

Konnnect 2022_b

Annual Report
July 2021 – June 2022



Department of Telecommunication Engineering
Accredited by NBA for SIX years in the (Tier-I Format)

BMS COLLEGE OF ENGINEERING
Affiliated to VTU, Accredited by NAAC
Bengaluru-560019

CONTENT

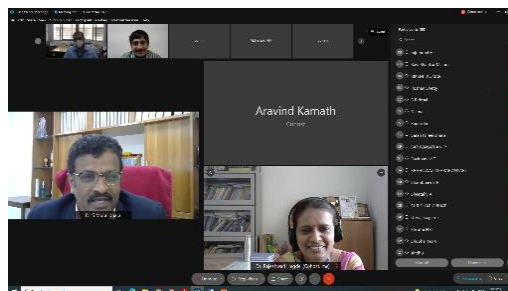
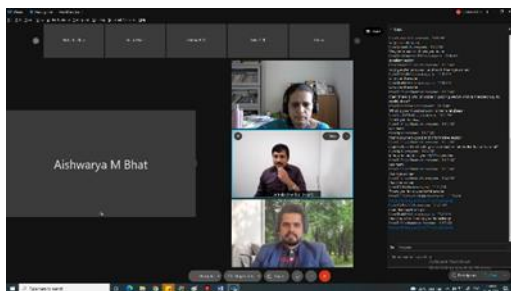
Workshops Organized	2
Industrial Visits Organized	9
Extension Lectures Organized	12
Faculty as Resource Person	19
Faculty Training Program: Participation	24
Faculty Publications	28

Workshops Organized

Sl.No	Title of Workshop	Date(s)	Participants
1	ATAL sponsored FDP on Smart City Solutions for Sustainable Future	2 nd to 6 th August, 2021	93
2	TWO week Online Internship on Multisim	23 rd August – 4 th September , 2021	40 Students
3	Two week online Internship on, 'Analog Signal Processing Concepts using Python	15 th – 30 th September, 2021	60 Students
4	Workshop on IoT Phase shift	26 th November, 2021	22 Teams
5	Workshop on Arduino Phase shift	26 th November, 2021	12 Teams
6	Internship/Value added course Introduction to Python and Latex Programming	28 th March – 1 st April, 2022	120 students and Faculty

ATAL SPONSORED FDP ON SMART CITY SOLUTIONS FOR SUSTAINABLE FUTURE

2nd – 6th August, 2021



Participants Statistics

Faculty: 93

Program Brief

On the first day, the FDP was inaugurated by Mr. Aravind Kamath, Founder & Director, EMC Engineers. Dr. S. Muralidhara, Vice-Principal of BMSCE, presided over the function. The participants were introduced to the concept of smart city, applications, smart city assessment framework, smart city examples, as well as Developing & Qualifying Smart City Products for International Regulations. A session on stress management and a meditation session was also conducted. Day 2 included sessions on data analytics for smart cities, Roof computing, Edge computing in smart factories and manufacturing, how India can become AI superpower?, challenges of urban mobility, ICT Intervention and Indian Smart Cities, and operational aspects for the smart city command center use case

In addition to the technologies for smart energy management, the participants learned about digital twins solutions for smart cities that include modeling of the built environment, mathematical models of electrical and mechanical systems, and sustainable environmental strategies on day 3.

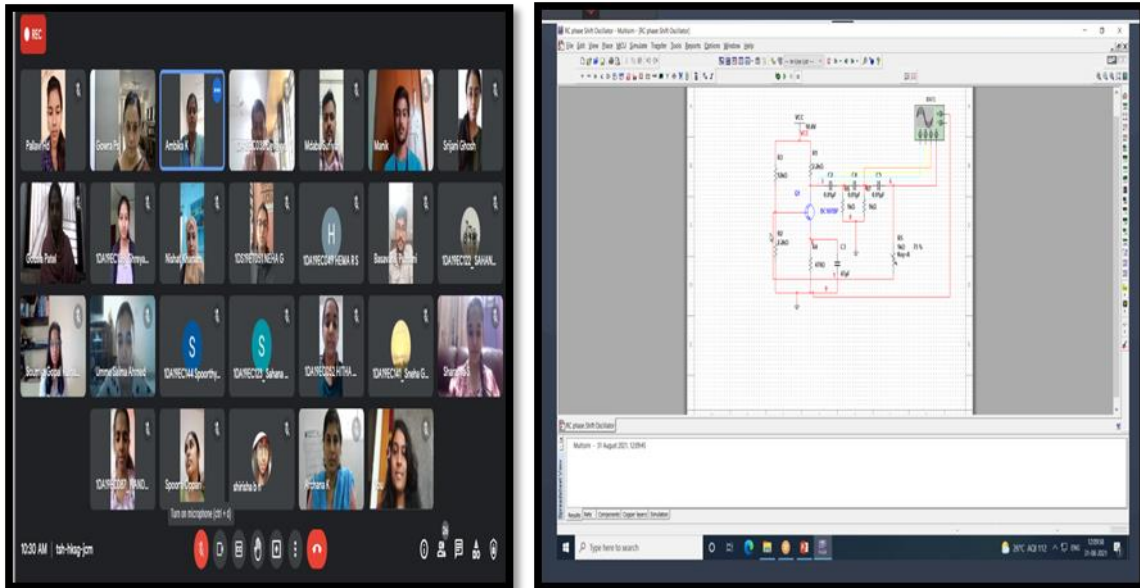
The role of the Internet of Medical Things (IoMT), market trends, opportunities for healthcare sectors to develop smart cities, smart and connected healthcare for smart cities, and application of digital technologies for sustainable water resource management were discussed on day 4.

