



# P E S COLLEGE OF ENGINEERING

Mandya—571 401, Karnataka, Estd. in 1962  
(An Autonomous Institution affiliated to VTU, Belagavi)

Approved by AICTE, New Delhi

Grant in Aid Institution (Govt. of Karnataka)

Accredited by NBA (Six Programs) & Accredited By NAAC

Secured Rank 161 by NIRF-2019 Rankings, Approved by MHRD, Govt. of India



TEQIP-3  
Technical Education Quality Improvement Programme

Chairman - BoG: Dr. Ramalingaiah,

Principal & Director Dr. H V Ravindra

TEQIP Coordinator & Editor: Dr. B Dinesh Prabhu

## TEQIP-NEWS LETTER



### Foreword

➤ The Project, 3<sup>rd</sup> phase of Technical Education Quality Improvement Program (referred to as TEQIP-III) is fully integrated with the Twelfth Five-year Plan objectives for Technical Education as a key component for improving the quality of Engineering Education in existing institutions to improve their policy, academic and management practices.

#### Vision:

“P.E.S.C.E. shall be a leading institution imparting quality engineering and management education developing creative and socially responsible professionals”

#### Mission:

- To provide state of the art infrastructure, motivate the faculty to be proficient in their field of specialization and adopt best teaching-learning practices.
- To impart engineering and managerial skills through competent and committed faculty, using outcome based educational curriculum.
- To inculcate professional ethics, leadership qualities and entrepreneurial skills to meet societal needs.
- To promote research, product development and industry-institution interaction.
- Highly committed to provide quality, concurrent technical education and continuously strive to meet

#### Project Objectives:

- Improving quality and equity in engineering institutions in focus states
- System-level initiatives to strengthen sector governance and performance which include widening the scope of Affiliating Technical Universities (ATUs) to improve their policy, academic and management practices towards affiliated institutions, and
- Twinning Arrangements to Build Capacity and Improve Performance of institutions and ATUs participating in focus states.

#### Project Scope:

- Only the Government and Government aided AICTE approved Engineering Institutions/ Engineering Faculty/ Engineering Teaching Department/ Constituent Institutions of Universities / Deemed to be Universities and new centrally funded institutions in SCS will be the part of the project.
- An estimated 200 Government and Government funded engineering institutions, including Affiliating Technical Universities (ATUs), selected under different sub-components in one or two cycles.

#### Project Strategy:

- The project is implemented in alignment with the 12th Five Year Plan (2012- 17), based on faster, sustainable, and inclusive growth.

#### Project Design:

- TEQIP seeks to enhance quality and equity in participating engineering education institutions and improve the efficiency of the engineering education system in focus states.



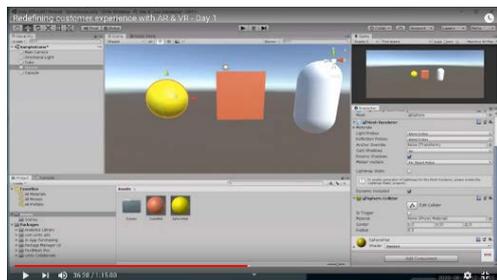
## I. Training Programs/Workshop, STTP, FDP...

The Professional Skills and Technical Training Program is responsible for the design, development, and delivery of competency-based courses to meet critical skill development needs. In addition to conduction of Training Programs, Workshop, STTP and FDP, the Professional Skills and Technical Training Program provide a variety of ancillary support to academic organizations. FDP cover areas such as technical education policy, new concepts, methods and techniques, theory and skills development and up gradation of pedagogy educational technology, motivation, communication skills, management and other relevant issues to keep pace with the changing scenario in Technical Education. Training Programs designed to enhance the teaching and other skills of the faculty, and to make them aware about modern teaching tools and methodologies. It provide an opportunity to acquire knowledge about current technological developments in relevant fields. It will not only promote the professional practices relevant to technical education but also motivates the faculty to achieve competitive teaching and learning environment, thus channelizing development with respect to academic qualifications and personal matters.

### I (a) Program Conducted for Teaching, Technical Faculty & Students

#### 1. Redefining Customer Experience with Augmented Reality (AR) and Virtual Reality (VR)

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory and olfactory. AR can be defined as a system that fulfills three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. The overlaid sensory information can be constructive (i.e. additive to the natural environment), or destructive (i.e. masking of the natural environment). This experience is seamlessly interwoven with the physical world such that it is perceived as an immersive aspect of the real environment. [4] In this way, augmented reality alters one's ongoing perception of a real-world environment, whereas virtual reality completely replaces the user's real-world environment with a simulated one. [5][6] Augmented reality is related to two largely synonymous terms: mixed reality and computer-mediated reality. His primary value of augmented reality is the manner in which components of the digital world blend into a person's perception of the real world, not as a simple display of data, but through the integration of immersive sensations, which are perceived as natural parts of an environment. The earliest functional AR systems that provided immersive mixed reality experiences



for users were invented in the early 1990s, starting with the Virtual Fixtures system developed at the U.S. Air Force's Armstrong Laboratory in 1992. Commercial augmented reality experiences were first introduced in entertainment and gaming businesses. Subsequently, augmented reality applications have spanned commercial industries such as education, communications, medicine, and entertainment. In education, content may be accessed by scanning or viewing an image with a mobile device or by using marker less AR techniques.

#### 2. Machine Learning using Google Colab (python)

Aiming to provide an intense training on current technologies for Students and Faculty, a Five days online workshop on 'Machine Learning using Google Colab (python)' was held during 11th August to 15<sup>th</sup> August, 2020 conducted by Department of Computer Science and Engineering, PESCE, Mandya.

Machine Learning is the field of study that gives computers the ability to learn without being explicitly programmed. Arthur Samuel, 1959. A computer program is said to learn from experience E with respect to some task T and some performance measure P, if its performance on T, as measured by P, improves with experience E. Tom Mitchell, 1997: Machine Learning is emerging as a hot academic discipline with more and more educational institutes now dedicating more focused courses and even specializations around it. Machine Learning is a key area in Data Science. The demand for Data Scientists and Machine Learning Engineers is very high and in fact more than the supply these days. This workshop is designed to give a start to professionals and students on the Machine Learning track. Spread across 5 days, the workshop intends on being a "hands-on" experience interleaved with small theoretical nuggets to aid the learning.



**3. Bio-soap and Liquid hand wash for all the Departments (COVID-19)**

COVID - 19, also known as coronavirus, is making people all over the world go helter-skelter and clueless. As per ‘Worldometer’, as on date, over 4.1 million people have already fallen prey to this virus as on now and the numbers are increasing thick and fast. Over 2, 83,000 people have succumbed to death and still counting. In India, it has affected over 67,000 people and has witnessed over 2,200 deaths so far. India announced a complete lockdown since 25 March 2020.

**Academics commitment during COVID - 19 lockdown**



Dr. H.V. Ravindra  
Principal

In the wake of this emergency situation, educational institutes around the globe are shifting their operations to learning. As the Covid-19 pandemic disrupted the Academic Calendar 2019 – 20 & there is no certainty when the situation will become normal’ P. E. S. College of Engineering, Mandya, Karnataka, has also adopted the balanced virtual mode of education, practicing it through online Platforms. We have decided to deliver at least 80% of the total academic course content through online platforms and the present crisis has given us an opportunity and challenge to adopt it quickly. Institute Faculty have adopted various measures, to reduce disruption and hardships to students during lockdown. They are using online platforms such as CISCO WebEx and Google Meet to conduct classes. They are also uploading or sharing video recordings of their classroom teaching’ on YouTube. They have also shared study materials from MOOC’s like NPTEL, Udemy, Coursera, Shah Academy, VTU E-learning and other E-resource, as learning materials for students benefit. Students are also coping up well. Video lectures, lecture notes and presentations (PPTs) of the respective program-courses are also shared among the stakeholders through WhatsApp to strengthen the learning ability of the students, who have missed classroom teaching. Most of the learning materials will also be made available on the website of the college.

**Comprehensive effort for societal commitment during COVID - 19 lockdown:**

In addition to the academic commitment, our Institute is committed to shoulder the societal responsibility by various means in an effort to help and support the Government and District administration in the fight against COVID - 19. The month-long lockdown and loss of livelihood amidst social distancing rules is disproportionately affecting migrant workers, daily wage-earners, the urban poor, underprivileged and other vulnerable groups. Hunger, lack of sanitary kits and loss of income to buy basic essentials have left many helpless.

Keeping these aspects in mind, under the leadership of our P.E.T. (R) Honourable President Sri. K.S. Vijay Anand & our beloved Principal Dr.H.V.Ravindra, our institution initiated various ways and means of societal contribution. To mention a few; Contributed a day Salary, of Rs.6, 78,207/-, to Karnataka Chief Minister’s relief fund. The cheque was handed over to Dr. M.V. Venkatesh, District Commissioner of Mandya District, Karnataka, on 13<sup>th</sup> April 2020. On this occasion, from the Institute Biofuel centre, indigenously developed Hand Sanitizer, Bio-Soap, and Liquid Hand wash was also handed over to District Commissioner of Mandya. Contributed and Distributed Food to poor/underprivileged people at Mandya, by PET ® & PESCE employees for about two weeks during lock down 2.0. Contributed and Distributed Hand Sanitizer, Bio-Soap and Liquid Hand wash to the needy - traffic wardens, Asha workers, Head Nurses of Medical department, home Guards, Media personnel, police personnel and Pourakarmikas of Municipal office, Mandya city etc.



Principal Dr.H.V.Ravindra Carrying out virtual College Council meetings at regular intervals to review the academic



#### 4. Renewable Energy and Smart Grid: Challenges and Scope

Five days online faculty development program on renewable energy and smart grid. Challenges and scope sponsored by TEQIP-III is being organized by department of electrical and electronics engineering PESCE Mandya. During 24<sup>th</sup> to 28<sup>th</sup> August 2020. Expert speakers from industry and academic institutions delivered their lecture on various topics as per the program schedule. About 40 faculty members from various institutes and 30 students with full pledge interest participated and benefited from this program. Renewable energy is now rapidly becoming a preferred main stream energy source. Renewable have not been as difficult or costly to integrate as anticipated. Technical innovations, environment concern, cost effectiveness and increasing consumer demands driving renewable particularly wind and solar to be preferred energy sources. On the other hand, the electrical power system has transitioned to the new two-way power flow system with a fast rate and continues to move forward. This exciting transformation of the nation's electric grid creates both challenges and opportunities to advance the capabilities of today's electricity delivery system. The main objective of this online workshop is to bring together experts across the globe working in various domains associated with the renewable energy integrated electric power grid and share their experiences and equip the participants to work towards overcoming the challenges. The feedback received at the end of every session and also on last day session of this program from the participants and students who took part in this five days FDP program were very supportive and encouraging one.

#### 5. 'C'ODE Trek 1.0

Report on National Level Online Coding Contest - 'C'ODE Trek 1.0, Organized by Dept. of IS&E, PESCE, Mandya in association with E – Box (under TEQIP, Phase-III). The National Level Online Coding Contest - 'C'ODE Trek 1.0 took off on Thursday, 20<sup>th</sup> of August 2020. All the participants for this event were registered using the below link:[http://app.e-box.co.in/uploads/Learnathon/coding\\_event.html](http://app.e-box.co.in/uploads/Learnathon/coding_event.html)

All participants were classified into three categories, namely Final year students [Graduating in 2021], Pre-Final year students and Second year students during registration itself. There were a total of 1887 participants present from different colleges all over South India, namely Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, Telangana and so on. At sharp 09.00 AM Dr. H V Ravindra (Principal, PESCE, and Mandya) delivered the speech about the event and welcomed everyone to the event. Dr. Vinay S (Professor and HOD, Dept. of IS&E, PESCE, Mandya) talked about the event in terms of Rounds, Timings and Announcement of Results. Thus, the inaugural ceremony was completed successfully.

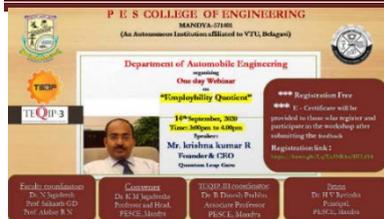
At sharp 10:00 AM, Round 1 for all the three categories, namely Final year students [Graduating in 2021], Pre-Final year students and Second year students, started off. The duration of 1 hour 15 minutes was allotted for Round 1. At sharp 12:30 PM, Round 2 for all the shortlisted students of Round 1, started off. The duration of 1 hour 30 minutes was allotted for Round 2. At sharp 03:30 PM, Round 3 for all the shortlisted students of Round 2, started off. The duration of 2 hours was allotted for Round 2. Finally, the result announcement was done at 6.00 PM



#### 6. Distinguished Lecture in Frontier Areas of Electronics and Communication

Department of Electronics and Communication Engineering, Event Report Knowledge Enhancement Webinar Series on "Distinguished Lecture in Frontier Areas of Electronics and Communication" at 24<sup>th</sup> to 28<sup>th</sup> Aug 2020. Objectives: a) Fundamental Concepts of Communication, b) Introduce Waveguides, Photon Integrated Circuits and its importance in the field of communication, c) From Semiconductor Devices to MOS Analog Circuits, d) From Surveillance to Medical the Innumerable Applications of DSP, e) Popular deep learning algorithms, f) Deep learning algorithms for real world applications and g) Building deep learning models. Outcome achieved:

- Students were exposed to the knowledge and Importance of Photon Integrated Circuits
- Students learnt about various features of Optical Component and the basic of devices and communication phenomenon related to photonics
- They were exposed to Available Jobs and the research carried out in IISc Bangalore in the field.
- Students were exposed to the Basic concepts Analog circuit modelling and design problems
- Students learnt about basic building blocks of analog electronics
- Students were exposed to career in Analog Electronics
- Students were exposed to the knowledge and importance of DSP processor Electronics and Communication Engineering and Students learnt about different Applications of DSP Processor.
- They were exposed to Available Jobs and their status in the Current Electronics and Communication World.
- Students were exposed to the knowledge and importance Hardware designs in Electronics Engineering and Students learnt about different Methods of Designing the Hardware Platform for Different Electronic Devices.
- They were exposed to Available Jobs and their status in the Current Electronics World.



### 7. Employability Quotient

A Brief report on One Day Online Webinar on “Employability Quotient” Held on 14<sup>th</sup> Sep for the students and faculty Sponsored by: TEQIP Phase III Aiming to provide an intense training on current technologies for Students and Faculty, a one day online webinar on “Employability Quotient” was held on 14<sup>th</sup> September 2020. Conducted by Department of Automobile Engineering, PESCE, and Mandya. Pre-

requisites: a) Basic understanding of Employment. b) Start up as an Entrepreneur. Instructor Profile Speaker for this webinar is Krishna Kumar R - Founder & CEO, Quantum Leap Guru, He has 20+years of corporate and Business experience and over 5 years International experience working in Bosch and ETAS Germany. He is Expertise in: 1) Leadership coaching, 2) Executive mentoring & coaching, 3) Business coaching for startups, 4) Parental coaching and 5) Facilities Training & Learning Programs

### 8. Re- Calibrate Yourself during a Pandemic

A Brief Report on TEQIP-III Sponsored One-day National level webinar on “Re- Calibrate Yourself during a Pandemic” on 21-08-2020. Key Takeaway: For Students/Researchers: a) Overcome stress, b) Beat the Competition and c) Never give up. For Academicians: a) Leading with Agility and Humility, b) Man Management and c) Explicit and Transparent Communication. Objective and Coverage:

- The webinar is majorly focused to motivate the students/researchers and academicians during backdrop situations like: i) Pandemic, ii) Economy in doldrums, iii) New normal vi) Ethical challenges and ethical Issues.
- The facts and the information presented here is collected from the open sources, and c) The views and opinion expressed in this webinar are personal.



