance License for Operating systems and Development tools.

Board of Governors

Name	Designation
Dr. Prabhakar B. Kore Chairman, Board of Management KLE Society, Belagavi and Chancellor, KLE Technological University, Hubballi	Chairperson
Prof. Ashok S. Shettar Vice Chancellor, KLE Technological University, Hubballi	Member
The Principal Secretary/Secretary Higher Education, Government of Karnataka.	Member
The Principal Secretary/Secretary Medical Education, Government of Karnataka.	Member
Prof. M. I. Savadatti State Government Nominee	Member
Prof. R. Natarajan Nominee of sponsoring body, KLE Society, Belagavi.	Member
Prof. B. S. Sonde Nominee of UGC, New Delhi	Member
Dr. Sudha N. Murty Nominee of sponsoring body, KLE Society, Belagavi.	Member
Prof. P. G. Tewari Dean Academic Affairs, KLE Technological University, Hubballi	Member
Prof. B. L . Desai Executive Dean, KLE Technological University, Hubballi	Member
Dr. N. H. Ayachit Registrar, KLE Technological University, Hubballi	Member Secretary



Award & Recognitions



KLE TECHNOLOGICAL UNIVERSITY HAS BAGGED 'BAND A' (06-25 RANKING)

KLE Technological University has bagged 'Band A' (06-25 ranking) ARIIA (Atal Ranking of Institutions Innovation Achievement) ranking from MHRD in the category of University and Deemed to be University across India



PROUD TO ANNOUNCE WE ARE RANKED 5 STAR RATING BY INSTITUTIONS INNOVATIONS COUNCIL FOR THE YEAR 2019-20

Proud to announce we are ranked 5 Star rating by Institutions Innovations Council for the year 2019-20. Innovation at KLETech will only grow by leaps and bounds. Thanks to everyone for making this possible.



SMART INDIA HACKATHON 2020

KLE Technological University, Hubballi, nodal center hosted the SIH software edition operations and support to participants. Total 5 teams having 30 participants were participated against 1 Problem Statement from 2 ministry and 19 teams having 114 participants were participated against 4 Problem Statements from 1 ministry.



IUCEE SHOWCASE AWARD FOR LEADERSHIP IN TEACHING-LEARNING CENTRE AT ICTIEE-2020

Prof. Gopal Joshi, Director, Centre for Engineering Education Research receiving the IUCEE Showcase Award for Leadership in Teaching-Learning Centre at ICTIEE-2020 conference held recently at Hyderabad. Prof Krishna Vedula and Prof. Veena Kumar presented the award. Congratulations Dr. Joshi

KLE CTIE HAS BEEN AWARDED THE NIDHI

SSS (National Initiative for Developing and Harnessing Innovators – Seed Support Scheme) by DST, Government of India. A grant of Rs. 5.25Cr has been provided to the centre to scale – up startup activities.

Student Accolades

BAJA SAE INDIA 2020

BAJA SAE INDIA 2020, the 13th edition of the BAJA series by SAE INDIA was conducted at the NATRIP facility at Pithampur, Indore, from 23rd January to 27th 2020. Team Concept Green consisting of 17 enthusiastic students from KLE Technological University competed with over 67 teams from India to design, build and race single-seater Off Road Car. The car is powered by a 4.5 kW motor and a custom in-house built battery pack of 110 Ah rating.



M-BAJA 2020

The harder you work for something today, the greater you feel when you achieve it. Likewise M-BAJA 2020 has been a season where in the hardwork and the perseverance of each team member was tested and out of the 119 total participating teams following were the standings of TEAM EUROS RACING -

1) Cost presentation: 6th. 2) Sales presentation: 17th. 3) Design presentation: 34th. 4) Acceleration time: 4.97 seconds. 5) Overall position: 34th.

aeroKLE

aeroKLE, the aero-design team from KLETech ranked first yet again, in the just concluded 3rd year at SAE India Aerodesign challenge 2020. The contest was held at Bannari Amman Institute of Technology at Sathyamangalam, Tamil Nadu. Amidst stiff competition from 139 participating teams from across India, the aeroKLE secured 'All India First Rank' consecutively for the 2nd time in the category of 'Overall Performance' for Regular Class aircraft with a cash prize of ₹1,00,000



EXCELLENCE IN DOCUMENTATION OF ARCHITECTURAL HERITAGE

Listed among 10 entries and was awarded at National Level for Excellence in Documentation of Architectural Heritage.