The last day of the FDP started with a discussion involving the types of waste generated in India, the amount of waste generated every day, technologies for waste management, forecasting plastic growth, solutions to reduce it, route optimization, crisis control and mitigation system, and function assessment.

Coordinator: Rajeshwari Hegde and Balachandra K

TWO WEEK ONLINE INTERNSHIP ON MULTISIM

23rd – 4th September, 2021



Participants Statistics

Students: 42

Program Brief

The Department of Telecommunication engineering organized two week online internship on Multisim from 23-8-2021 to 4-9-2021(10AM to 12.30PM). Due to Pandemic situation, students were not able to attend colleges and didn't have a hands on experience with hardware lab implementations. Hence, this internship provided a platform for students to visualize hardware implementation using multi-sim simulation tool. In this internship, Analog as well as Digital circuit implementation was taught. In the final stage of this internship, student were able to design & execute a mini project.

Outcomes addressed:

Engage in Independent learning by demonstrating mini projects on Analog as well as Digital circuits (PO2, PO3, PO4, PO5, and PO12)

Coordinator: P S Gowra, Ambika K and Archana K

TWO WEEK ONLINE INTERNSHIP ON, 'ANALOG SIGNAL PROCESSING CONCEPTS USING PYTHON

15th – 30th September, 2021



Participants Statistics

Students: 63

Program Brief

Event had more than 63 participants from 16 colleges ECE, CSE, EEE, TCE, ETE and EIE, pursuing their first/second/third year of Engineering program.

Salient features of the Internship are:

- Publicity of the event was through the college portal, and through social media
- The entire registration was through the online link:
<https://forms.gle/nnHZ6afjZUY3pCWm8>
- Acknowledgements to the support extended from Goto Meeting, the special COVID package to the college, and has made the online teaching professional and convenient. All sessions shall be handled through the Goto Meeting platform
<https://global.gotomeeting.com/join/682294205>
- The platform for the lab sessions was through the Google Colab for Python; and the Multisim Live Online, electronic circuit simulation tool by National Instruments. Both these programming environments are Open source

Successful completion Quiz/Assignments is essential towards receiving the Certificate

Coordinator: B Kanmani

IOT – INTERNET OF THINGS

26th November, 2021



Participants Statistics

Students: 67

Program Brief

The session started with a brief introduction to the “Internet of things”. And then students were given an IOT kit which included ESP32 Node MCU, temperature humidity sensors along other components. Students were ready with all their pre-requisites (downloading and installation of the software). Initially, they guided students about the basic functions of Arduino IDE, sensors, and taught them to how to add libraries from ARDUINO_LIBRARIES, and gave some basic knowledge about connections, and IOT applications in daily life.

Learning Outcomes

The students were assigned to do two projects (Project 1-IOT Weather Station, Project 2-IOT Home automation).

The goal of project 1 is to view Temperature and Humidity sensor values from nodeMCU in a website (the sensor data is sent over Wi-Fi, they learnt to execute the code in backEnd and frontEnd with the help of command prompt).

The goal of project 2 is to control the main voltage device from the website for e.g.: - Turning on/off a fan or bulb or anything connected to the main voltage, students were taught how to work on the hardware and software part of project 2 and assigned them to do that project.

Coordinator: Ambika K and Archana K

ARDUINO

26th November, 2021



Participants Statistics

Students: 35

Program Brief

The resource person of the workshop was Mr. Kritesh, Entrepreneur, and Founder of The Engineer Store. He is an alumnus of BMS College of Engineering and has conducted various workshops in our college before.