The program conducted in an interactive environment providing greater scope for discussions. Emphasis will be on a highly participative style of learning. The webinar was provided with audio - visuals for effective considerate by participants.

### 9. Indian Automotive Industry -Job &Tech

A Brief Report on TEQIP-III Sponsored One-day National level webinar on Indian Automotive Industry - Job &Tech on 25<sup>th</sup> Aug, 2020. For Students/Researchers: a) Understanding How Industry works, b) Roles and skills requirement in Industry and c) Fresher approach to Industry.

For Academicians: i) Impact on recession and Corona on Industry, ii) Roles and skills requirement in Industry and iii) Imparting new skills for students. Objective and Coverage:

- The webinar is majorly focused to motivate the students/researchers and academicians during backdrop situations like: 1) Pandemic, 2) Economy in doldrums and 3) New Technologies.
- The facts and the information presented here is collected from the open sources.
- The views and opinion expressed in this webinar are personal.

The program conducted in an interactive environment providing greater scope for discussions. Emphasis will be on a highly participative style of learning. The webinar was provided with audio - visuals for effective considerate by participants.

### 10. Carrier Option after Graduation

Career Opportunities after Graduation Report at 19<sup>th</sup> Dec 2020. The webinar started at 10:30 am at automobile seminar hall. The inauguration talk was done by Prof. K Ramesh (Associate Professor). More than 100 enthusiastic students, research scholars, supervisor and faculty members attended the webinar. The talk was delivered by Mr. Kamran Shahid CAE analysis R & D Mercedes Benz.

The webinar began with the introduction to

- Formulate Science, Technology and Innovation in automobile sector
- Strengthen Basic Research in CAE field
- Various developing sectors in automobile engineering field.
- Various opportunities in private automobile sectors after completion of automobile engineering

The outcome of the webinar makes the research scholars and supervisor to know about different career opportunities after graduation such as:-

- Various opportunities available after graduation and
- Various developing sectors in automobile field {R& D}.
- Use of various CAE software for simulation of dynamic and static analysis
- Various soft skills and software that would enable the engineering secure good job in design and simulation field and Scope of studying M S in aboard.
- List of various courses on autonomous and battery charge vehicle.



**11. Online Blended Learning Webinar by DKS on 22-10-2020**

Webinar on Online Blended Learning - A Paradigm Change in Teaching - Challenges and Solutions Online Blended Learning - A Paradigm Change in Teaching - Challenges and Solutions was conducted on Thursday, Oct 22, 2020 by Prof. D. K. Subramanian, Dean and Professor (Rtd), Indian Institute of Science, Bangalore. The objectives of the webinar was to discuss the need, problems, realities, challenges and solutions to the way education emerge in the coming years with online teaching becoming an essential part and the responsibilities imposed on faculty and institution.

The webinar addressed the following aspects in detail:

- Both institutions and faculty need a professional survival kit in addition to a personal survival kit. They need to accept changes rather than fighting them.
- Online learning will bring in a new model of teaching very distinct from distance learning and class room teaching.
- It is a new normal and so it will not be business as usual. World will move towards more online approaches.
- Good rugged and reliable platforms are being developed by a large group of companies and many are operational already.
- Interactive learning needs to be effectively and positively encouraged.
- Disadvantaged students need special attention.
- While online education will become an integral part, it misses several components of education. Hence a mixed mode is essential.

**12. En route towards self-empowered Women (Webinar-1)**

Women Empowerment Cell Report on Organized under TEQIP - III. PES College of Engineering, Mandya, is established with the motto of “en route towards self-empowered Women”. The cell’s objective is to create awareness among girl students, women faculties and staff, on the various issues related to their rights and duties towards gender equality, financially literacy, and personality development and so on. The Woman Empowerment cells provide the platform to share their experience and views regarding their status in the society and also to empower, equip and uplift them intellectually and socially through series of programs like lectures, seminars, webinars, awareness camps and other welfare activities. In this context the first webinar was conducted on the

Topic - Work Life Balance - An Entrepreneur Way, by Krupa Sumanth, CEO, and IMPRESSIONZ on 3<sup>rd</sup> October 2020. The program was proposed by our beloved Principal Dr. H V Ravindra H.V, TEQIP Coordinator Dr. B Dinesh Prabhu, Women Empowerment Cell Chairperson, Prof. Uma, Convener Prof. Pooja Nagpal, Co-ordinator Dr. Anitha Murali Krishna. Around 260 plus faculties and students had registered from various states and participated in the webinar and made the event a successfully one.



Webinar 1 on Work Life Balance - An Entrepreneur Way

**13. En route towards self-empowered Women (Webinar-2)**

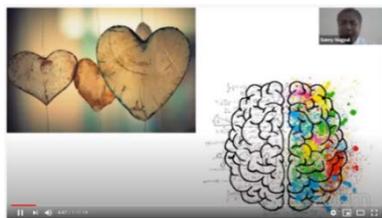
Sexual Harassment of Women at Workplace (Prevention, Prohibition, Redressal)

Women Empowerment Cell Report on Webinar - 2, Organized under TEQIP-III, PES College of Engineering, Mandya, is established with the motto of “en route towards self-empowered Women”. The cell’s objective is to create awareness among girl students, women faculties and staff, on the various issues related to their rights and duties towards gender equality, financially literacy, and personality development and so on. The Woman Empowerment cells provide the platform to share their experience and views regarding their status in the society and

also to empower, equip and uplift them intellectually and socially through series of programs like lectures, seminars, webinars, awareness camps and other welfare activities. In this context the second webinar was conducted on the Topic - The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressed) Act, 2013 ("POSH Act") by P. Anu Chengappa, Advocate (High Court, Trial Courts and Tribunals) 10<sup>th</sup> October 2020.

**14. En route towards self-empowered Women (Webinar - 3)**

Women Empowerment Cell, Report on Webinar – 3 Organized under TEQIP – III. PES College of Engineering, Mandya, is established with the motto of “en route towards self-empowered Women”. The cell’s objective is to create awareness among girl students, women faculties and staff, on the various issues related to their rights and duties towards gender equality, financially literacy, and personality development and so on. The Woman Empowerment cells provide the platform to share their experience and views regarding their status in the society and also to empower, equip and uplift them intellectually and socially through series of programs like lectures, seminars, webinars, awareness camps and other welfare activities. In this context the third webinar was conducted on the Topic - Financial Literacy for Achieving Financial Freedom by Mr. Jugdish Ahuja by Ex-President Bangalore Stock Exchange, Professional Speaker, Trainer, Serial Entrepreneur, Mentor, and Investor & Wealth Transformer 17<sup>th</sup> October 2020.

**15. En route towards self-empowered Women (Webinar - 4)**

Women Empowerment Cell Report on Webinar - 4, Organized under TEQIP – III. PES College of Engineering, Mandya, is established with the motto of “en route towards self-empowered Women”. The cell’s objective is to create awareness among girl students, women faculties and staff, on the various issues related to their rights and duties towards gender equality, financially literacy, and personality development and so on. The Woman Empowerment cells provide the platform to share their experience and views regarding their status in

the society and also to empower, equip and uplift them intellectually and socially through series of programs like lectures, seminars, webinars, awareness camps and other welfare activities. In this context the fourth webinar was conducted on the Topic - Beauty with Brains by Sunny Nagpal, Chief Smile Officer, aha! Education on 24<sup>th</sup> October 2020. The program was proposed by our beloved Principal Dr. H V Ravindra, TEQIP Coordinator Dr. B Dinesh Prabhu, Women Empowerment Cell Chairperson, Prof Uma, Convener Prof. Pooja Nagpal, Co-ordinator Dr. Anitha Murali Krishna. Around 220 plus Faculties and students had registered from various states and participated in the webinar and made the event a successfully one.

**16. Learning outcome on Internet of Things**

The outcomes of Online FDP conducted on “Internet of Things Application Development” conducted through CISCO-RVCE CoE from 2<sup>nd</sup> to 6<sup>th</sup> November 2020 under the banner of TEQIP-3 by, PES College of Engineering, Mandya. The following were the outcomes:

1. Introduction and working with Arudino Micro-controller
2. Introduction to Raspberry Pi
3. Introduction to Serial Communication
4. Demonstration of Building Home Automation using dashboard on hosted services
5. Building Customized Dashboard using Java Scripts

**17. Internet of Things Application and Development**

The outcomes of Online FDP conducted on “Internet of Things Application Development” conducted through CISCO-RVCE COE from 2<sup>nd</sup> to 6<sup>th</sup> Nov 2020 under the banner of TEQIP-3 by, PES College of Engineering, Mandya. The following were the outcomes:

- IoT-eco system, sensors, actuators and Arduino software and hardware architecture
- Progammig with Arduino and demonstration on sensors and actuators using DHT11, LEDs, Servo Motors, ultra-sonic, relays, OLED, Buzzer, switch
- Raspberry Pi and Pin Configuration and Python programming for IOT
- Demonstration on sensors and actuators using DHT11, LEDs, Servo Motors, ultra-sonic, relays, OLED, Buzzer, switch.
- Introduction to NodeMCU- esp8266 module and its architecture
- Preparing of switch-box wiring and MQTT protocol
- Building the circuit with NodeMCU with 4-channel relay and DHT11 with Jumper Wires and bread board and Building dashboard on io.adafruit.com
- Setup for the Arduino IDE with NodeMCU board and libraries for Home Automation
- Introduction to developments of WoT, HTML5, CSS and JavaScript
- Demonstration on Local Dashboard using Java Scripts

### 18. Training on NANO Materials and MEMS

“Training on NANO Materials and MEMS” at 7<sup>th</sup> to 12<sup>th</sup> September 2020. Introduction to MEMS and its applications: The session started with the brief introduction about center “NANO-materials and MEMS” and their activities carried out at the institution. Later the session was on introducing the MEMS devices, and their applications in different fields. MEMS process flow and applications: In the morning session, they covered MEMS fabrication Process and its steps. The session was to give us an idea about the different process for the MEMS fabrication where they have mention about the MUPS process, SOI MUMPS process and also the simple example of Cantilever on how it’s been fabricated.

Introduction to MEMS CAD tool: In this session they provided training on MEMS CAD tool “COMSOL”. We have designed a simple example of Cantilever beam using the COMSOL tool and gained the basic knowledge on using the tool to design any MEMS structures. Full day Case study 1: MEMS CAD tool: The entire day was dedicated for using the tool to design different MEMS structures. We have designed the Actuators, Accelerometer and parallel plate capacitor for different design constraints. Thin Film Deposition demonstration: The first session was on introduction to the different thin film technology and its fabrication. The followed by the demonstration of equipment’s for depositing the thin films such as physical vapour deposition (Sputtering using MAGETRON) and Chemical vapour deposition.

### 19. Value addition of Mine Waste in the Construction Industry

Department of Civil Engineering, PES College of Engineering, Mandya – 571 401, conducted one day National Webinar program on the topic entitled, “Value Addition of Mine Waste in the Construction Industry”, on 26<sup>th</sup> August, 2020 at 11.00 AM. Dr. M. Beulah, Professor, Department of Civil Engineering, Christ University, and Bangalore Campus was the speaker. The Abstract of the webinar indicating the significance and scope of the mine waste in construction industry is stated below:

India has tones of industrial wastes like fly ash, ground granulated blast furnace slag (GGBS), mine tailings from different ores. By incorporating these wastes in bricks, the carbon foot print can be minimized. Mining operation produces diverse kind of potentially hazardous waste and has impact on environment. Iron ore tailings (IOT), slag and red mud are few mine waste. The waste generated during mining operation was deliberately explained. The research carried by the speaker by utilizing the mine waste such as iron ore tailings, slag, red mud and GGBS in geopolymer concrete was presented, indicating the chemical and physical properties. Preparation of geopolymer iron ore tailing and red mud bricks was explained. Experimental investigation carried on these bricks at various proportions of IOT, sand, fly ash, GGBS and red mud, to study the effect on compressive strength (dry and wet) and water absorption, for 7, 14 and 28 days, was presented. Finally the webinar concluded with, mine waste is eco-friendly as it utilizes waste and reduces air, land and water pollution. Waste utilization plays a vital role in natural resource conservation. Also, mining industry plays a leading role in waste management.

### 20. Employability Quotient

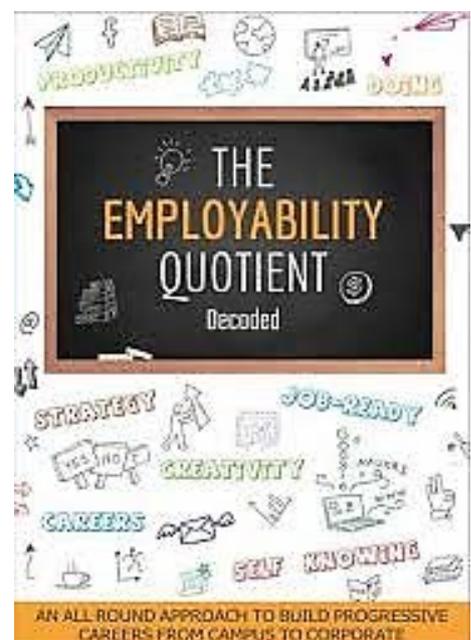
Webinar on Employability Quotient after Graduation Report. The webinar at automobile seminar hall. The inauguration talk was done by Dr. B Dinesh Prabhu (Associate Professor). More than 100 enthusiastic students, research scholars, supervisor and faculty members attended the webinar. The talk was delivered by Mr. Krishna Kumar R founder and COE of Quantum leap guru. The webinar began with the introduction to

- Critical thinking and problem solving.
- Teamwork and collaboration.
- Professionalism and strong work ethic.
- Oral and written communications skills and Leadership

The outcome of the webinar makes the research scholars and supervisor to know about different career opportunities after graduation such as:-

- Knowledge as per market needs and Expertise
- Professional skill, Personality (body language) and Innovation

Learning ability, Knowledge as per market needs and Zeal /passion to work.



**21. Webinar on Funded Project Proposals Writing**

Report of the webinar started at 3:00 pm at MBA Smart Classroom. The inauguration of the talk was done by Dr. Minavati, Dean (Research). More than 100 enthusiastic research scholars, supervisor and faculty members attended the webinar. The talk was delivered by Dr. Preetha Sharan, Professor Dept. of ECE, Oxford College of Engineering, and Bengaluru.

The webinar began with the introduction to



- Formulate Science, Technology and Innovation Policy and other enabling Policies for promotion of R&D
- Strengthen Basic Research and Expand R&D base - Human Capacity
- Strengthen Basic Research and Expand R&D base - Institutional Capacity
- Implement Technology Development Programs
- Societal Intervention for Application of S&T
- S&T Co-operation/Partnerships & Alliances

The outcome of the webinar makes the research scholars and supervisor to know about different funding agencies such as

- SERB/DST supports scientific research - only agency which considers all disciplines.
- SERB/DST has scheme for everyone (X+ to retired scientist)
- Major schemes of importance to researcher:
- Extramural Research Support to individual researcher, Start-up grant to Young Scientist, FIST, Women Scientist Program, Intl Travel support, etc.
- SERB / DST funding helped to augment research capability and undertake frontier research
- The peer review system of SERB/DST is well recognized by the S&T community

**22. MAPPING of Co-PO in Engineering academics**

Mechanical Engineering Association, Department of Mechanical Engineering is conducting a technical talk on CO-PO Mapping in Engineering Academics the main aim of the Program is to train up the faculties in Engineering academics and framing the syllabus. The faculties and students benefited by the program. Dr. S L Ajit Prasad PESCE Mandya, were inspired the faculties for the engineering academic and examination./ faculties also interacted with resource person and clarified the doubts and took the guidance about the preparation of syllabus. More than 35 faculties of our departments and other department faculties were participated in the Program.