ANDC 2019

Rural study of III semester was shortlisted for ANDC 2019- among top 24 colleges at National Level.

DISSERTATION: VII SEMESTER 2015 -2020 BATCH

8th Semester Student., Won the "Best Paper Award" for the Oral Presentation of her Research Paper titled- "Evaluating Building Aesthetics using Gestalt Analysis" at the Research Conclave 2019 held at IIT Guwahati from 14-17th March 2019.

SAEINDIA AERO-DESIGN CHALLENGE 2019

1st Position at the National Level



SAEINDIA E-BAJA - 2019

2nd Position at the National Level



SUPRA SAEINDIA - 2019

4th Position at the National Level



SIMPLY - 5

Simply - 5, is a team of four passionate students who right from their first year of engineering have been trying their hands on innovating products for larger use by society. The team has built SAATHI - a walker with an embedded seat in it for support of long distance walk by elderly. This product won several recognitions to the team.

They were chosen among Top 24 Innovative POC's in the National Innovation Contest by Institution Innovation Council (IIC), MHRD, Govt.

They also won the TiE Mega Business Competition organized by TiE Hubli, a chapter of TiE Global in the year 2019.

Financials

Financials

KLE Technological University, Hubballi

Income and Expenditure Statement for the year 2019-20 (Includes Capital Expenditures)

Income	Amount (Rs)	Revenue Expenditures	Amount (Rs)	Capital Expenditures	Amount (Rs)
Academic Receipts	68,59,49,541	Staff Payments & Benefits	42,99,19,198	Buildings	11,50,24,270
Grants and Donations	9,99,18,104	Academic Expenses	4,97,55,767	Equipments	95,03,74
Income from Investments	75,46,019	Administrative & General Expenses	6,81,62,522	Computers	27,33,83
Other Incomes	1,64,95,654	Transportation Expenses	11,91,377	Furnitures & Fixtures	1,63,47,791
Grant Received (R & D) - To the extent utilised	21,13,059	Repairs & Maintenance	7,19,37,427	Software	41,17,86
		Finance Costs	1,33,87,478	Books	22,26,30
		Research and Development	1,35,66,090	Assets Created out of Grants Received (R & D)	21,13,05
		Depreciation	5,86,06,184	Research and Development	57,06,92
Total	81,20,22,377	Total	70,65,26,043	Total	15,77,73,791
		Capital Expenditure Total	15,77,73,791		
To Deficit (Excess of Expenditure over Income)	5,22,77,457				
Grand Total	86,42,99,834	Grand Total	86,42,99,834		

Alumni Association



MR. RAM KERUR, OUR ALUMNUS BAGS ELCINA AWARD 18-19

ELCINA (Electronics Industries Association of India) award as the Best R&D contribution by Mr. Ram Kerur, CEO Sunlux, our alumnus, for the year 2018-19.

REUNION OF 1999 EC BATCH ON CAMPUS

We are very happy to communicate to you that 1999 Batch of E&C students, who passed out 20 years ago, celebrated get together on 2nd November, 2019 in the University campus. Dr. Ashok Shettar our Vice Chancellor briefed alumni about our Alma Mater development and the alumni held discussions with UG and PG students in the department. Presently, many of them are in senior positions in Corporate companies like Microsoft, CISCO, Juniper, Cognizant, Dell, Intel etc. Few of them are entrepreneurs and started their own companies. They promised to help us to get more companies for the Campus Recruitment.



BEST EXHIBITOR AWARD IN STRAT UP CATGORY

We are pleased to share information that one of the start ups in KLE Tech Park, M/s Skycrafts Aerospace, started by our alumnus Mr. Srinivas Reddy, has bagged the "Best Exhibitor Award in Strat Up Catgory" among 200 start startups in the Country.



ALUMNI MEET OF 1994 CSE BATCH

Alumni meet of 1994 CSE batch was held on 21st December, 2019. The meeting started with introduction of the alumni followed by a presentation of Honorable Vice Chancellor, Dr. Ashok Shettar on transformation of BVBCET to KLE Tech.

A guided tour of alumni to various facilities at the University including the learning factory, research labs and various startup companies in the campus provided the clear vision about Institute developmental activities.