The workshop was conducted in two parts. Firstly the resource person gave a seminar on Arduino and its applications for two hours, then the students were given a chance to create their own circuit with the kits that were provided to them. A total of eleven teams (35 participants) participated. In the end, all the teams were judged based on their model and model description, and 3 teams were chosen to be the winners.

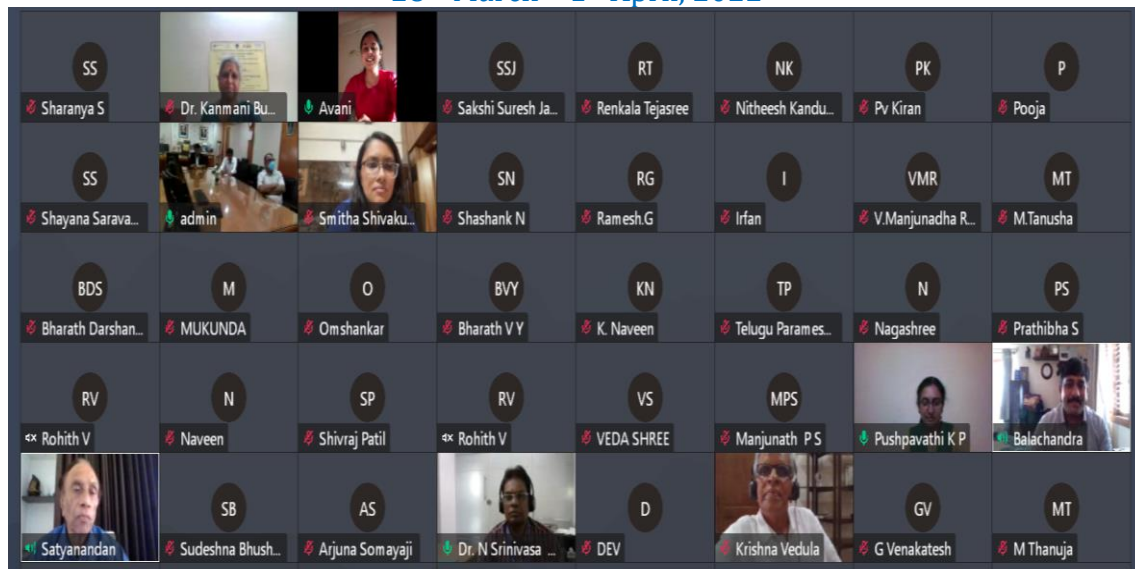
Learning Outcomes

1. The session gave project ideas and market knowledge of Arduino.
2. Students developed a disciplined engineering approach and sound practical skills in using Arduino.

Coordinator: Balachandra K

INTRODUCTION TO PYTHON AND LATEX PROGRAMMING

28th March – 1st April, 2022



Participants Statistics

Faculty, Staff and Students: 120

Workshop Brief

The Department of Electronics and Telecommunication, BMSCE in association with IUCEE, IETE, IEEE BMSCE and IEEE TEMS BMSCE organized a two internship/workshop for students and faculty of various colleges. The workshop was aimed at giving students an exposure to programming in Python and documentation using Latex as both these skills are an absolute must in today's engineering world.

During the workshop basic concepts of Python programming as well as application to various domains like signal processing was studied. The participants were also given an opportunity to work on some of the popular interview questions as this would help boost their confidence. Later participants were introduced to various features and capabilities of Latex editor. To measure the outcome of the workshop quizzes were conducted in both programming and documentation areas.

The internship/workshop was a grand success with close to 120 participants from over 26 colleges participating. A part of the revenue generated through the workshop was also contributed to the NGO Dr S K Shiva Kumar Memorial Trust for a noble cause. Through this, the department gave its contribution to the society under Department Social Responsibility (DSR).

Resource Person: B Kanmani, Balachandra K, Prasanna Kumar

Student Coordinators: Sharanya and Ananya

Industrial Visits Organized

SNo	Date	Industry	Number of participant
1	2 nd May , 2022	Stellapps Technologies	Faculty & Staff: 5 Students : 42
2	2 nd May , 2022	Zscaler	Faculty & Staff: 5 Students: 42