**23. Interaction with Secretary PET(R) on 21-10-2020**

A scheduled by meeting by Honourable Secretary, PET® Sr. S.L Shiva Prasad, with all the teaching faculty members was held on 21<sup>st</sup> October 2020 at Placement auditorium. Beloved Principal Dr. H V Ravindra, in his opening note talk briefed about the accomplishments of our Institution and its stakeholders. Honourable secretary shared his views about how each faculty



of our Institute can contribute to the academic strength and growth of Students and in turn our Institution. He also said that, more and more focus to be given for subject basics so as to enable our students to perform better in their endeavours. Further, Honourable secretary suggested that, senior learned faculty can share their academic advanced knowledge to the rest of the colleagues of their stream of program.

## 24. Talk on Conversion of HE Institutions to transform to a University, on 27th Oct. 2020 by Prof. Sangameshwar.

**Prof. Sangameshwar talked in length about the how HE institutions can transform to University.** Different types of universities, their differences, similarities, freedoms and boundaries of each of them was shared to the academic and administrative group of our Institution. In his talk, Professor, discussed on the lines of the following, like:

### 1. Central Universities

A central university is established by an Act of Parliament and are under the direct purview of the Department of Higher Education (DHE) under Ministry of Human Resource Development (MHRD). As of February 2017, there are 47 Central universities in our country.

### 2. State Universities

As the name suggests, state universities are established, run and funded by the state government. State universities are usually established by a local legislative assembly act. State Universities can confer/grant their own degrees to the students.

### 3. Deemed to be Universities

“Deemed” is a status of autonomy granted to a university by DHE under MHRD, on the advice of UGC. Deemed to be Universities enjoy full autonomy or independence in deciding courses, syllabus, admissions and fees. Some Deemed to be Universities can also grant degrees on their own. Deemed-to-be Universities, which continue to perform well, can get the status of a full-fledged University.

### 4. Private Universities

Private universities are also UGC approved institutes. However, such universities do not run on central or state funds. They can grant degrees **but cannot have off-campus colleges or affiliate an institution/college.** “They can establish off-campus centre (s) within the concerned State after their existence of five years and with the prior approval of the University Grants Commission,” states the UGC website. Unlike state and central universities which have a ‘Chancellor’ as the head, a private university is always headed by ‘President’ or ‘Chairperson’.

The Private universities need to adhere to UGC rules and regulations for operations. The UGC regularly sends committees to inspect Private universities.

### 5. Autonomous Institutes & Colleges

Autonomous institutes and colleges exercise independent control over their daily operations, syllabus, courses offered and admission procedure. They fall under the administrative control of Department of Higher Education (DHE), MHRD.

However, there’s a thin line of difference between Autonomous Institutes and Autonomous Colleges.

**Autonomous Colleges** need to be affiliated to a certain university. These colleges can conduct their own admission procedure and exams. However, at the end of course completion, they cannot issue their own degree or diploma. The final degree or diploma is issued by the affiliated university.

**Autonomous Institutes**, like deemed-to-be universities, enjoy full autonomy or independence in deciding courses, syllabus, admissions and fees. However, they can grant diplomas and not degrees.

Some autonomous institutes are permitted to award degrees, though they are not referred to as Universities. These institutes include the Indian Institute of Management (IIMs), Indian Institutes of Technology (IITs), Indian Institutes of Information Technology (IIITs), National Institutes of Technology (NITs), All India Institutes of Medical Sciences (AIIMS), etc.



## I (b) Programs Participated by Teaching and Technical Faculty

Teaching and Technical Faculty have one of the most demanding vocations in the world and in order to fulfill their important roles with excellence, they need training, motivation as well as regular mental, emotional and spiritual rejuvenation. That educational systems the world over recognize the importance of the faculty is often evident by the resources spent on their capacity building. However, the issues often have been about building an effective model and mechanism that would develop and enhance the faculties' capacity and provide them avenues for professional development. In view of this, faculties are encouraged and supported to undergo training Programs to enhance their knowledge in academics and allied areas.

|                              |  |
|------------------------------|--|
| Details of Academic Activity | <b>Robotics and Automation</b>                               |
| Type of Academic Activity    | Short term course  |
| Faculty / Staff              | Sumanth S<br>Dept. of E&CE                                   |
| Date & Place                 | 2 <sup>nd</sup> to 14 <sup>th</sup> March 2020,<br>IIT Delhi |

Report on “**Robotics and Automation**” on 2<sup>nd</sup> to 14<sup>th</sup> March 2020, at IIT Delhi. Robotics is a science, which deals with the issues related to design, manufacturing, and usages of robots. In robotics, the fundamentals of Physics, Mathematics, Mechanical Engg., Electronics Engg., Electrical Engg., Computer Sciences, and others are used. The Robotics aspects with respect to

Mechanical Engineering: a) Kinematics: Motion of robot arm without considering the forces and /or moments, b) Dynamics: Study of the forces and/or moments, c) Sensing: Collecting information of the environment. Computer Science:

- Motion Planning: Planning the course of action
- Artificial Intelligence: To design and develop suitable brain for the robots

Electrical and Electronics Engg: Control schemes and hardware implementations

General Sciences: a) Physics b) Mathematics.

Report on 3 days' workshop on “**Train the Trainers on Examination Reforms**”. A Three days' workshop on Train the Trainers on examination reforms organized by BVB College of Engineering in collaboration with National Project Implementation Unit (NPIU) at KLE Technological University, Vidyanagar, Hubballi, Karnataka from 04<sup>th</sup> March 2020 to 06<sup>th</sup> March 2020. The first day session was initiated by Dr. Tewari, discussed about pre-requisites of this workshop and its need. Elaborately discussed about need of outcome based education in the field of engineering and science and the outcome based education necessity along with the elements of OBE. An activity session is held to write course outcome using Bloom's taxonomy along with preparation of course articulation matrix. Assignment is assigned to all the participants in group to write and critiquing competencies and performance indicators for program outcomes. Our PESCE team is divided in to three groups and participated in this activity to present how performance indicators are assigned based on the program outcome. First group is presented on program outcome 1 and its performance indicator, second group is presented on program outcome 10 and its performance indicator, the group three is focused on program outcome 11 and its performance indicator.

|  |   |
|--|---|
| Details of Academic Activity   | <b>Train the Trainers on Examination Reforms</b>  |
| Type of Academic Activity  | Short term course   |
| <b>Faculty / Staff</b><br>(COE, Physics HoD, Dpty. Dean, and IS Asst. Professor) | <ul style="list-style-type: none"> <li>• Dr. N L Muralikrishna</li> <li>• Dr. Shivalingegowda</li> <li>• Dr. Umesh D R</li> <li>• Bramesh S M</li> <li>• H R Divakar</li> </ul> |
| Date & Place   | 4 <sup>th</sup> to 7 <sup>th</sup> March 2020,<br>KLE, Hubli  |



The last day session was started by a team presentation of action plan of conducting a workshop in their institution and framework of the schedule of the workshop. It is one of the group activity initiated by Dr. Umesh D R present the action plan of the workshop, Prof. Divakar H R and Prof. Brahmesh S M both presented the concepts that to be in a session. The whole day activity is handled by Dr. Tewari and Dr. Joshi. This session is followed by the activity of preparation of a model question paper by all participants individually. The prepared question paper is submitted to National Project Implementation Unit. The work shop is concluded by a valedictory session along with the feedback by participants.

|                              |  |
|------------------------------|--|
| Details of Academic Activity | <b>Research Methodology in Engineering and Technical writing using latex</b> |
| Type of Academic Activity    | Short term Training Program  |
| Faculty / Staff              | Dr. Nayaka S R<br>Dept. Of Maths   |
| Date & Place                 | 9 <sup>th</sup> to 20 <sup>th</sup> Dec 2019,<br>NITTTR Lolkata              |

A brief report on two week short term training program on “**Research Methodology in Engineering and Technical Writing using Latex**” A short term training program on Research Methodology in Engineering and Technical Writing using Latex was conducted by National institute of technical teacher’s training and Research during December 09<sup>th</sup> to 20<sup>th</sup> 2019.

The program was aimed to provide basic ideas of Research and its related areas to build a strong base towards qualitative research. As the program was two

weeks duration, first week is deserved for research methodology where the speakers spoke on what is research? What are the qualities and requirements of quality research? How to read a journal article? Selection of research area and then research problem, article writing for journal and thesis etc.... was explained in the program. There were practical sessions where the participants are supposed to write an article in their expertise area to illustrate the common errors that we do while writing.

The second week of the training program was devoted for writing purpose. Generally any journal nowadays expects articles in either word or Latex format where Latex is most preferable for scientific journals. During the sessions we were given with syntaxes, how to start with a Latex program, writing simple document, insertion of tables, figures and so on. They also taught different techniques regarding constructing different types of tables, colouring the text and tables etc. Finally, we were given with an assignment of creating an article that involves all the above mentioned formats and was submitted before issue of the certificate. The program was well organized and was successful towards improving our knowledge and providing strong base for undertaking research in future.



|                              |  |
|------------------------------|--|
| Details of Academic Activity | <b>New age Incubation Network (NAIA)</b> |
| Type of Academic Activity    | Workshop                                 |
| Faculty / Staff              | Dr. Vinay S<br>HoD of ISE Dept.          |
| Date & Place                 | 15 Feb 2020,<br>Bengaluru                |

Report on “**New age Incubation Network**” (NAIN) Selection Committee Meeting the attended selection committee meeting for setting up of New Age Incubation Network (NAIN) held on 15<sup>th</sup> Feb 2020 at Bangalore. Our institution has been selected under NAIN scheme as per the mail received on 4<sup>th</sup> Mar 2020. Further details on the implementation are awaited.

About NAIN Scheme: Creation of an ecosystem that promotes innovation in educational institutions is one of

the key objectives of ‘New Age Incubation Network’.

Under the New Age Incubation Network,

- Students are encouraged to identify local problems and address those using concepts of frugal innovation, and to develop appropriate technology-based solutions and working prototypes. It is also expected that the mentors assigned to the students help them to formulate a business model based on this new technology and encourage them to think like entrepreneurs.
- Financial assistance for running the incubators and for student projects will be initially provided for three years which may be extended for another two year based on the criteria as defined in this document and as amended from time to time.

Capex investment by the applicant host institution: The NAIN is a project done in PPP mode. The Capital Expenses - Capex are provided by the HI. Following is the list of minimum specified Capex that NHI must agree to establish:

- Minimum 2000 soft carpet area in a location which is appropriate to host an incubation center on college / institution campus.
- 15 computers of latest configuration. (Minimum configurations as on Jan 2017: Core i7; 5th Gen; 1Tb hard disk, 8GB Ram, 3.4 GHz. Monitor at least 21 inches). These configurations could be revised from time to time.
- Work spaces to accommodate up to 15 start project / team / start-ups simultaneously
- Independent high-speed dedicated internet connection for the NAIN center (Minimum speed: Plan comparable to BSNL’s 16Mbps line with unlimited data limit). These configurations could be revised from time to time.
- Uninterrupted power backup for NAIN center f. Make available on campus Projection facility, Discussion & Meeting room. The NHI should have enough infrastructure and capacity to conduct mentoring and networking events accommodating up to 125-150 participants.

## II. R & D Projects & Patent

| APPLICATION DETAILS              |   |
|----------------------------------|---|
| APPLICATION NUMBER               | 201741020994  |
| APPLICATION TYPE                 | ORDINARY APPLICATION  |
| DATE OF FILING                   | 15/12/2017  |
| APPLICANT NAME                   | 1. Raju Girisha<br>2. Dr. Vidya Shankar<br>3. Guruswamy Rakesh<br>4. Golla Chandrashekar Shailaja |
| TITLE OF INVENTION               | ELECTRONIC PROCESSING OF PAPER INVOICES   |
| FIELD OF INVENTION               | COMPUTER SCIENCE  |
| E-MAIL (As Per Record)           | hcb.ipa.2596@gmail.com  |
| ADDITIONAL-EMAIL (As Per Record) | hemanth14_07@yahoo.co.in  |
| PUBLICATION DATE (U/S 11A)       | 21/06/2019  |

**Electronic Processing of Paper Invoices:** Many consumers today conduct much of their banking electronically. For instance, consumers may access a website hosted by their financial institution that provides account information, such as balances, credits, and debits. Additionally, many consumers now use a mobile computing device, such as a mobile phone, to conduct their banking. By accessing a mobile banking application, consumers can check their account balance, transfer funds, make deposits, and perform other banking functions. Despite the use of electronic banking, most consumers still receive paper invoices from various service providers. For instance, consumers

regularly receive 15 a monthly bill from utility companies (e.g., telephone, cable, etc.), insurance companies (e.g., car insurance, home insurance), and financial institutions (e.g., mortgage statement, etc.) Additionally, consumers regularly receive paper invoices after visiting medical professionals (doctors, dentists, etc.) or paying for specialty services (plumbing services, pest control services, etc.) 20 There are numerous problems associated with the receipt of paper invoices. First, a consumer might receive a paper invoice, file it away, and then subsequently forget whether the invoice has been paid. Second, upon receiving a paper invoice, it is often time consuming and cumbersome to transfer the information in that invoice into an electronic format that can be used in connection with banking functionality. 5 And also the challenge becomes particularly complex when different service providers tend to have different format and little uniformity in the invoices generated. This lack of uniformity makes automation difficult and leads to overall inefficiencies in the accounting process. The lack of invoice uniformity arises for various reasons. For instance, some 10 service providers may be equipped to submit payment requests electronically, while others may be only equipped to submit fax or paper invoices. Those service providers submitting paper invoices may use a variety of paper formats, generally dictated by the service provider's accounting system.