Alumni then held discussions with faculty and PG students (MTech - CSE, DE and MCA) about the recent trends in banking, finance and data science. During the discussion the alumni came forward to support collaborative activities like projects, joint research with few of the faculty members.

SUCCESS STORY OF OUR ALUMNUS MR. SANJAY KULKARNI - CELEBRATES 15 YEARS OF "THEOREM INC" A DIGITAL MARKETING MNC IN MYSORE

We are very proud of Mr. Sanjay Kulkarni, EC alumnus, who recently visited campus and held interactions with students of Engineering and MBA along with faculty too.

We congratulate him for his Company "Theorem INC" celebrating 15th successful year in Mysore and pleased to present the newspaper article as an attachment.

ALUMNI MEET 1999 MECHANICAL BATCH

We are very happy to inform you that 1999 Batch Mechanical around alumni came together at the University campus on last Saturday, 29th February, 2020.

Many of them are working with Software companies in senior positions -- like in Oracle /Cognizant Technologies /Pega systems INC/ TCS etc.Few of them working in core companies like Terex/ Toyota/ Mercedes Benz.



ALUMNI MEET 1999 MECHANICAL BATCH

Prof.Praksh .G.Tewari, Prof.B.L.Desai and Prof.B.B.Kotturshettar briefed about our BVB/ KLE Tech University development since they had left their College. Prof.Revankar, Prof.C.D.Kerure and Prof.Sanagoudar were also present on the occasion.

Alumni expressed their happiness in the progress that their College has achieved and spontaneously promised to support the university for Placements and Tech talks etc.

TECHNICAL TALK BY MR.BIPIN KULKARNI, OUR MECH ALUMNUS (DIRECTOR MARKETING (INDIA), ZKL BEARINGS, MUMBAI)

A technical talk was delivered on "Bearings Design and Mounting" by our alumnus 1984 batch Mechanical Engineering, Mr. Bipin Kulkarni, who is Director Marketing (India), ZKL Bearings, Mumbai on 29th February, 2020. The event was organized by School of Mechanical Engineering. The audience for the expert talk included UG, PG students and faculty members of the School of Mechanical Engineering.

CAREER IN DEFENCE - TALK BY OUR ALUMNUS MAJOR SHIRISH PATIL

Talk was delivered by our alumnus Major Shirish Patil about the career opportunities in Defence. The talk has been delivered on the 28th February, 2020 in Bio Tech auditorium and many students have participated in the event.



KLE Tech Executive Leadership Team



Dr. Ashok Shettar
Vice Chancellor



Prof. B. L. Desai
Executive Dean



Dr. N. H. Ayachit
Registrar



Dr. P. G. Tewari
Dean - Academics



Dr. B. B. Kotturshettar
Dean - Planning & Development



Dr. Uma Mudenagudi
Dean - Research & Development



Prof Gopal Joshi
Dean, Curriculum Innovation
& programme assessment



Prof. S. B. Kurubar
Dean - Examinations



Dr. Anil Nandi
Controller of Examinations



Dr. Sanjay Kotabagi
Dean - Student Welfare

Heads of Schools / Departments



Dr. B. B. Kotturshettar
Mechanical



Dr. Nalini Iyer
Electronics &
Communication



Dr. Meena M
Computer Science



Dr. M. V. Chitawadagi
Civil



Dr. A. B. Raju
Electrical & Electronics



Prof. A. C. Giriapur
Automation & Robotics



Prof. Uday Muddapur
Biotechnology



Dr. Vinaya Hiremath
Architecture



Prof. P. R. Patil
Master of Computer
Applications



Prof. S. V. Patil
Master of Business
Administration



Prof. Sanjay Kotabagi
Humanities



Prof. T. V. Swamy
First Year

Center Heads



Prof. Nitin Kulkarni
Director, KLE CTIE



Prof. Gopal Joshi
Director, CEER



Dr. Satyadhyam Chickerur
Coordinator, CIAP



Prof. N. R. Banapurmath
Head, CMS



Prof. C. D. Kerure
Placement Officer



Prof. Parikshit Hegde
Coordinator, Infocell



Dr. M. R. Patil
Head, C & M Cell



Prof. Ravi Guttal
Director, CIPD





Annual Report 2019-20

KLE Technological University

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