Industrial Visit to Stellapps

2nd June, 2022



Participants Statistics

5 Faculty, Staff & Students: 5 and 42

Program Brief

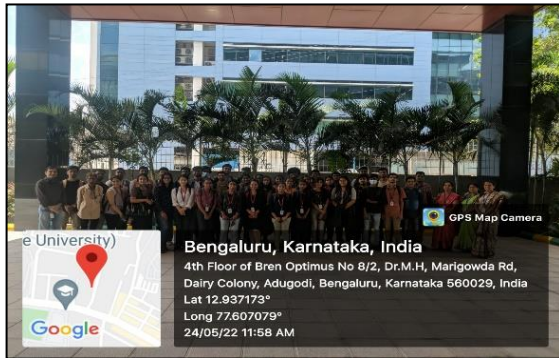
The contents that were covered during Stellapps visit were, how their organization works, what are the products and their usage. The above two figure is called the cooling tank. Here, the milk will stored and cooled to certain temperature. Usually, this cooling tank can take up to 356L of milk. Hence, there is a rotor inside the cooling tank for stirring and keeping the milk cool.

In the above two figures, the first figure is the conTrak V1 and V2. ConTrak V1 is the traditional machine which measures the how many litre the milk is and what is the temperature of the milk. ConTrak V2 is the advanced version of ConTrak V1. Hence, these machine measures and sends to ConTrak V2.

Coordinators: Rajeshwari Hegde

Industrial Visit to Zscaler Softech India Private Limited

2nd June, 2022



Participants Statistics

5 Faculty, Staff & Students: 5 and 42

Program Brief

Zscaler uses the policy of “ZERO TRUST EXCHANGE” which creates a perimeter around the network. Zscaler believes that Internet is the only network. Zscaler Cloud verifies every single data packet before the data packet is routed to the internet. Zscaler cloud can also set policies i.e., it allows a particular model according to the client’s requirement. Fishing Links is also identified by Zscaler.

The content covered in Zscaler was about the products of Zscaler Softech India Private Limited. Hence, they are:

The Zscaler Zero Trust Exchange is the platform that powers all Zscaler services to securely connect users, devices, and applications over any network. The platform is based on a proxy architecture, leveraging the zero trust principle of least-privileged access to secure internet, SaaS, and private application access. The Zscaler Zero Trust Exchange also protects applications and workloads.

Zscaler Internet Access (ZIA) is a secure internet and web gateway delivered as a service from the cloud. ZIA includes multiple security engines, such as cloud firewall, intrusion prevention system (IPS), data loss prevention (DLP), bandwidth control, browser isolation, cloud access security broker (CASB), and sandbox. By detaching security and access controls from the network and delivering them from the cloud, ZIA can provide identical security and policy enforcement no matter where connections occur, in the headquarters, a branch office, or remote locations.

Coordinators: Rajeshwari Hegde

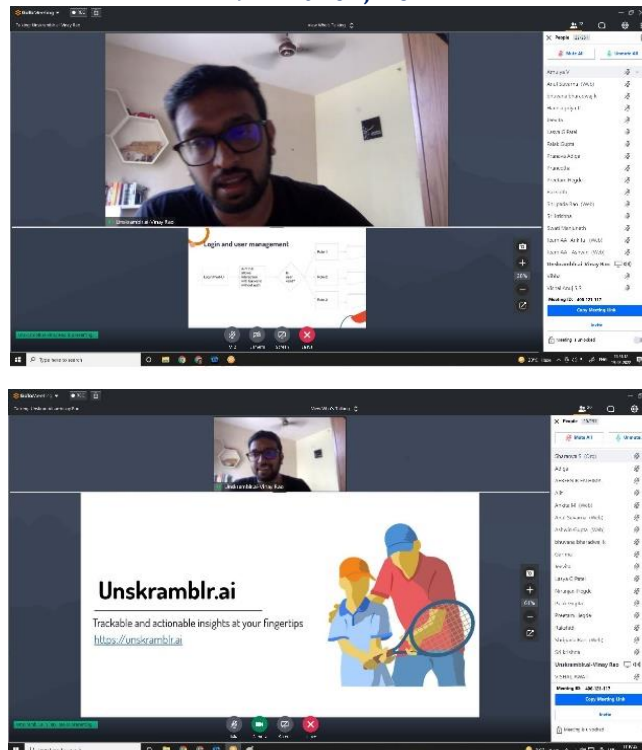
Extension Lectures Organized

SNo	Name of the Invited Scholar with full Address	Title of the Lecture Delivered	Date of Lecture
1	Vinay Rao, Co-founder, Unskrabler.ai	Internship Opportunities @Unskrabler.ai	19 th March, 2022
2	Ms. Renuka Pooja, Co-founder, Eku	Higher Education and Career Guidance	6 th April, 2022
3	Vinay Rao, Co-founder, Unskrabler.ai	Industry Insights	18 th April,2022
4	Prepladder	GATE examinations	25 th April,2022
5	Career Launcher	CAT vs GMAT vs GRE	12 th May,2022
6	Mr. Aravind Kamath Founder Director & CTO, EMC Engineers	Electromagnetic Interference and Electromagnetic Compatibility (EMI/EMC): What we really do in the Industry as RF Engineers?	13 th May,2022