### A system & Method for close Proximity notification in retail Environment:

If a consumer passes near a retail shop, he won't be aware of wide range of products available and even the discounts or offers provided by the seller on various occasions unless and until consumer visits the retail shop personally and enquire the seller. 10 Solutions that utilize mobile devices in retail settings have traditionally been used, but limited to basic, low bandwidth applications, and accordingly have not been very successful at integrating the different capabilities of a smart phone. One popular approach includes sending offers and coupons via SMS, as text, or including short URLs, to registered consumer's mobile phones. Upon 15 receiving such an SMS the consumer can click on the URL to view details via the device's browser. The quality of a loaded page depends on several factors, including the subscribed data plan, or the available coverage at that specific location. Commercial locations like retail stores, malls, and event venues are 20 typically not equipped with ubiquitous networks, and hence often miss out on the opportunity to interact with consumers via rich content at the point of decision, in the same way online retailers do. Some commercial locations offer kiosks which can be used to provide rich access to product information.

| APPLICATION DETAILS              |   |
|----------------------------------|---|
| APPLICATION NUMBER               | 201741021215  |
| APPLICATION TYPE                 | ORDINARY APPLICATION  |
| DATE OF FILING                   | 16/12/2017  |
| APPLICANT NAME                   | 1. Raju Girisha<br>2. Dr. Vidya Shankar<br>3. Guruswamy Rakesh<br>4. Golla Chandrashekar Shailaja |
| TITLE OF INVENTION               | A SYSTEM AND A METHOD FOR CLOSE PROXIMITY NOTIFICATION IN RETAIL ENVIRONMENT                      |
| FIELD OF INVENTION               | COMPUTER SCIENCE  |
| E-MAIL (As Per Record)           | hcb.ipa.2596@gmail.com  |
| ADDITIONAL-EMAIL (As Per Record) | hemanth14_07@yahoo.co.in  |
| PUBLICATION DATE (U/S 11A)       | 21/06/2019  |

| Application Details              |  |
|----------------------------------|--|
| APPLICATION NUMBER               | 202041049785   |
| APPLICATION TYPE                 | ORDINARY APPLICATION   |
| DATE OF FILING                   | 13/11/2020   |
| APPLICANT NAME                   | 1. Meenakshi<br>2. Dr. Sandhya Guruswamy<br>3. Dr. Manjunath Sweeny Srinath<br>4. Dr. B. K. Raghavendra<br>5. Raghavendra S N<br>6. Dr. N P Indiravathi<br>7. Sheeleshwar S K<br>8. Dr. Raghavendra S<br>9. Prof. Santosh Kumar J<br>10. Weeranna Kotral |
| TITLE OF INVENTION               | SMART SYSTEM FOR EFFECTIVE WASTE MANAGEMENT  |
| FIELD OF INVENTION               | COMMUNICATION  |
| E-MAIL (As Per Record)           | Meenakshi437@gmail.com   |
| ADDITIONAL EMAIL (As Per Record) | Meenakshi437@gmail.com   |
| E-MAIL (UPDATED Online)          |  |
| PRIORITY DATE                    |  |
| REQUEST FOR EXAMINATION DATE     |  |
| PUBLICATION DATE (U/S 11A)       | 20/11/2020   |

**Smart System for Effective Waste Management:** Smart System for Effective Waste Management. 500-700 years it takes for a Plastic waste to get degraded in the soil. In India this type of wastes sits as a Landfill and there by spoiling the fertility of the soil and even increasing the toxicity of the Ground water, by the way the dumped waste is always either unprocessed or untreated which has catastrophic problems in future. More over the growth of population is drastically changing thereby increase in waste production in the Country. To set up an incineration plant by this it's possible to disappear trash in even one day the collection of wastes is so well organized over a

computerized application.

| INTELLECTUAL PROPERTY INDIA<br>PATENT, DESIGN AND TRADE MARKS<br>GEOGRAPHICAL INDICATIONS |   | GOVERNMENT OF INDIA | Controller General of Patents, Designs and Trademarks<br>Department of Industrial Policy and Promotion<br>Ministry of Commerce and Industry |
|---|---|---------------------|---|
| APPLICATION DETAILS   |   |                     |   |
| APPLICATION NUMBER  | 201741021216  |                     |   |
| APPLICATION TYPE  | ORDINARY APPLICATION  |                     |   |
| DATE OF FILING  | 16/12/2017  |                     |   |
| APPLICANT NAME  | 1. Raju Girisha<br>2. Dr. Vidya Shankar<br>3. Guruswamy Rakesh<br>4. Golla Chandrashekar Shailaja |                     |   |
| TITLE OF INVENTION  | A SYSTEM AND METHOD FOR BUYING AND SELLING GOODS  |                     |   |
| FIELD OF INVENTION  | COMPUTER SCIENCE  |                     |   |
| E-MAIL (As Per Record)  | hcb.ipa.2596@gmail.com  |                     |   |
| ADDITIONAL-E-MAIL (As Per Record)   | hemanth14_07@yahoo.co.in  |                     |   |
| PUBLICATION DATE (U/S 11A)  | 21/06/2019  |                     |   |

**A system & method for buying & selling goods:** Traditional trading systems involved face-to-face trading, for example on a trading floor, more recently computers and telecommunications systems have been used to permit trading activities to occur remote from the actual location of the trading floor through interactive computer-based transaction systems. 10 With the spread of the Internet, it has led to the technique to sell goods using the network to spread widely. In the case of direct buying and selling, the seller side posts the information in the sale of goods through internet, the buyer side see and contact the seller side, to proceed for negotiation and transaction. In recent years, intermediaries of the sale of goods are opened, both the seller and the buyer perform 15 the information exchange, the case that

lead to the final deal. But, what is required is a system and method whereby individuals like farmers or individual institutions like event organizers can buy and sell agricultural products directly between one another with only a minimal time differential and minimal risk. In such a system and in accordance with such a method, individual buyers would have 20 access to all of the other individual buyers or sellers wishing to purchase or sell agricultural goods. In such a system an individual buyer or seller would be able to 3 select among many competing offers to buy and sell and thus would be able to obtain a significantly better deal than would be the case under present circumstances.

### Aluminum Nano-Hybrid Composite Piston Rings for Diesel

**Engines:** The current invention reveals a new piston rings manufacturing design, it is meant for light weight Nano-hybrid composite Piston Rings (NPRs) are used as alternative to Conventional cast iron Piston Rings (CPRs) to improve the engine performance and lessening the losses of friction and emission. An Analytical Hierarchy Process (AHP) is the systematic procedure for material selection was used to select the matrix material and reinforcements. An A16061 metal matrix with micro-SiC, Nano-ZrOa ceramics, and a solid lubricant Nano-Graphite (Gr) reinforcements were utilized to fabricate new composites. The composed bottom pouring stir casting method was employed to produce samples of Nano-hybrid composite. As for as engine piston rings, the weight loss by wear and coefficient of friction are treated as important parameters. The Nano-hybrid composite materials that contained weight 6.75% of combined reinforcement was considered, by weight with a sample matrix of A16061 was accepted to produce novel Nano-hybrid composite Piston Rings (NPRs) alike to the dimensions of Conventional cast iron Piston Rings (CPRs). By using the existing CPRs and the newly fabricated NPRs at different loads the combustion, emission characteristics, and performance of diesel engine was tested. Test results of emission exposed that the usage of NPRs declines Carbon monoxide (CO), Hydrocarbons (HC) in comparison to the usage of CPRs. The values of Oxides of Nitrogen (NOx) exposed a marginal rise, as high temperature is being achieved in the combust ion chamber in NPRs as compared to the use of CPRs.

| INTELLECTUAL PROPERTY INDIA<br>PATENT, DESIGN AND TRADE MARKS<br>GEOGRAPHICAL INDICATIONS |  | GOVERNMENT OF INDIA | Controller General of Patents, Designs and Trademarks<br>Department of Industrial Policy and Promotion<br>Ministry of Commerce and Industry |
|---|--|---------------------|---|
| APPLICATION DETAILS   |  |                     |   |
| APPLICATION NUMBER  | 202041007455   |                     |   |
| APPLICATION TYPE  | ORDINARY APPLICATION   |                     |   |
| DATE OF FILING  | 21/02/2020   |                     |   |
| APPLICANT NAME  | 1. Dr. A.P. SENTHIL KUMAR<br>2. Dr. N. JAGADEESH<br>3. Dr. S. JANAKI |                     |   |
| TITLE OF INVENTION  | ALUMINIUM NANO-HYBRID COMPOSITE PISTON RINGS FOR DIESEL ENGINES      |                     |   |
| FIELD OF INVENTION  | MECHANICAL ENGINEERING   |                     |   |
| E-MAIL (As Per Record)  |  |                     |   |
| ADDITIONAL-E-MAIL (As Per Record)   | jagansn@yahoo.co.in  |                     |   |
| REQUEST FOR EXAMINATION DATE  | 21/02/2020   |                     |   |
| PUBLICATION DATE (U/S 11A)  | 28/02/2020   |                     |   |

| INTELLECTUAL PROPERTY INDIA<br>PATENT, DESIGN AND TRADE MARKS<br>GEOGRAPHICAL INDICATIONS |   | GOVERNMENT OF INDIA | Controller General of Patents, Designs and Trademarks<br>Department of Industrial Policy and Promotion<br>Ministry of Commerce and Industry |
|---|---|---------------------|---|
| APPLICATION DETAILS   |   |                     |   |
| APPLICATION NUMBER  | 202041008769  |                     |   |
| APPLICATION TYPE  | ORDINARY APPLICATION  |                     |   |
| DATE OF FILING  | 02/03/2020  |                     |   |
| APPLICANT NAME  | 1. DR. C J GANGADHARA GOWDA<br>2. SHREYAS G U<br>3. DR. B DINESH PRABHU<br>4. PRANAV KUMAR N<br>5. DR. J VENKATESH<br>6. SAMRAT U |                     |   |
| TITLE OF INVENTION  | A HIGH EFFICIENT HYBRID SERIES VEHICLE ALONG WITH MAINTENANCE AND CONTROL SYSTEM  |                     |   |
| FIELD OF INVENTION  | MECHANICAL ENGINEERING  |                     |   |
| E-MAIL (As Per Record)  | sgowthami12@gmail.com   |                     |   |
| ADDITIONAL-E-MAIL (As Per Record)   | sgowthami12@gmail.com   |                     |   |
| PUBLICATION DATE (U/S 11A)  | 18/09/2020  |                     |   |

### A High Efficient Hybrid Series Vehicle along with Maintenance

**and Control System:** The series drive system with maintenance aims at better utilization of fuel energy and reduces dependence on non-renewable resources and also involves implementation and development of HEV that uses battery as well as gasoline power for propulsion of vehicle. With increase in the number of automobiles the need for petroleum products is reaching the peak point. These petroleum products are non-renewable sources and it has a danger of exhaustion in future, so it is better to move to an alternate energy sources. Around 93% of today's automobiles run on petroleum based product, which are estimated to be depleted by 2050. Moreover, current automobiles utilize only 25% of the energy released from petroleum and rest

is wasted into the atmosphere. Despite recent efforts to improve fuel efficiency and reduce toxic emissions, emissions have continued to increase steadily in the past two decades. Thus a series drive along with an electric drive system is presented in this invention to automatically switch between the two modes of energy resources.

**Application Details**

APPLICATION NUMBER: 202041051571  
 APPLICATION TYPE: ORDINARY APPLICATION  
 DATE OF FILING: 26/11/2020

APPLICANT NAME:  
 1. Dr. Ravikumar Gurusamy  
 2. Murali Krishna Kotha  
 3. Dr. Prayesh P. Ganesh  
 4. Dr. R. Abhin  
 5. Tarun Gehlot  
 6. Mohammed Shabaz  
 7. Akhil Kotha  
 8. Dr. Punith Kumar M B  
 9. Dr. Senthil Kumar S  
 10. Dr. C. Samson Jerold Samuel  
 11. Rohan Kotha  
 12. Dr. T.S. Kartik  
 13. Dr. John T Abraham  
 14. Dr. Pavithra G.  
 15. Dr. T.C. Mangrath

TITLE OF INVENTION: DESIGN AND DEVELOPMENT OF SOIL INSPECTION ROBOT FOR AGRICULTURAL FIELDS  
 FIELD OF INVENTION: AGRICULTURE ENGINEERING  
 E-MAIL (As Per Record): vijay\_21a@gmail.com  
 ADDITIONAL-EMAIL (As Per Record): vijay\_21a@gmail.com  
 E-MAIL (UPDATED Online):  
 PRIORITY DATE:  
 REQUEST FOR EXAMINATION DATE: ..  
 PUBLICATION DATE (As Per I.P.A.): 04/12/2020

**Design and Development of Soil Inspection Robot for Agricultural Fields:** Our India is agricultural country. In the entire resource of India agriculture plays a vital role. There are so many methods are already implemented in the agriculture domain but in modern technology every system has a problem and it needs another methodology to resolve the problem. By monitoring all the implemented technology we found one thing that the number of sensors used is large and they use the tedious way of identification of parameters. In order to reduce the number of sensors and the difficulty of the detection methods we introduce the rail dripping system along with a new method to grow the plants in a way called “Hyperponic”. The objective of the project is by using the RTOS and PIC controller we can get a new highly efficient way of automatic irrigation system and the requirement of land cultivation also reduced. In future we can easily extend the system for R&D area. The water absorption rate is calculated in this method by doing this so we can give the betterment to farmers life and their economic condition.

**Ergonomically Designed Die Casting Table for Safety and Quality Management:**

A die casting table designed using carousel concept to enhance safety during pouring process, which helps maintain temperature of molten metal by reducing distance between furnaces and die, reduces defects which occurs due to downfall in temperature of metal, thereby improving quality and increasing safety. As a result, the rejection rate of die castings at the remote facility may be reduced.

**Application Details**

APPLICATION NUMBER: 202041034350  
 APPLICATION TYPE: ORDINARY APPLICATION  
 DATE OF FILING: 11/08/2020

APPLICANT NAME:  
 1. Dr. C. Srinivasa Kumar  
 2. Dr. Ranga Swamy Srinasi  
 3. Dr. Hemant Naidu T  
 4. Dr. Girish D P  
 5. S G Gohagi  
 6. M S Suresh  
 7. Dr. Aravind K U  
 8. Sambit S Kulkarni  
 9. Dr. Chitra Sheethdar  
 10. Dr. Piyush Kumar Pareek

TITLE OF INVENTION: ERGONOMICALLY DESIGNED DIE CASTING TABLE FOR SAFETY AND QUALITY MANAGEMENT  
 FIELD OF INVENTION: METALLURGY  
 E-MAIL (As Per Record): drspkumar41@gmail.com  
 ADDITIONAL-EMAIL (As Per Record):  
 E-MAIL (UPDATED Online):  
 PRIORITY DATE:  
 REQUEST FOR EXAMINATION DATE: ..  
 PUBLICATION DATE (As Per I.P.A.): 04/09/2020

**SUMMARY OF THE INVENTION** The following presents a simplified summary of the invention in order to provide a basic understanding of some aspects of the invention. This summary is not an extensive overview of the present invention. It is not intended to identify the key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some concept of the invention in a simplified form as a prelude to a more detailed description of the invention presented later. The present invention is generally directed to a system development for ensuring safety and improving quality by reducing rejection rates An embodiment of the present invention is for comfort of the pourer Yet embodiment of the invention is for adopting carousel concept and fords moving line concept where worker needs to just stay at a place and avoid movements especially with molten metal Yet another embodiment of the invention is that to ensure the best out of workers under safety Another embodiment of the invention is that the invention will improve quality of end products maintaining the pouring angle and temperature