Internship Opportunities @Unskrabler.ai

By Vinay Rao, Co-founder, Unskrabler.ai

19th March, 2022



Participants Statistics

Faculty and Students: 20

Program Brief

The speaker started the session with a brief introduction to his startup which is driven by a passion for sports and technology, Taproots.ai is recreating and remodeling the space of sports analytics. The platform built by them delves deeper than just collecting matter of fact stats. It transforms seemingly plain stats into actionable insights for objective decision-making for every athlete, coach, or enthusiast alike, independent of their current level, to be the best version of themselves. He highlighted the importance of AI and machine learning and also the need to learn coding for circuit branch students. The session ended with a detailed discussion on the types of projects available at his organization to work with.

Coordinators: Rajeshwari Hegde

Higher Education and Career Guidance By Ms. Renuka Pooja, Co-founder, Eku 6th April, 2022



Participants Statistics

Faculty and Students: 36

Program Brief

Department of Electronics and Telecommunication Engineering organized an invited talk by the dept. alumni Ms. Renuka Pooja, Co-founder, Eku on “Higher Education and Career Guidance” for the students of 6th semester. Dr. Rajeshwari Hegde, coordinator for the event introduced Ms. Renuka Pooja to the audience. Ms. Renuka shared her experiences as a student, placement coordinator and encouraged students to engage in co-curricular and extracurricular activities as well as academic studies. While urging the students not to rely solely on their CGPA to further their development, she emphasized the importance of other skills needed for their holistic development. In her capacity as an entrepreneur, she shared the vision of her organization in protecting the environment. The session ended with question and answers.

Outcomes

Students got to know the importance of co-curricular and extracurricular activities for their holistic development

Got motivated to do activities to protect environment by reducing the waste.

Coordinators: Rajeshwari Hegde

Industry Insights

By Vinay Rao, Co-founder, Unskrabler.ai
18th April, 2022



Participants Statistics

Faculty and Students: 26

Program Brief

Vinay Rao explained how learning coding along with our core subjects will help us to get opportunities at the time of Placements.

Through his personal experience he shared with us how can we look for opportunities for both domains and add more skills and prepare ourselves for Placements. He introduced his start-up unskramble.ai as well. He briefed about project with which he was ready to help students with if they are ready taking that under him. The project focused on developing an application for pre-notification system for parking in our college. Following this he also introduced a layout of the project while taking insights from the students as well and made them understand how we'll go about the project. Following this a Google form was floated and the interested students filled and got themselves registered for the opportunity.

Coordinators: Rajeshwari Hegde

GATE Examination By Prepladder 25th April, 2022



Participants Statistics

Faculty and Students: 20

Program Brief

A two hour seminar on GATE exam was organized by the Competitive Exam and Higher Studies Cell of BMSCE and the company Prepladder which trains students to help them crack GATE in their preferred streams. The seminar was presented by Trinad Reddy from Prepladder to the audience strength of around 20. He briefed about the various paths available for students after completion of B.E and explained the benefits of having qualified GATE. He explained the opportunities that GATE qualifiers have in obtaining respectable government jobs at public sector companies like BHEL, DRDO, NHPC, etc. that give better job security and respect. After this, he spoke about the scheme and duration of GATE. The exam which is totally for 100 points has syllabus that does not go beyond what is taught in B.E up until the 5th semester. The paper tests general aptitude, mathematics and technical knowledge, and has questions that are multiple choice, multiple select and numerical answer type in nature. Some also have negative marking. He then told us that the GATE score is valid for three years and anyone can take it up without age or attempt limits.

Then, he went on to explain the services offered by his company like the online training and help to crack GATE and how to go about preparing for the exam. Then he took some questions after which the session was closed.

Coordinators: K P Pushpavathi

CAT vs GMAT vs GRE

By Career Launcher

12th May, 2022



Participants Statistics

Faculty and Students: 35

Program Brief

A talk was held on the options that can be availed by students for higher education. The speaker was Mr. Rahul Reddy from Career Launcher, an institute that trains students for CAT, GMAT, GRE, etc. and also offer them career guidance. He briefed about the various paths available for students after completion of B.E. For those looking at MBA, he suggested writing CAT for those who wanted to pursue it in India, and writing GMAT for those who wanted to do their masters abroad. For technical fields, GRE was suggested as the best option.

He also spoke about Masters in Management, MIM in abroad as opposed to an MBA in abroad, as an MBA degree there requires a minimum of two to three years of work experience. A deferred MBA is also an option. MBA and MS abroad also require a good profile, MBAs requiring more of volunteering and socially inclining profiles, whereas an MS needs publishing papers, projects and a more technically inclined profile. He then explained to the students that a career is not something that is a linear journey. Giving his own example, he went from an engineering degree to a long time in the sales field and now finally in the education domain. He motivated the students to pursue what they want to without letting their degree limit their choices. He also left us with the note that we must decide our career first, then the courses we want to do, then choose the college based on that and then write the required exams rather that the other way around.

Coordinators: K P Pushpavathi

Electromagnetic Interference and Electromagnetic Compatibility (EMI/EMC): What we really do in the Industry as RF Engineers?

By Mr. Aravind Kamath, Founder Director & CTO, EMC Engineers

13th May, 2022



Participants Statistics

Faculty and Students: 47

Program Brief

Mr Arvind Kamath gave us a brief introduction on EMI/EMC. EMI is an electromagnetic disturbance which may degrade the performance of an equipment or cause malfunction of equipment is called electromagnetic interference. He also added that EMC is a near perfect state in which a receptor functions satisfactorily in a common electromagnetic environment, without introducing intolerable electromagnetic disturbance to any other devices. He spoke about how interference occurs if the received energy causes the receptor to function in an unwanted manner. Sources of EMI could be washing machines, arc welding machines, electric shavers, etc. He stated that victims of EMI are communication receivers, microprocessors, computers, etc. He added on by telling us the effects of EMI which could be momentary disturbances in TV, reset of computers and loss of data, etc. He concluded by telling us the EMI control techniques which include proper grounding, EMI filtering, shielding and PCB layout.

Outcomes

Students got know about the electromagnetic interference (EMI) and electromagnetic compatibility and how EMI affects the operation of the devices

Students also understood the role of RF Engineers in industry.

Coordinators: Rajeshwari Hegde

Faculty as Resource Persons

Sl.	Name of Faculty	Nature of Program	Title Program	Date	Venue
1	Dr. B Kanmani	Workshop	Effective Implementation of OBE'	11 th August, 2021	Army Institute of Technology, Pune
		Teaching and Learning Evaluation; Institutional Values and Best Practices	NAAC Sponsored two day National Level Webinar on, 'Academic and Administrative Audit'	18 th August, 2021	Rao Bahadur V Mahabaleswara ppa Engineering College, Ballari
		Workshop/internship	Two week online Internship on, 'Analog Signal Processing Concepts using Python	15 th - 30 th September, 2021	Online, BMSCE
		Workshop	Best Practices in Outcomes Based Education	18 th September, 2021	Amrita Vishwa Vidyapeetam, Amritapuri Campus, Kerala
		Workshop	Reframing of COs-POs in alignment to NEP 2020	23 rd September, 2021	New Horizon College of Engineering, Bengaluru
		Panel discussion	COVID-19: How can learning loss for students be addressed?	26 th September, 2021	Baháí Community of Bangalore
		One week AICTE ATAL FDP	Bloom's Taxonomy Levels, Action verbs and Course Outcomes	26 th October, 2021	B.V.V.S. Polytechnic (Autonomous), Bagalkot.
		AICTE Faculty Development Programme (FDP)	Curriculum Planning	15 th - 19 th November, 2021	RV College of Engineering, Bengaluru
		Webinar on Implementation of National Education Policy	Engineering Curriculum aligned to OBE and NEP-2020	8 th December, 2021	Bangalore Institute of Technology

1	Dr. B Kanmani	International workshop	Teaching Tools in Courses Teaching Digital Signal Processing using Matlab as an Engineering Tool	9 th December, 2021	IIT Madras, India, Online
		FDP on, 'Best Practices and Innovative Teaching Methods	'Pedagogy for Engineering Courses'	2 nd February, 2022	Computer Science School of Engineering, Dayananda Sagar University, Bengaluru
		International Conference	Analog Signal Processing concepts using Python and Multisim Live	28 th February, 2022	Remote Engineering using VIRTUAL Instrumentation, held at Cairo, Egypt (REV 2022)
		Internship/Value added course	Introduction to Python and Latex Programming	28 th March – 1 st April, 2022	BMSCE
		FDP on 'Innovative Tools/Techniques to improve quality of Teaching Learning	OBE and NEP Framework	7 th April, 2022	Sapthagiri College of Engineering, Bengaluru.
		One Day Workshop	Outcomes Based Education (OBE)	12 th April, 2022	East West Institute of Technology, Bengaluru.
		One Day Training Program	Effective Implementation of OBE	13 th April, 2022	Vellore Institute of Technology (VIT), Vellore
		Two Day Workshop	'Awareness of OBE	27 th May, 2022	Vidyavardhaka College of Engineering, Mysuru.