● **List of Patents**

| Sl. No        | Title of the Patent name  | Patent No./ Application No.   | Author  |
|---------------|---|---|---|
| Completed     |   |   |   |
| 1             | An Extrusion Honing Composition   | 216476  | Dr. H P Raju, Prof. and Head MED  |
| Under Process |   |   |   |
| 2             | Single Wheeled Self-Balanced Electric Vehicle   | 201841026027<br>Date: 12/07/2018  | Shreyas G U, Fifth Semester Mechanical Engg. Student                    |
| 3             | Method, Systems and Apparatus for Efficient High Speed Elliptic Curve Point Multiplication Over Prime Field | 201841032883<br>06-03-2020  | Shayilashree, Ph.D. Students, Dr. V Sridhar, Former Principal and guide |
| 4             | Method, Systems and Apparatus for Fast Multi Scalar Elliptic Curve Point Multiplication Over Prime Field    | 201841032882<br>06-03-2020  | Shayilashree, Ph.D. Students, Dr. V Sridhar, Former Principal and guide |
| 5             | Smart Sensor based on Conducting Polymers (PANI) and Nano Particles for Biological Real Time Applications   | 2859/CHE/2012<br>Patent filed date: 14/07/2012,<br>Published on: 20/06/2014 | Dr. B Ramachandra, Prof. Dept. of E&E                                   |

| Sl. No | Title of the Patent name   | Patent No./ Application No.  | Author  |
|--------|--|--|---|
| 6      | A High Efficient Hybrid Series Vehicle along with Maintenance and Control System:      | 202041008769<br>Pub: 18-09-2020  | Shreyas G U Fifth Semester Dept. of Mechanical Engg. Student, Dr. B Dinesh Prabhu Dept. of Automobile Engg. |
| 7      | Electronic processing of paper invoices  | No. 201741020994<br>Published, 2019  | Dr. R. Girisha,<br>Dept. of Computer Science & Engg.  |
| 8      | A system & a method for close proximity notification in retail environment             | No. 201741021215<br>Published, 2019  | Dr. R. Girisha,<br>Dept. of Computer Science & Engg   |
| 9      | A system & method for buying & selling goods   | No. 201741021216<br>Published, 2019  | Dr. R. Girisha,<br>Dept. of Computer Science & Engg   |
| 10     | Aluminum Nano-Hybrid Composite Piston Rings for Diesel Engines                         | 202041007455<br>Date of filing:21 /02/ 2020<br>Publication date:28/02/2020 | Dr. N Jagadeesh<br>Dept. of Automobile Engg.  |
| 11     | Smart System for Effective Waste Management  | 202041049785<br>Date: 20/11/2020   | Shivashankar S K and Team<br>Dept. of Computer Science & Engg   |
| 12     | IOT Based device to detect the efficiency of remote working using the DMS sensor       | 2020104070<br>(International)<br>Filing Date: 14-12-2020                   | Dr. M J Anand<br>Dept. of E&CE  |
| 13     | Artificial Intelligence IOT based eye gaze controlled robot for person with dysarthria | 202041054189<br>(International)<br>Filing Date: 14-12-2020                 | Mahesh Kumar A S<br>Dept. of E&CE   |
| 14     | Design and Development of Soil Inspection Robot for Agricultural Fields                | 202041051571<br>Date: 04-12-2020   | Dr. Punith Kumar M B<br>Dept. of E&CE   |
| 15     | IOT Based Virtual Students Monitoring System by using TF Plus Mini Lidar Sensor        | 2021100210<br>Date: 13-01-2021   | Mr. H R.DIVAKAR<br>Department of MCA,   |
| 16     | Ergonomically Designed Die Casting Table for Safety and Quality Management             | 202041034350<br>Date: 04/09/2020   | Mr. M R Suresh<br>Dept. of Information Science & Engg.  |

### III. Books Published by Faculty

| Sl. No | Author Name       | Dept. Name | Title of the Books   |
|--------|-------------------|------------|--|
| 1      | Dr. Sheshadri     | ECE        | Medical Image Analysis A Research Outcome  |
| 2      | Dr. Dinesh Prabhu | AU         | Tribology - Particulate Filled Polymeric Composite Materials - Investigations on tribological properties |
| 3      | Dr. Punith Kumar  | ECE        | Real-time video shot Detection and Summarization   |
| 4      | Dr. Sadashiva M   | AU         | Automobile Engineering   |

## IV. Teaching Faculty Participation & Paper Presentation in Conference (within India)

|                    |   |
|--------------------|---|
| Topic of the Paper | <b>Research &amp; Developments in Engineering &amp; Technology, Management &amp; Sciences-ICRDETMS-2019</b> |
| Type of Conference | International Conference  |
| Faculty/Staff      | Mahesh Kumar A S<br>Dept. of EE&E   |
| Date & Place       | 12 <sup>th</sup> to 13 <sup>th</sup> Feb 2020,<br>Chennai   |

Outcome of the International Conference, The “Annual International Conference on Science, Machine Learning and Blockchain Technology (AICDMB 2020)” held in VVCE College, Mysore Hotel Chennai Gateway, No. 23A, 107, Inner Ring Rd, MMDA Colony, Koyambedu, Chennai, Tamil Nadu 600107, an reputed organization for Engineering activities, offers all participants an opportunity for understanding

the recent trends in research and applications of Applied Engineering science from the highly proficient and knowledgeable researchers from around the world like Prakasam, Japan. The range of topics in electronics engineering, the depth of the presentations, the variety of perspectives, and the richness of the international discussions are going to be truly beneficial to me as an individual. Conference has teamed up with the Special Journal Issue on Elsevier and Scopus indexed. The technical exhibition of the conference provides a good platform to know the available new test equipment and instruments which are helpful for the recent trends in Manufacturing and Production. Further, the knowledge outcome will surely be advantageous to the institution and to my department in guiding research projects. The knowledge gained by interaction will also help in leading research activities more effectively.

|                    |  |
|--------------------|--|
| Topic of the Paper | <b>Computing Methodologies and Communication (ICCMC-2020)</b>  |
| Type of Conference | International Conference                                       |
| Faculty/Staff      | Noor Ayesha<br>Dept. of EC&E                                   |
| Date & Place       | 11 <sup>th</sup> to 13 <sup>th</sup> March 2020,<br>Tamil Nadu |

Outcome of the International Conference the “4<sup>th</sup> International Conference on “**Computing Methodologies and Communication (ICCMC 2020)**” held in Surya Engineering College, erode, Tamil Nadu, India, an reputed organization for Engineering activities, offers all participants an opportunity for understanding the recent trends in research and applications of applied engineering science from the highly proficient and knowledgeable researchers like Dr. A. Nagappan Chair - Aerospace and Electronic Systems (AES) Society IEEE

Madras Section and Dr. R. Harikumar Professor, Department of ECE, Bannari Amman Institute of Technology, Sathyamangalam, India. The range of topics in electronics engineering, the depth of the presentations, the variety of perspectives, and the richness of the international discussions are going to be truly beneficial to me as an individual. Conference has teamed up with the IEEE Explore [Scopus Indexed]. In the conference I Presented the Paper on “A survey on Brain Ischemic Stroke Advanced Segmentation Techniques” in the online mode. Further, the knowledge outcome will surely be advantageous to the institution and to my department in guiding research projects. The knowledge gained by interaction will also help in leading research activities more effectively.

## V. Papers Published by Teaching Faculty

### Papers Published by Teaching Faculty in International Conferences & Journals

| Sl. No | Name of the faculty | Journal Name  | ISSN No   | Title of the Paper   | Year of Publication                    |
|--------|---------------------|---|-----------|--|--|
| 1.     | Dr. M L Anitha      | International Journal of Computer Science and Mobile Computing                        | 2320-088X | iSmart Cyclist Jacket  | Vol.9, Issue.8, Aug-2020, pp.56-62     |
| 2.     |                     | International Journal for research in engineering application and management (IJREAM) | 2454-9150 | Survey on safety devices using IoT                                     | Vol.6, issue.1, pp450-453, April. 2020 |
| 3.     | M R Srinivasa       | Journal of Polymer and Composites   | 2321-2810 | Effect of shock Waves on the Hardness of Graphene Reinforced Aluminium | Vol.8, Issue.1, pp. 32-38, 2020        |

| Papers Published by Teaching Faculty in International Conferences & Journals |                      |  |                   |   |  |
|--|----------------------|--|-------------------|---|--|
| Sl. No   | Name of the faculty  | Journal Name   | ISSN No           | Title of the Paper  | Year of Publication                        |
|  |                      |  |                   | Composited  |  |
| 4.   | Geethanjali T M      | International Journal of Creative research Thoughts (IJCRT)  | 2320-2882         | Video games sales analysis: A Data Science approach   | Vol. 8, Issue.5, May 2020, pp.1334-1339    |
| 5.   |                      | International Journal for Scientific research & Development (IJSRD)  | 2321-0613         | Students Attendance Management System   | Vol. 8, Issue.1, 2020, pp.599-600          |
| 6.   | Dr. Mahesh Gowda N M | International journal for research in applied science and Engineering Technology (IJRASET)   | 2321-9653         | AXI2OCP Bridge Verification   | Vol.8, Issue.7, pp.1025-1040, July 2020    |
| 7.   | D M Srinivasa        | International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering                       | 2321-2004         | Fabrication of Bio-Battery for home automation  | Vol. 8, Issue.7, July 2020, pp.12-17       |
| 8.   |                      | Registration fee   |                   | Impact of Antioxidant and Degasification on a new liquid dielectric suitable for transformer application              |  |
| 9.   | Dr. S Ghanaraja      | International Research Journal of Modernization in Engineering technology and Science  | 2582-5208         | Fabrication and Study of Mechanical Properties of copper Oxide Reinforced Aluminium Based Metal Matrix Nano Composite | Vol. 2, Issue.2, Feb.2020, pp.1-14         |
| 10.  |                      |  | 2582-5208         | Fabrication of study of Mechanical Properties of Aluminium Alloy 6061 Reinforced with nano Zirconia                   | Vol. 2, Issue.7, Jul.2020, pp.1472-1482    |
| 11.  |                      |  | 2582-5208         | Fabrication of study of Mechanical Properties of Aluminium Alloy 1100 Reinforced with nano Titanium Carbide           | Vol. 02, Issue.07, July 2020, pp.1453-1460 |
| 12.  | Dr. Nayaka S R       | JCMCC  |                   | Pendant domination in graphs  | 2020, pp.219-229                           |
| 13.  |                      | JCMCC  |                   | Transversal total domination in graphs  | 2020, pp.231-240                           |
| 14.  | Dr. Puttaswamy       | American International Journal of research in science, technology engineering & Mathematics  | 2328-3491         | Minimum Pendant dominating energy of a graph  | 2019, pp.101-109                           |
| 15.  |                      |  | 2328-3580         | Extended results in pendant domination polynomial of a graph  | 2019, pp.69-72                             |
| 16.  |                      | Proceedings of the Jangjeon  |                   | Pendant Domination in double graphs   | No.2, 2020, pp. 223-230                    |
| 17.  |                      | Mathematical Combinatory the maids of Chines academy of Sciences and academy of Mathematical combinatory, applications, USA, June-2020 | 978-1-59973-661-7 | On Quotient Randic and sum-Connectivity Energy of Graphs  | Vol.2, 2020, pp.88-100                     |
| 18.  | Dr. Prasad M         | South East Asian Journal of Mathematics and Mathematical Sciences  | 2582-0850         | Congruences for (4,5) - Regular Bipartitions into Distinct Parts  | Vol. 16, No. 2. 2020 pp. 161-178           |
| 19.  |                      | Proceedings of the Jangjeon Mathematical   |                   | On (2,5) Regular Bipartitions with odd parts distinct   | No.3, 2020, pp361-375                      |

| Papers Published by Teaching Faculty in International Conferences & Journals |                      |   |           |   |  |
|--|----------------------|---|-----------|---|--|
| Sl. No   | Name of the faculty  | Journal Name  | ISSN No   | Title of the Paper  | Year of Publication                      |
|  |                      | Society   |           |   |  |
| 20.  | S K Uma              | International Journal of Computer Science and Mobile Computing                                  | 2320-088X | Innovative Approach to detect intruder in coconut and areca nut farmlands                   | Vol. 9, issue.4, April 2020, pp 1-6      |
| 21.  |                      | International Journal for research in applied science & Engineering technology (IJRASET)        | 2321-9653 | Smart Central-Service Monitoring system for Metropolitan city people                        | Vol.8, Issue.8, July 2020, pp 460-463    |
| 22.  | Dr. Nagarathna       | International Journal of Computer Science and Mobile Computing                                  | 2320-088X | Voice Pathology Classification system using machine learning                                | Vol. 9, Issue.5, May 2020, pp. 119-124   |
| 23.  |                      | International Journal of Computer Science and Engineering open Access                           | 2347-2693 | A Framework for classification of vocal disorders without clinical intervention             | vol. 8, issue.1, Jan 2020, pp70-73       |
| 24.  | Dr. Gopiya Naik      | International Journal of advanced research in electrical, electronics and instrumentation Engg. | 2320-3765 | Arduino based earthquake detector using accelerometer                                       | vol.9, no.7, July 2020, pp.2003.2008     |
| 25.  |                      | International Journal of Electrical, Electronics, Engineering                                   | 2348-8379 | Dual mode DC-DC power Converter for solar battery charger                                   | vol.7, no.7, July 2020, pp. 1-5          |
| 26.  | Dr. Punith Kumar M B | International research Journal of Engineering and technology (IRJET)                            | 2395-0056 | Implementation of smart anti - theft vehicles Security system using IoT                     | Vol.7, June 2020, pp.459-468             |
| 27.  |                      |   | 2395-0056 | Internet of things based smart energy meter   | Vol. 7, June 2020, pp 472-483            |
| 28.  |                      | International Journal of Engineering research and technology (IJERT)                            | 2278-0181 | Brainwave Controlled automated wheelchair   | Vol. 8, issue. 13, June 2020, pp 223-225 |
| 29.  |                      | International Journal of Image Graphics and Signal Processing (IJIGSP)                          | 2074-9074 | Automated Quality Inspection of PCB Assembly Using Image Processing                         | Vol. 12, No.3, Jan.2020, pp.13-19        |
| 30.  | Veena M              | International Journal of Innovative and Exploring Engineering (IJITEE)                          | 2278-3075 | Techniques for extracting region of interest breast cancer                                  | Vol.9, issue.2S, Dec 2019, pp.605-607    |
| 31.  | Sahana Raj B S       | International Journal of Engineering research & Technology (IJERT)                              | 2278-0181 | Paddy crop disease detection using machine learning   | vol.8, Issue.13, June 2020, pp 223-225   |
| 32.  |                      | International Journal for research in applied science & Engineering Technology (IJRASET)        | 2321-9653 | An efficient Method for secure access of HER  | vol. 45, Issue.8, Aug 2020, pp. 156-161  |
| 33.  | Dr. M C Padma        | International Journal of recent Technology Engineering (IJRET)                                  | 2277-3878 | Intensity weight factor based sentiment prediction analysis on Tweets                       | Vol. 8, issue.5, Jan 2020, pp.720-726    |
| 34.  |                      | International Journal of computer science and mobile computing IJCSMC                           | 2320-0881 | Efficiently analyzing and detecting reviews through opinion mining                          | Vol. 9, issue.7, July 2020, pp. 97-108   |
| 35.  | Kodandarama          | Journal of advancements in Library Sciences   | 2349-4352 | Adoption of Policies and Procedures to curb plagiarism at PES College of Engineering Mandya | Vol.7, no. 1, 2020, pp.100-104           |
| 36.  | Dr. S V Anil Kumar   | International Journal of Material Sciences and Technology                                       | 2249-3077 | Process Parameters inert gas welding of Mild steel by using taguchi technique-A Review      | Vol. 10, No. 1, 2020, pp. 1-14           |
| 37.  | H C Chowde           | International research  | 2395-0056 | Performance study of  | Vol.6,issue.3,                           |