2	Dr. Rajeshwari Hegde	Conference Session Chair	International Conference on Computing System and its Applications	16 th July, 2021	Acharya Institute of Technology, Bengaluru
		ATAL sponsored FDP	Smart City Solutions for Sustainable Future	2 nd August, 2021	ETE, BMSCE
		Conference Session Chair	3 rd International Conference on Integrated Intelligent Computing Communication & Security	6 th August, 2021	SJB Institute of Technology, Bengaluru.
		Conference Session Chair	Fourth IEEE International Conference on Electrical, Computer and Communication Technologies	14 th September, 2021	Velalar College of Engineering and Technology
		ATAL FDP	Science of Meditation	11 th November, 2021	Dr. AIT, Bangalore
		Conference Session Chair	IEEE International Conference on Mobile Networks and Wireless Communication	3 rd December, 2021	SSIT, Tumkur
		Keynote speaker	7 th International Virtual Conference on Interdisciplinary Research for Sustainable Development	25 th December, 2021	I2OR and Green ThinkerZ, Western Sydney University
		International Research Consortium	Power of Thoughts	3 rd February, 2022	BMS College of Engineering.
		National level FDP	Electrophysiology and NeuroComputing	23 rd March, 2022	KLS Gogte Institute of Technology, Belgavi
		Conference Session Chair	IEEE International Conference on Distributed Computing, Electrical Circuits and Electronics	24 th April, 2022	Ballari Institute of Technology and Management

3	Prof. P S Gowra	Workshop/internship	TWO week Online Internship on Multisim	23 rd August – 4 th September, 2021	Online BMSCE
4	Prof. T Anushalalitha	Virtual lab experiment using vlabs	One Week Student Training Programme,	21 st – 25 th March, 2022	Virtual Lab @ NITK, Surathkal, BMSCE
5	Dr Balachandra K	Internship/Value added course	Introduction to Python and Latex Programming	28 th March – 1 st April, 2022	BMSCE
6	Dr.C Gururaj	Mini-Project Competition (Jury member)	IEEE Mini-Project Competition 2021	1 st July, 2021	BIT, Bengaluru
		Conference Session Chair	International Conference on Computing System and its Applications	16 th July, 2021	Acharya Institute of Technology, Bengaluru
		Conference Session Chair	3 rd International Conference on Integrated Intelligent Computing Communication & Security	6 th August, 2021	SJB Institute of Technology, Bengaluru.
		Conference Session Chair	1 st Edition of the Flagship IEEE International Conference Mysurucon 2021	25 th October, 2021	Mysore
		Conference Session Chair	IEEE International Conference on Mobile Networks and Wireless Communication	3 rd December, 2021	SSIT, Tumkur
		Conference Session Chair	IEEE International Conference on Distributed Computing, Electrical Circuits and Electronics	24 th April, 2022	Ballari Institute of Technology and Management, Ballari.
		Conference Session Chair	IEEE International Conference on Engineering Innovation,	3 rd June, 2022	Jain Institute of Technology, Davanagere.

7	Prof. Ambika K	Workshop/inter nship	TWO week Online Internship on Multisim	23 rd August – 4 th September ,2021	Online BMSCE
8	Prof. Archana K	Workshop/inter nship	TWO week Online Internship on Multisim	23 rd August – 4 th September ,2021	Online BMSCE
9	Dr. Prasanna Kumar MK	Conference Session Chair	International Conference on Computing System and its Applications	16 th July, 2021	Acharya Institute of Technology, Bengaluru
		Internship/Value added course	Introduction to Python and Latex Programming	28 th March – 1 st April, 2022	BMSCE