| Papers Published by Teaching Faculty in International Conferences & Journals |                       |  |           |   |  |
|--|-----------------------|--|-----------|---|--|
| Sl. No   | Name of the faculty   | Journal Name   | ISSN No   | Title of the Paper  | Year of Publication                            |
| 38.  | Gowda                 | Journal of Engineering and technology (IRJET)                              |           | Modeling Urban traffic air Pollution Dispersion   | Mar 2019, 2320-2323                            |
|  |                       |  | 2277-3878 | Wind tunnel experimental examination of vehicular emission dispersion for single storied inline and staggered building configurations under wake interference flow regime       | Vol. 8, issue. 6, Mar 2020, pp. 5102-5105      |
|  |                       | International research Journal of Engineering and technology (IRJET)       | 2395-0056 | Study of performance analysis of wind tunnel simulation of pollutant dispersion relating street canyon  | Vol. 5, issue. 2, Feb 2018, pp.333-335         |
| 40.  | H L Shilpa            | Evolutionary Computing and mobile sustainable networks                     | 2367-4512 | Cluster-Based Prediction of air quality Index   | Vol. 53, pp.899-915, Aug. 2020                 |
| 41.  | Dr. M Sadashiva       | TEST Engineering & Management  | 0193-4120 | Evaluation of toughness properties of aluminium based metal matrix hybrid composites joined by solid state welding  | Vol. 83, June 2020, pp. 9859-9865              |
| 42.  | Dr. B Shanmukha       | Malaya Journal of Matematik  |           | Stability and control analysis of zika virus with saturated incidence rate  | Vol. 8, No. 2, 2020, pp. 331.342               |
| 43.  |                       | Journal of computer and mathematical Sciences                              | 2319-8133 | The cototal Hub Number in Graphs  | ISSN.0976-5727, Vol. 10(7), 2019, pp.1512-1517 |
| 44.  | Dr. H V Ravindra      | International Mechanical Engineering Congress and Exposition (IMECE-2020)  |           | Assessment of Weld bead performance for pulsed gas metal arc welding (P-GMAW) using Acoustic emission (AE) and Machine vision (MV) signals through NDT methods for 304 material | Nov. 2020, USA, pp.1-8                         |
| 45.  |                       |  |           | Effect of wire electrode materials on performance characteristics for wire electrical discharge machining of metal matrix composite material                                    | Nov. 2020, USA, pp.1-5                         |
| 46.  |                       |  |           | Machining characteristics estimation in WEDM Process while machining titanium grade-2 Material using ANN  | Nov. 2020, USA, pp.1-7                         |
| 47.  |                       |  |           | Estimation and comparison of machining performances using group method data handling technique and ANN in wire EDM of stavax material   | Nov. 2020, USA, pp.1-7                         |
| 48.  | Dr. Parthasarathy S S | International Journal of Innovative Technology and Exploring Engg (IJITEE) | 2278-3075 | Alzheimer Disease Detection and Classification using probabilistic principal component analysis and long short-term memory classifier   | Vol.9, Issue.3, Jan.2020, pp.868-877           |
| 49.  | Mahesh Kumar A S      | International Journal of Information Technology                            |           | Segmentation of tibia femoral bone using graph cut method and 3D rendering for FEA  | 20 July 2020,                                  |

| Papers Published by Teaching Faculty in International Conferences & Journals |                       |   |           |  |   |
|--|-----------------------|---|-----------|--|---|
| Sl. No   | Name of the faculty   | Journal Name  | ISSN No   | Title of the Paper   | Year of Publication                       |
| 50.  | Veena M               | Journal of Critical Reviews   | 2394-5125 | Detection of Region of Interest and stages using Digital Breast Tomosynthesis Image  | Vol.7, Issue. 15, 2020, pp. 3682-3689     |
| 51.  | Dr. H M Nanjundaswamy | International Journal of Mechanical and Production Engineering                              | 2320-2092 | Effect of sized TiO <sub>2</sub> Particles on the wear Behaviour of Aluminium composites synthesized by stir casting method            | Vol.7, issue.9, 2019, pp.53-58            |
| 52.  | Lakshmi P S           | International Journal of Engineering Research in Mechanical and civil Engineering (IJERMCE) | 2456-1290 | Experimental Investigation of sugarcane bagasse ash value added material on strength of masonry prism                                  | Vol. 5, Issue. 8, Aug 2020, pp. 1-7       |
| 53.  | Naveen Kumar S        | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056 | Study of Strength and durability of steel mesh reinforced concrete with steel slag and copper slag as value added material in concrete | Vol. 7, Issue. 8, Aug 2020, pp. 1-8       |
| 54.  | Rashmi M P            | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056 | An Experimental study on Bacterial concrete using bacillus subtilis and bacillus Megaterium  | Vol. 7, Issue. 8, Aug 2020, pp.4274-4283  |
| 55.  | Ashwini B             | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056 | Design of Water Supply Distribution network using Epanet software - A Case study of VV Nagar Mandya                                    | Vol. 7, Issue. 8, Aug 2020, pp. 3286-3291 |
| 56.  |                       |   | 2395-0056 | Design of Water Supply Distribution network using Epanet software - A Case study of Kuvempu Nagar Mandya                               | Vol. 7, Issue. 8, Aug 2020, 1582-1587     |
| 57.  | Santhosh Babu K C     | International Journal of latest trends in Engg and technology (IJLTET) UGC Journal          | 2278-621X | Gabor Filter Using Vedic Mathematics   | Vol. 16, Issue. 1, July 2020, pp. 69-73   |
| 58.  | Dr. Ajith Prasad S L  | International Research Journal of Engineering & Technology (IRJET)                          | 2395-0056 | Identification of Pitting defect in a gearbox having 20mncr5 gear through vibration analysis   | Vol. 7, Issue. 8, Aug 2020, pp.1-6        |
| 59.  |                       | International Research Journal of Engineering & Technology (IRJET)                          | 2395-0056 | Detection and identification of gear teeth damage through sound and vibration signal analysis of au tempered ductile iron gear         | Vol. 7, Issue. 8, Aug 2020, pp.1-6        |
| 60.  |                       | Research and development in Machine design, HBRP Publication                                |           | Vibrational and noise signal analysis to detect the gear teeth damage in A Gear box with au tempered ductile iron as gear material     | vol. 3, Issue.2, 2020, pp. 1-9            |
| 61.  |                       | International Research Journal of Engineering & Technology (IRJET)                          | 2395-0056 | Vibrational and noise signal analysis of Gearbox having Delrina gear with broken teeth defect  | Vol. 7, Issue.8, Aug.2020, pp. 1-7        |
| 62.  |                       | Research and development in Machine design, HBRP Publication                                |           | Fault diagnosis of gearbox having Delrina gear by vibration and noise signal analysis  | vol. 3, Issue.2, 2020, pp. 1-8            |
| 63.  | Veena M               | Journal of Critical Reviews   | 2394-5125 | Detection of Region of Interest and stages using Digital Breast Tomosynthesis Image  | Vol.7, Issue. 15, 2020, pp. 3682-3689     |
| 64.  | Sumanth S             | International Journal for research in applied   | 2321-9653 | A 8 Bit ALU Design using Cadence   | Vol. 8, Issue. 8, Aug 2020,               |

| Papers Published by Teaching Faculty in International Conferences & Journals |                     |   |                                  |  |   |
|--|---------------------|---|----------------------------------|--|---|
| Sl. No   | Name of the faculty | Journal Name  | ISSN No                          | Title of the Paper   | Year of Publication                         |
|  |                     | science & Engineering Technology (IJRASET)  |                                  |  | pp.162-182                                  |
| 65.  | Dr. S Ghanaraja     | Studies in Indian Place Names (UGC Care journal)  | 2394-3114                        | Fabrication and Study of Mechanical Properties of Al 6061-B4C Metal Matrix Composites  | Vol. 40, Issue.71, March 2020, pp. 737-742  |
| 66.  | Dr. Gurupavan. H R  | International Research Journal of Engineering & Technology                                  | 2395-0056                        | Effect of Various wire Electrode Materials on the Performance of wire electrical discharge Machining of Al/SiC Composite Material      | Vol. 7, Issue. 7, July 2020, pp.1484-1488   |
| 67.  |                     | International Research Journal of Engineering & Technology                                  | 2395-0072                        | Experimental Investigation of Machining Performance of A16061/SiC metal matrix Composite through wire EDM                              | Vol. 7, Issue. 7, July 2020, pp.1335-1340   |
| 68.  | Dr. Sadashiva M     | American Institute of Physics (AIP)   | AIP Conf.2274, 030041-1-030041-5 | Characteristic evaluation of tensile properties of Hybrid bio composites with different orientation of fibers                          | 2020, pp. 1-5                               |
| 69.  | Srinivasa M R       | American Institute of Physics (AIP)   | AIP Conf.2274, 030040-1-030040-7 | Analysis of Mechanical Properties of Graphene Reinforced Aluminum Composites treated with shock waves                                  | 2020, pp. 1-7                               |
| 70.  |                     | International Research Journal of Engineering & Technology (IRJET)                          | 2395-0072                        | Analysis of Shock waves treated aluminium 2024 Reinforced with graphite  | Vol. 07, Issue. 08, Aug. 2020, pp.2954-2960 |
| 71.  |                     | International Journal of advances in Engineering & Management (IJAEM)                       | 2395-5252                        | Experimental analysis of fatigue behaviour of Aluminium 2024 reinforced with graphite  | Vol. 02, Issue. 05, Aug. 2020, pp.145-151   |
| 72.  | Lakshmi P S         | International Journal of Engineering Research in Mechanical and civil Engineering (IJERMCE) | 2456-1290                        | Experimental Investigation of sugarcane bagasse ash value added material on strength of masonry prism                                  | Vol. 5, Issue. 8, Aug 2020, pp. 1-7         |
| 73.  | Naveen Kumar S      | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056                        | Study of Strength and durability of steel mesh reinforced concrete with steel slag and copper slag as value added material in concrete | Vol. 7, Issue. 8, Aug 2020, pp. 1-8         |
| 74.  | Rashmi M P          | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056                        | An Experimental study on Bacterial concrete using bacillus subtilis and bacillus Megaterium  | Vol. 7, Issue. 8, Aug 2020, pp.4274-4283    |
| 75.  | Ashwini B           | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056                        | Design of Water Supply Distribution network using Epanet software - A Case study of VV Nagar Mandya                                    | Vol. 7, Issue. 8, Aug 2020, pp. 3286-3291   |
| 76.  |                     | International Research Journal of Engineering and technology (IRJET)                        | 2395-0056                        | Design of Water Supply Distribution network using Epanet software - A Case study of Kuvempu Nagar Mandya                               | Vol. 7, Issue. 8, Aug 2020, 1582-1587       |
| 77.  | Santhosh Babu K C   | International Journal of latest trends in Engg and technology (IJLTET) UGC Journal          | 2278-621X                        | Gabor Filter Using Vedic Mathematics   | Vol. 16, Issue. 1, July 2020, pp. 69-73     |

| Papers Published by Teaching Faculty in International Conferences & Journals |                      |  |                                  |  |   |
|--|----------------------|--|----------------------------------|--|---|
| Sl. No   | Name of the faculty  | Journal Name   | ISSN No                          | Title of the Paper   | Year of Publication                         |
| 78.  | Mahesh Kumar K M     | IEEE Proceedings of the international conference on smart Electronics and communication (ICOSEC 2020)                                  | ISBN: 978-1-7281-54602           | Analysis of phase Resolved partial discharge patterns of kraft paper Insulation impregnated in transformer mineral oil   | pp. 1158-1163                               |
| 79.  | Chowdegowda H C      | International Journal on Emerging Technologies   | 0975-8364                        | Wind tunnel experimental study of Vehicular emission dispersion for double storied inline and staggered building configuration under wake interference flow regime | 2020, pp.388-392                            |
| 80.  |                      | Journal of Critical Reviews  | 2394-5125                        | study of dispersion concentration with downwind distance for single storied & doubles storied building configuration in wind tunnel                                | Vo.7, issue 14, 2020, pp.2634-2641          |
| 81.  |                      | National Conference on New generation concrete and its application (NGCA-19)   |                                  | Performance study of Modelling urban traffic air pollution dispersion  |   |
| 82.  | Raghavendra Babu T M | International Journal for Research in Engineering, application and Management (IJREAM)   | 2454-9150                        | Smart intelligent areca nut and coconut theft detection  | Vol. 6, issue.2, May 2020, pp-291-294       |
| 83.  | Dr. Puttaswamy       | Mathematical Combinatory (International book series) the Madis of sciences and academy of mathematical combinatorics & Application USA | 1937-1055                        | On Skew-Quotient of Randic and Sum connectivity Energy of digraphs   | Vol. 3, pp.69-82, Sept. 2020                |
| 84.  | Mahesh Kumar K M     | IEEE Proceedings of the international conference on smart Electronics and communication (ICOSEC 2020),                                 | ISBN: 978-1-7281-54602           | Analysis of phase Resolved partial discharge patterns of Kraft paper Insulation impregnated in transformer mineral oil   | pp. 1158-1163                               |
| 85.  | Dr. Gurupavan H R    | International Research Journal of Engineering & Technology   | 2395-0056                        | Effect of Various wire Electrode Materials on the Performance of wire electrical discharge Machining of Al/SiC Composite Material                                  | Vol. 7, Issue. 7, July 2020, pp.1484-1488   |
| 86.  |                      | International Research Journal of Engineering & Technology   | 2395-0072                        | Experimental Investigation of Machining Performance of A16061/SiC metal matrix Composite through wire EDM  | Vol. 7, Issue. 7, July 2020, pp.1335-1340   |
| 87.  | Dr. Sadashiva M      | American Institute of Physics (AIP)  | AIP Conf.2274, 030041-1-030041-5 | Characteristic evaluation of tensile properties of Hybrid bio composites with different orientation of fibers  | 2020, pp. 1-5                               |
| 88.  | Srinivasa M R        | American Institute of Physics (AIP)  | AIP Conf.2274, 030040-1-030040-7 | Analysis of Mechanical Properties of Grapheme Reinforced Aluminium Composites treated with shock waves   | 2020, pp. 1-7                               |
| 89.  |                      | International Research Journal of Engineering & Technology (IRJET)   | 2395-0072                        | Analysis of Shock waves treated aluminium 2024 Reinforced with graphite  | Vol. 07, Issue. 08, Aug. 2020, pp.2954-2960 |
| 90.  |                      | International Journal of advances in Engineering & Management (IJAEM)  | 2395-5252                        | Experimental analysis of fatigue behaviour of Aluminium 2024 reinforced with graphite  | Vol. 02, Issue. 05, Aug. 2020, pp.145-151   |
| 91.  | Veena M              | Journal of Critical Reviews  | 2394-5125                        | Detection of Region of Interest and stages using Digital Breast Tomosynthesis Image  | Vol.7, Issue. 15, 2020, pp. 3682-3689       |
| 92.  | Lakshmi P S          | International Journal of Engineering Research in Mechanical and civil  | 2456-1290                        | Experimental Investigation of sugarcane bagasse ash as value added material on   | Vol. 5, Issue. 8, Aug 2020, pp. 1-7         |

| Papers Published by Teaching Faculty in International Conferences & Journals |                     |  |           |  |  |
|--|---------------------|--|-----------|--|--|
| Sl. No   | Name of the faculty | Journal Name   | ISSN No   | Title of the Paper   | Year of Publication                        |
|  |                     | Engineering (IJERMCE)  |           | strength of masonry prism  |  |
| 93.  | Naveen Kumar S      | International Research Journal of Engineering and technology (IRJET)                     | 2395-0056 | Study of Strength and durability of steel mesh reinforced concrete with steel slag and copper slag as value added material in concrete | Vol. 7, Issue. 8, Aug 2020, pp. 1-8        |
| 94.  | Rashmi M P          | International Research Journal of Engineering and technology (IRJET)                     | 2395-0056 | An Experimental study on Bacterial concrete using bacillus subtilis and bacillus Megaterium  | Vol. 7, Issue. 8, Aug 2020, pp.4274-4283   |
| 95.  | Ashwini B           | International Research Journal of Engineering and technology (IRJET)                     | 2395-0056 | Design of Water Supply Distribution network using Epanet software - A Case study of VV Nagar Mandya                                    | Vol. 7, Issue. 8, Aug 2020, pp. 3286-3291  |
| 96.  |                     | International Research Journal of Engineering and technology (IRJET)                     | 2395-0056 | Design of Water Supply Distribution network using Epanet software - A Case study of Kuvempu Nagar Mandya                               | Vol. 7, Issue. 8, Aug 2020, 1582-1587      |
| 97.  | Santhosh Babu K C   | International Journal of latest trends in Engg and technology (IJLTET) UGC Journal       | 2278-621X | Gabor Filter Using Vedic Mathematics   | Vol. 16, Issue. 1, July 2020, pp. 69-73    |
| 98.  | Sumanth S           | International Journal for research in applied science & Engineering Technology (IJRASET) | 2321-9653 | A 8 Bit ALU Design using Cadence   | Vol. 8, Issue. 8, Aug 2020, pp.162-182     |
| 99.  | Dr. Vinay s         | International research journal of Engineering and technology (IRJET)                     | 2395-0056 | A Credibility analysis system for assessing information on social media  | Vol. 7, No, 5, May 2020, pp. 4136-4142     |
| 100.   | Dr. S Ghanaraja     | Studies in Indian Place Names (UGC Care journal)   | 2394-3114 | Fabrication and Study of Mechanical Properties of Al 6061-B4C Metal Matrix Composites  | Vol. 40, Issue.71, March 2020, pp. 737-742 |
| 101.   | Kodandarama         | Journal of advancements in Library Sciences  | 2349-4352 | Adoption of Policies and Procedures to curb plagiarism at PES College of Eng Mandya  | Vol.7, no. 1, 2020, pp.100-104             |
| 102.   | Dr. Anand M J       | International research journal of Engineering and technology (IRJET)                     | 2395-0056 | Development of prototype E-nose to detect the ripening stages of fruits and vegetables using machine learning algorithm                | Vol. 7, no. 7, July-2020, pp. 4234-4238    |
| 103.   |                     | International research journal of Engineering and technology (IRJET)                     | 2395-0056 | IOT based diabetics detection using machine learning algorithms  | Vol.7, June-2020, pp.469-471               |
| 104.   | H R Divakar         | Dogo Rangsang research Journal   | 2347-7180 | An Ontology based system to predict diabetes using deep learning   | Vol. 10, Issue 8, Aug 2020, pp.54-61       |
| 105.   |                     | Aegaeum Journal  | 0776-3808 | Machine Learning approaches to predict diabetes mellitus A Survey  | Vol. 8, Issue 9, Sept. 2020, pp. 548-554   |
| 106.   |                     | GIS Science Journal  | 1869-9391 | Heart Disease prediction by using machine learning algorithm   | Vol. 7, Issue 11, Nov.2020, pp. 107-116    |
| 107.   | Dr. Puttaswamy      | International Journal of Mathematics and its applications                                | 2347-1557 | Isolated Domination Polynomial of a Graph  | April 2020, pp.69-73                       |
| 108.   | Dr. Nayaka S R      | International Journal of Mathematics and its applications                                | 2347-1557 | Pendant Edge Domination in Graphs  | April 2020, pp.91-94                       |
| 109.   | Dr. Mahesh Kaluti   | International Journal of Engineering and advanced Technology (IJEAT)                     | 2249-8958 | E-Governance for Public Administration   | Vol.10, Issue. 10, 2020, pp.1-3            |
| 110.   |                     | 2nd International Conference on Inventive  | 2249-8958 | Transformation of Governance through   | July.2020, pp.1-5                          |

| Papers Published by Teaching Faculty in International Conferences & Journals |                       |   |                               |  |  |
|--|-----------------------|---|-------------------------------|--|--|
| Sl. No   | Name of the faculty   | Journal Name  | ISSN No                       | Title of the Paper   | Year of Publication                    |
|  |                       | research in computing application (IICIRCA)   |                               | information technology by cloud computing  |  |
| 111.   | Dr. Punith Kumar M B  | International Journal of Wireless and Microwave Technologies                                | 2076-1449                     | Virobot the artificial assistant nurse for health monitoring telemedicine and sterilization through the internet | Vol. 10, No. 6, Dec. 2020, pp. 16-26   |
| 112.   |                       | Patent publication  | Application no. 2020 41051571 | Design and Development of soil Inspection robot for Agricultural Fields  |  |
| 113.   | Dr. Prasad M          | International Journal   |                               | On 5 regular bipartitions into distinct parts  | 2020, pp. 1-11                         |
| 114.   | Dr. Sadashiva M       | Advances in applied ceramics, published by Taylor & Francis, Impact Factor 1.669, Q Journal |                               | Zirconia as a Biocompatible biomaterial used in dental implants  | Vol. 119, Issue. 8, Dec. 2020, pp. 1-6 |
| 115.   | Dr. Rudreshi Addamani | Registration Fee  |                               | Non - Destructive Testing 2020   |  |

## VI. Publication of Research Papers (SCOPUS)

| Publication of Research Papers (SCOPUS) |                       |   |   |         |   |
|---|-----------------------|---|---|---------|---|
| Sl. No.                                 | Name of Author        | Title of paper  | Type  | Dept.   | Source Name                                       |
| 1.                                      | Dr. H V Ravindra      | Test Engineering & Management   | Does Training Development Impacts Employee Engagement   | Mech    | Vol. 83, 0193-4120, Mar 2020, pp.19407-19411      |
| 2.                                      |                       | UGC care Journal  | Employee Engineering - Impact of Demographic Variables in India IT Sector   |         | 09712143, Vol. 31, Issue.32, May 2020, pp.136-142 |
| 3.                                      | De. Parthasarathy S S | International Journal Scientific & Technology Research  | Numerical simulation of a highly Maneuvering Target in 2D using the Bayesian framework  | ECE     | Vol. 9, Issue.02, Feb.2020, pp.3262-3269          |
| 4.                                      | Dr. B S Shivakumar    | International Journal of Mechanical and production engineering research and development (IJMPERD) | Impact of Buffer distribution in precision manufacturing processes through simulation methods   | IP      | Vol. 10, Issue.2, April2020, pp. 659-668          |
| 5.                                      | Dr. Mahesh Gowda N M  | Journal of Seybold report   | Boost DC-DC switching power converter in FCCM and CCM of operation and its efficiency performance   | ECE     | Vol. 15, issue.7, pp.1056-1062, July 2020         |
| 6.                                      | Dr. A S Mahesh        | International Journal of Psychosocial Rehabilitation  | Career management in manufacturing sector with reference to select industries in Mysore District-Karnataka  | MBA     | 1475-7192, Vol. 24, Issue.06, 2020                |
| 7.                                      | Kodandarama           | Library Philosophy and Practice   | Citation analysis of research paper of faculty and research scholars of university of Mysore to assess the individual's research productivity and impact of authors | Library | 1522-0222   |
| 8.                                      |                       | Library Philosophy and Practice   | Techniques used by post graduate students to reduce the rate of similarity a study  |         | 1522-0222   |
| 9.                                      | Mahesh Kumar A S      | International Journal of Psychosocial Rehabilitation  | Detection of rheumatoid Arthritis using image processing techniques   | ECE     | 1475-7192, Vol.24, Issue.02, 2020, pp.4714-4724   |
| 10.                                     | S Naveen Kumar        | International Journal of advanced Science and technology  | Experimental study of concrete with steel mesh as reinforcement and value added materials   | Civil   | vol. 29. no. 8, 2020, pp.2033-2044                |

| Publication of Research Papers (SCOPUS) |                       |   |  |           |   |
|---|-----------------------|---|--|-----------|---|
| Sl. No.                                 | Name of Author        | Title of paper  | Type   | Dept.     | Source Name   |
| 11.                                     | Shambhavi S           | International Journal of advanced Science and technology (IJAST)                                  | An Experimental study on the reduction of temperature of cool pavement specimens (IJAST)   | Civil     | Vol. 29, no. 8, 2020, pp. 2007-2019                   |
| 12.                                     | H C Chowdegowda       | International Journal of advanced Science and technology (IJAST)                                  | Indoor air quality Monitoring at rural areas of Mandya district  | Civil     | vol. 29, no. 8, 2020, pp. 1948-1956                   |
| 13.                                     |                       |   | Household cooking emissions monitoring at mikkere village in Mandya district   |           | vol. 29, no. 08, 2020, pp 1989-1993                   |
| 14.                                     | Abhishek G B          | International Journal of advanced Science and technology (IJAST)                                  | Experimental study Ferro-cement with Coir Fibers   | Civil     | vol. 29, no. 8, 2020, 2020-2032                       |
| 15.                                     | Dr. Prashanth P       | International Journal of advanced Science and technology  | In vitro antibacterial and anticancer response of MgO nanoparticles prepared by solution combustion synthesis  | Chemistry | Vol. 29, No. 8, 2020 pp3668-3677                      |
| 16.                                     |                       |   | In vitro antibacterial and anticancer and cytotoxicity response of CuO nanoparticles prepared by lemon juice and citric acid fuelled solution combustion synthesis |           | vol. 29. no.8, 2020, pp 3678-3690                     |
| 17.                                     | Dr. B Shanmukha       | Applied Mathematics & Information Sciences an International Journal                               | Modeling and analysis of symptomatic and asymptomatic infections of zika virus disease with Non-Monotonic Incidence rate   | Maths     | Vol.14, no. 4, 2020, pp. 655-671                      |
| 18.                                     | M Revanesh            | SCI (web of Science) Indexed Wireless personal communication                                      | Secure coronas based zone clustering and routing model for distributed wireless sensor Networks  | ECE       | Vol.112, issue.3, 2020, pp. 1829-1857                 |
| 19.                                     | Dr. H M Nanjundaswamy | International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) | Microstructure and dry sliding wear behaviour of LM6 alloy Solidified under the Influence of Low Frequency mold vibration  | IPE       | ISSN. 2249-6890, Vol. 10, Issue.2, Apr. 2020, 411-420 |
| 20.                                     |                       | Journal of Critical reviews   | study of dry sliding wear behaviour of eutectic aluminium-silicon alloy solidified under the influence of mechanical mold vibration                                |           | ISSN. 2394-5125 Vol.7, Issue 14, 2020, pp. 2622-2625  |
| 21.                                     | Mahesh Kumar K M      | TEST Engineering & Management   | Calibration of Partial Discharge Measuring system be a reference square Wave   | EE        | ISSN. 0193-4120, pp. 16276-16281, Jan 2020            |
| 22.                                     |                       | International Journal of Advanced Science and Technology  | Design of Matching Impedance and Amphfier circuit for partial discharge measurement  |           | Vol. 29, issue. 7, 2020, pp. 2020-2026                |
| 23.                                     | Dr. Mahendra Babu K J | International Journal of Advanced Science and Technology  | Numerical Assessment of Noise Generated by Flow through Multi Hole Plate   | ME        | Vol. 29, no6, pp. 4081-4087                           |
| 24.                                     | D M Srinivas          | ASTES Journal   | Investigation of dielectric properties of indigenous blended ester oil for electric system applications  | EE        | ISSN. 2415-6698, Vol. 5, issue.5, pp.669-673          |
| 25.                                     | Mahesh Kumar K M      | TEST Engineering & Management   | Calibration of Partial Discharge Measuring system be a reference square Wave   | CS        | ISSN. 0193-4120, pp. 16276-16281, Jan 2020            |
| 26.                                     |                       | International Journal of Advanced Science and Technology  | Design of Matching Impedance and Amphfier circuit for partial discharge measurement  |           | Vol. 29, issue. 7, 2020, pp. 2020-2026                |
| 27.                                     | Shambhavi S           | International Journal of advanced Science and technology (IJAST)                                  | An Experimental study on the reduction of temperature of cool pavement specimens (IJAST)   | CV        | Vol. 29, no. 8, 2020, pp. 2007-2019                   |
| 28.                                     | Kodandarama           | Library Philosophy and Practice   | Citation analysis of research paper of faculty and research scholars of university of Mysore to assess the   | Library   | 2020, pp.1522-0222                                    |

| Publication of Research Papers (SCOPUS) |                       |  |   |       |   |
|---|-----------------------|--|---|-------|---|
| Sl. No.                                 | Name of Author        | Title of paper   | Type  | Dept. | Source Name   |
|   |                       |  | individual's research productivity and impact of authors  |       |   |
| 29.                                     |                       | Library Philosophy and Practice  | Techniques used by post graduate students to reduce the rate of similarity a study  |       | 2020, pp.1522-0222  |
| 30.                                     |                       | International Journal of Library and Information Studies   | A Citation analysis of chemistry publications by faculty members and research scholars of University of Mysore & Karnataka University |       |   |
| 31.                                     |                       | International Journal of Library and Information Studies   | A Citation analysis of physics research publications of University of Mysore  |       | ISSN. 2231-4911, Vol. 10, Jul-2020, pp.207-216              |
| 32.                                     |                       | Journal of advances in Library and Information Studies   | Plagarism: Causes and Deterrence  |       | ISSN. 2277-2219, Vol. 9, 2020, pp. 109-115                  |
| 33.                                     | Dr. Vinay S           | Springer Cybersecurity   | Development of anti-phishing browser based on random forest and rule of extraction framework  | IS    | ISSN. 2523-3246 Vol. 3, Oct. 2020, pp. 1-14                 |
| 34.                                     | Dr. Parthasarathy S S | International Journal of Innovative Technology and Exploring Engineering (IJITEE)                | Alzheimer Disease Detection and Classification using probabilistic principal component analysis and long short-term memory classifier | EE    | Vol.9, Issue.3, Jan.2020, pp.868-877                        |
| 35.                                     |                       | International Journal Scientific & Technology Research   | Numerical simulation of a highly Maneuvering Target in 2D using the Bayesian framework  |       | Vol. 9, Issue.02, Feb.2020, pp.3262-3269                    |
| 36.                                     | Dr. B S Shivakumar    | International Journal of Mechanical and production engineering research and development (JMPERD) | Impact of Buffer distribution in precision manufacturing processes through simulation methods   | IP    | Vol. 10, Issue.2, April-2020, pp. 659-668                   |
| 37.                                     | Dr. Mahendra Babu K J | International Journal of Advanced Science and Technology   | Numerical Assessment of Noise Generated by Flow through Multi Hole Plate  | ME    | Vol. 29, no.6, pp. 4081-4087                                |
| 38.                                     | Srinivasa M R         | International Journal + Advanced Science and Technology  | Analysis on wear properties of Graphene Hydroxyl reinforced aluminum composites   | ME    | ISSN. 2005-4238, Vol. 29, No.6, 2020, pp. 4162-4168         |
| 39.                                     | Dr. Rudresh Addamani  | Journal of critical reviews  | Estimation and comparison of welding performances for ASTM A 106 material in P-GMA w using GMDH and ANN                               | ME    | ISSN. 2394-5125, Vol. 7, issue.14, July 2020, pp. 2606-2613 |
| 40.                                     |                       | TEST Engineering & Management  | Evaluation of weld bead mechanical properties using image processing during destructive testing by multivision technique              |       | ISSN. 0193-4120, Vol.83, July 2020, pp.20-205               |
| 41.                                     | Dr. S V Anil Kumar    | Indian Journal of Engineering and Materials sciences published by CSIR-NISCAIR                   | Study on microstructure Mechanical properties of Ti-63Al-4Al brazed joint with low temperature filler metal                           | ME    | Vol. 27 June 2020, pp-730-736                               |
| 42.                                     | Dr. Sadashiva M       | TEST Engineering & Management  | Evaluation of Toughness Properties of Aluminium based metal matrix Hybrid composites joined by solid state welding                    | ME    | Vol. 83, pp.9859-9865, June 2020                            |
| 43.                                     | D M Srinivas          | European Journal of Molecular & Clinical Medicine  | Impact Of antioxidant and degasification an a new liquid dielectric suitable for transformer applications                             | E&EE  | ISSN. 2515-8260, Vol. 7, Issue. 8, 2020, pp.2634-2641       |
| 44.                                     | Veena M               | Journal of Computational and Theoretical Nano-science  | Fusion Techniques for the breast cancer Detection   | CS    | ISSN. 1546-1955, Vol. 17, Sept./Oct. 2020, pp.4083-4087     |
| 45.                                     | Dr. Nayaka S R        | Journal of Combinatorial Mathematics & Combinatorial Computing                                   | Pendent Domination in Graph   | Maths | ISSN. 0835-3026, 2020, pp.219-229                           |
| 46.                                     |                       | Journal of Combinatorial Mathematics & Combinatorial Computing                                   | Transversal total Domination in Graphs  |       | ISSN. 0835-3026, 2020, pp. 231-240                          |

## VII. Ph.D. Awardees

P.E.S. Research center Encourages Faculty Members Pertaining to different disciplines to take up research work under the able guidance of Professors Registered as guides under VTU Belagavi and other Universities. Our research center has ample number of research supervisors who could cater to the need of the research center. Faculty members from various disciplines pursued research under P.E.S. research center and been awarded Ph.D. degree for Basic Sciences & Engineering disciplines.



**Dr. Ashok Kumar M S**  
Asst. Prof. ME

Dayananda Sagar  
Academy of Technology &  
Management, Bangalore

### EXPERIMENTAL INVESTIGATIONS ON THE INFLUENCE OF SECONDARY PROCESSING PARAMETERS ON THE MECHANICAL AND TRIBOLOGICAL CHARACTERISTICS OF AL - AL<sub>2</sub>O<sub>3</sub> HYBRID MMCs

Registration for PhD on Oct 2012  
University /Branch: VTU, Mechanical Engg.  
Award of P.hD Degree: June 2020



**Dr. Ajit Prasad.S.L**  
Dean Research,

PESCE,  
Mandya -571401

**Abstract:** Many of the components made out of MMCs are operated in applications, where they are subjected to relative sliding and rolling motion with respect to the surfaces of the mating components. The friction and wear Characteristics of these components are important with respect to the efficiency, maintenance, operating cost and life of the total system. In this present research work Al-Al<sub>2</sub>O<sub>3</sub> MMC material has been selected to study the Structural and wear Characteristics of the processed material under varying processing and operating parameters. Composite materials containing hybrid reinforcements (Al<sub>2</sub>O<sub>3</sub> and MoS<sub>2</sub>) are processed by stir casting process and are extruded at varying extrusion ratios. The casted and the extruded materials are subjected to tribological test to evaluate the wear properties. The data obtained from the wear study are collected to develop a mathematical model for predicting the wear. Among the available mathematical model Regression analysis is the one used as predictive modelling technique which investigates the relationship between a dependent (target) and independent variable (s) (predictor). This technique is used for forecasting, time series modelling and finding the causal effect relationship between the variables.



**Dr. Mohanakumara K C**  
Asst. Prof. ME

ATME college of Engg.  
Mysuru 570028

### STUDY OF MECHANICAL AND TRIBOLOGICAL CHARACTERISTICS OF AS-CAST AND EXTRUDED AL- SiCP METAL MATRIX COMPOSITES

Registration for PhD on Dec 2012  
University /Branch: VTU, Mechanical Engg.  
Award of P.hD. Degree: June 2020



**Dr. Ajit Prasad.S.L**  
Dean Research,

PESCE,  
Mandya -571401

**Abstract:** Composite materials are increasingly replacing traditional engineering materials because of their advantages over monolithic materials. The development of metal matrix composites has been one of the major innovations in the materials technology in recent times. Aluminium is the most popular matrix for the metal matrix composites. The aluminium alloys are quite attractive due to their low density, their capability to be strengthened by precipitation, their good corrosion resistance, high thermal and electrical conductivity, and their high vibration damping capacity. In view of increased applications of composite materials in tribological components, their characterization takes significance. Among the various techniques available, Liquid stir cast technique is found to be economical and easier in processing MMCs. One of the main drawbacks associated with primary processing of composites, like casting, is the presence of porosity in the structure. The level of porosity in the structure can be minimized by secondary processing techniques like rolling, forging, of extrusion. These secondary processes can also results in the grain refinement of the structure thereby improving the strength parameter. The influence of reinforcement particle size and percentage composition has been studied initially by numerical simulation technique using ANSYS software. The secondary process of extrusion has been simulated numerically using AFDEx software and influence of extrusion temperature and extrusion ratio on the extrusion load, billet temperature distribution and stress has been studied.



**Dr. Naveed Anjum**  
Asst. Prof. ME  
Engineering, VVIET,  
Mysuru.

## PROCESSING AND CHARACTERIZATION OF PARTICULATE FILLED AND NATURAL FIBER REINFORCED POLYMER COMPOSITES

Registration for PhD on Oct 2012  
University /Branch: VTU, Mechanical Engg.  
Award of P.hD Degree: June 2020



**Dr. Ajit Prasad.S.L**  
Dean Research,  
PESCE,  
Mandya -571401

**Abstract:** The tradition of natural fibers, synthetic fibers, and ceramic and lubricating fillers in several thermoplastic/thermosetting polymer matrix composites is acquiring reputation in numerous industries, and exclusively in self-propelled segment. The budding market in self-propelled, food packaging, and aeronautical trades had been observing for the growth of light weight sensible design for the conceivable unused metal and polymer matrix composites with man-made fibers. Hence, amongst the alternatives, the natural fiber strengthened polymer matrix composites stand in the forefront, owing to their synergistic benefits of heightened explicit strength as well as stiffness, light weight, and conservation welfares.

This present research work is principally engrossed on emerging short and with unidirectional (UD) **sanseveria** (Sria) fiber combined with UD carbon fiber (CF) and nano-CaCO<sub>3</sub> and nano-SiC filler filled epoxy (E) hybrid composites using hand lay-up process followed by hot pressing. The composites prepared with short Sria fiber in polyester matrix are termed as e-Sria/USP composites. It is characterized based on length and fiber loading of fiber as two-phase composites. In hybrid series, potassium permanganate treated UD Sria fiber, UD CF and nano-CaCO<sub>3</sub> / nano-SiC fillers are selected as main and minor strengthening materials, respectively. Altogether, here two groups of Sria based polymer composites. In Group I, single fiber reinforcement (short Sria fiber) without chemical treatment by varying fiber length (30 mm and 40 mm) and its loading (20, 30 and 40 wt. %) in unsaturated polyester matrix, whereas in Group II, the primary reinforcements are both potassium permanganate treated UD Sria, as received CF and secondary reinforcements namely nano-CaCO<sub>3</sub> and nano-SiC fillers. Surface treatment of Sria fiber using potassium permanganate enhanced the interfacial closeness and therefore the strength/stiffness of the hybrid composites is increased.

### Research Scholar



**Dr. Mohammed Sharaf**  
**Abed Alkareem A. Bani**  
**issa**

### Title of the thesis

## A STUDY OF NONLINEAR INTEGRAL AND INTEGRO- DIFFERENTIAL EQUATIONS BY USING NUMERICAL METHODS

Registration for PhD on Feb 2016  
University /Branch: VTU, ECE  
Award of Ph.D. Degree: 12<sup>th</sup> Nov 2020

### Guide



**Dr. Giniswamy**  
Dept. Mathematics

**Abstract:** We discussed four different methods for solving integral and integro-differential equations, namely: ADM, MADM, VIM and HPM. To assess the accuracy of each method, the test examples with known exact solution is used. The study plots critical highlights of these techniques just as it reveals some insight into preferences of one strategy over the other. In this thesis, the above methods have been successfully employed to obtain the approximate solutions of integral and integro-differential equations. The comparison between all four of the methods:

- The four methods are powerful, operative and give approximations of higher accuracy, in addition, they can produce closed-form solutions if they exist.
- Although the outcomes obtained by these methods when applied to Volterra integro-differential equations are the same approximately, The HPM is the easiest method and more appropriate than the others. And The VIM and HPM have many merits and it is better than other methods. They can be addressed to overcome the difficulties appearing in calculating a domain polynomials. The VIM and HPM reduce the volume of calculations by requiring a domain polynomials. The HPM handles nonlinear Volterra integro-differential equations in a simple way by deforming a difficult problem into a simple one, and benefit of VIM is that the initial solution can be freely chosen with some unknown parameters. A best point about this method is that with less number of iterations, or even in some cases with only one iteration, it can produce a very accurate approximate solution.

## Research Scholar



**Dr. Purushothama S.**  
Asst. Prof.  
Dept. of Mathematics,  
MIT Mysore

## Title of the thesis

### SOME CONTRIBUTIONS TO THE THEORY OF DOMINATION AND ENERGY OF GRAPHS

Registration for PhD on Feb 2016  
University /Branch: VTU, Mathematics  
Award of Ph.D. Degree: July 2020

## Guide



**Dr. Puttaswamy**  
Professor and Head  
Dept. of Mathematics,  
PESCE, Mandya-571401

**Abstract:** The basic ideas of graph theory were introduced in 18<sup>th</sup> century by the great Mathematician Leonard Euler. Since then, it has been the source of interest for many researchers and it has achieved remarkable developments leading to fruitful generalizations and extensions, yielding interesting and beautiful combinatorial results. In thesis chapter one, we collect some basic definitions and theorems on graphs which are needed for the subsequent chapters. In chapter 2, we introduce new domination parameter called pendant domination in graphs motivated by this definition we define and study the minimum pendant dominating energy. The Laplacian minimum pendant dominating energy of a graph. In chapter 3 and 4, we initiate a study of upper pendant domination number of a graph and bi-pendant domination in graphs. Further we find the several fundamental results on both parameters. In chapter 5, we introduce the concept of inverse complementary pendant domination in graphs. In chapter 6, we introduce the concept of extended pendant domination polynomial of a graph and critical and stable pendant domination in graphs.

## Research Scholar



**Dr. Anand.M.J**  
Assistant Professor  
Department of ECE,  
PES College Of  
Engineering Mandya

## Title of the thesis

### A HEURISTIC APPROACH FOR DESIGN AND DEVELOP A PROTOTYPE E-NOSE TO DETECT SPOILAGE OF MILK AND BREAD

Registration for PhD on Feb 2015  
University /Branch: VTU, ECE  
Award of Ph.D. Degree: 5<sup>th</sup> Dec 2020

## Guide



**Dr. V Sridhar**  
Professor (emeritus)  
Department of ECE, NMIT  
Bangalore

**Abstract:** Nutritious food is an essential requirement for health and well-being of all. Milk and bread are the two most popular food items of the modern day which meet the requirement of clean, easy and nutritious food for the vast majority of the urban populace. Such universal acceptances of these items have made it important that unadulterated, genuine items be made available for consumption by the public. Adulteration of such food items causes serious health issues and consumers have rightly become very sensitive about purity and spoilage. Economic greed drives the seller to resort to mix spurious items with an eye on making more money and such desire for amassing illicit wealth drives the dark forces in the market to mix newer and cheaper materials without any regard for the ill effects it can have on the consumer. However, such adulteration causes very serious health issues such as indigestion, acidity, ulcers, and malfunctions of kidney and liver, which may eventually lead to more serious ailments including cancer, because many of the adulterants used are carcinogenic. While fresh bread is a healthy, easy-to-digest, clean food item, it is a sensitive item and has poor keeping quality, if not supplemented. Consumers resent bread that is not fresh and consumption of stale bread causes mild to serious digestive system upheavals.

In order to meet this requirement of authentication of purity and freshness, various methods of verification have been developed; by employing methods such as gas chromatography (GC), mass spectroscopy (MS), and microbiological tests one can determine the type of milk, adulteration, bread and milk additives used, and their freshness. However, these methods pose certain drawbacks, which are listed below:

- Procedures can be complex and cumbersome
- Implementation of the procedure may need specially qualified and trained personnel
- These procedures can be time consuming and hence self-defeating
- The procedures could be very expensive and hence unaffordable

To overcome these defects, new novel techniques should be developed which are simple, economical, provide timely results, and can be easily implemented. This present work attempts development of a prototype model of an "ELECTRONICS NOSE", hereinafter referred to as "E-nose". The aim is to develop a system by which the consumer can determine if the sample of milk or bread is free from adulteration and if it is fresh for consumption. The method is explained along with experimental investigation using certain samples of raw and pasteurized milk.

|  <b>Team of<br/>NIRF &amp; ARIIA</b>  |                                 |                            |                               |
|---|---------------------------------|----------------------------|-------------------------------|
| NIRF - National Institutional Ranking Framework<br>ARIIA - Atal Ranking of Institutions on Innovation Achievements  |                                 |                            |                               |
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| <b>Dr. B DINESH PRABHU</b>  | TEQIP Coordinator               | <b>Dr. SHIVALINGEGOWDA</b> | IQAC Coordinator              |
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| <b>Dr. R GIRISHA</b>  | Training & Placement Officer    | <b>Dr. H M SANJAY</b>      | Coordinator - Alumni Affairs  |
| <b>Dr. ALURE GOWDA</b>  | NIRF Coordinator (Management)   | <b>Prof. PAVAN K N</b>     | ARIIA Associate Coordinator   |
| <b>Mr. K RAVI</b>   | Asst. Nodal Officer-Procurement | <b>Mr. SHESHAPPA</b>       | Asst. Administrative Officer  |

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| <b>Dr. H V RAVINDRA</b> , Principal & TEQIP Director | <b>Dr. T M PRAKASH</b> , Nodal Officer -Civil Works       |
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| <b>Ms. SHIVASHANTHA K</b>                            | <b>Mr. NAGARAJU Y H</b>                                   |

## PLANNERS FOR INSTITUTIONAL ACADEMIC ACTIVITIES

| Sl. No. | Faculty   | Academic Activities  |
|---------|---|--|
| 1.      | Dr. H V Ravindra  | Principal & TEQIP - III Director   |
| 2.      | College Council Members & Head of the Departments (UG & PG) | All Academic Activities  |
| 3.      | Dr. B Dinesh Prabhu   | Coordinator - TEQIP-III  |
| 4.      | Dr. Shivalingegowda   | Coordinator – NAAC & IQAC  |
| 5.      | Dr. T M Prakash   | Nodal Officer - Civil Works TEQIP-III  |
| 6.      | Dr. Nagarathna  | Dean - Academic  |
| 7.      | Dr. D R Umesh   | Deputy Dean - Academic & Nodal Officer - Procurement TEQIP-III               |
| 8.      | Dr. N L Muralikrishna                                       | Dean - Examinations  |
| 9.      | Dr. Mahendra Babu K J                                       | Deputy Dean - Examinations   |
| 10.     | Dr. R Girish  | Dean -Training & Placement   |
| 11.     | Dr. B S Shivakumar  | Dean (I I I Cell)  |
| 12.     | Dr. Minavathi   | Dean - Research  |
| 13.     | Dr. M J Anand   | Deputy Dean - Research & Coordinator - MOOCs, ICT, NPTEL                     |
| 14.     | Prof. T M Devegowda   | Dean – Student's Welfare   |
| 15.     | Dr. S Vinay   | Coordinator - Business Incubator, ARIIA<br>Nodal Officer - Finance TEQIP-III |
| 16.     | Dr. L Prasannakumar   | Coordinator Bio - fuel center<br>Environmental - Coordinator (TEQIP-III)     |
| 17.     | Dr. Mahesh Kaluti   | Coordinator - GATE Training, NIRF<br>Academic Nodal Officer (TEQIP-III)      |
| 18.     | Dr. Puneeth Kumar M B                                       | Coordinator - Website  |
| 19.     | Dr. H M Sanjay  | Coordinator - Alumni Affairs   |
| 20.     | Prof. M C Girish Babu<br>Prof. S K Shivashankar             | Coordinator - AICTE activities   |
| 21.     | Dr. M L Anitha  | Warden, Girls Hostel   |
| 22.     | Dr. Revanesh M  | Warden, Boys Hostel  |
| 23.     | Prof. Sandeep Kumar D S                                     | Warden, VSVM Boys hostel   |



**Dr. H. V. Ravindra**  
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### P.E.S. COLLEGE OF ENGINEERING

Mandya-571 401, Karnataka, India, Estd. In 1962  
(An Autonomous Institution affiliated to VTU, Belagavi)  
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Grant In-Aid Institution (Government of Karnataka),  
**Accredited by NBA (six Programs) & Accredited by NAAC**  
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