Faculty Training Program Participated

Sl. No	Name of Faculty	Program attended	Date	Venue
1	Dr.Rajeshwari Hegde	ATAL FDP on “Electrophysiology and Neuro-Instrumentation, organized by	8 th - 12 th Sep, 2021	Dr. Ambedkar Institute of Technology, Bangalore (Online)
		ATAL FDP on “Personal Effectiveness”	23 rd - 27 th Aug, 2021	PDPM Indian Institute of Information Technology, Design & Manufacturing, Jabalpur (Online)
		AICTE online FDP on “Inculcating Universal Human Values in Technical Education”	31 st Jan - 4 th Feb, 2022	Online
		National level FDP on “Electrophysiology and Neuro Computing”	21 st - 25 th Mar, 2022	KLS Gogte Institute of Technology, Belagavi
2	Dr. N. Srinivasa Rao	AICTE sponsored ATAL FDP on Smart city solutions for sustainable future	2 nd - 6 th Aug, 2021	BMSCE
3	Prof P S Gowra	AICTE sponsored ATAL FDP on Smart city solutions for sustainable future	2 nd - 6 th Aug, 2021	BMSCE
4	Prof. K.P Pushpavathi	AICTE sponsored ATAL FDP on Smart city solutions for sustainable future	2 nd - 6 th Aug, 2021	BMSCE
		Two week GIAN course on “Sensing and related technologies for the grand challenges of the 21st Century: Climate, Energy, Water, Food, Health and Mega-cities”	11 th - 22 nd July, 2022	Department of Electronics and Instrumentation Engineering, BMSCE

5	Dr. M. Vasantha Lakshmi	AICTE sponsored ATAL FDP on "Cyber Security Vulnerabilities and safeguards	12 th - 16 th July 2021	NITTTR, Chandigarh
		AICTE sponsored ATAL FDP on Smart city solutions for sustainable future	2 nd - 6 th Aug, 2021	BMSCE
		One week GIAN program on Modeling and Simulation of turbulence	29 th Apr – 3 rd May, 2022	Department of Mathematics, BMSCE
		Two week GIAN course on "Sensing and related technologies for the grand challenges of the 21st Century: Climate, Energy, Water, Food, Health and Mega-cities"	11 th - 22 nd July, 2022	Department of Electronics and Instrumentation Engineering, BMSCE
6	Prof. T.Anushalalitha	Two week GIAN course on "Sensing and related technologies for the grand challenges of the 21st Century: Climate, Energy, Water, Food, Health and Mega-cities"	11 th – 22 nd July, 2022	Department of Electronics and Instrumentation Engineering, BMSCE
		Introduction to Project Management	26 th July, 2021	Simplilearn
		Virtual training on Automatic Speech Recognition Technology(ASR)	27 th – 31 st July, 2021	SPARK in VoiceTech-a Samsung PRISM Initiative
		ATAL FDP on Advanced Communication systems-A Research Perspective	9 th – 13 th Aug, 2021	College of Engineering, Karunagapally, Kerala
		ATAL FDP on Developing Consciousness	16 th – 20 th Aug, 2021	Andhra University

6	Prof. T.Anushalalitha	You are the center of the world around you,As you change the world changes with you	21 st Sep, 2021	BMSCE IEEE SB
		Ninth International Conference on Transformations in Engineering Education(ICTIEE2022)	7 th – 9 th Jan, 2022	IUCEE
		'Analog Signal Processing concepts using Python and Multisim Live	22 nd Feb,2022	19th International conference on Remote Engineering using Virtual Instrumentation, held at Cairo, Egypt (REV 2022).
7	Dr. Manjunath PS	NPTEL courses on Internet of Things	23 rd May, 2022	NPTEL
8	Dr. Balachandra K	Integration of Renewable Energy & EV to microgrid: Prospects and challenges	21 st – 25 th Feb, 2022	NIT Trichy and SPARC
		NPTEL courses on Internet of Things	23 rd May, 2022	NPTEL
		NPTEL courses on and Programming in Java.	23 rd May, 2022	NPTEL
9	Dr. C.Gururaj	One week Skill Enhancement FDP titled 'Data Science - ML&AI'	25 th - 29 th April, 2022	Electronics & ICT Academy a joint initiative of IIT Kanpur
10	Prof. Ambika K	Two week online Internship on Analog Signal Processing using Python	15 th - 20 th Sep, 2021	BMSCE, Bengaluru
		Two week FDP on Introduction to Python and Latex Programming	28 th Mar - 8 th April, 2022	BMSCE, Bengaluru

11	Prof. Shreenivas B	Mathematical Development in cryptography and data science	9 th – 13 th Aug, 2021	RIT, Bengaluru
		One week Skill Enhancement FDP titled 'Data Science - ML&AI'	25 th - 29 th April , 2022	Electronics & ICT Academy a joint initiative of IIT Kanpur
12	Prof. Archana K	Two week online Internship on Analog Signal Processing using Python	15 th - 20 th Sep, 2021	BMSCE, Bengaluru
		Two week FDP on Introduction to Python and Latex Programming	28 th Mar - 8 th April, 2022	BMSCE, Bengaluru
13	Dr. Prasanna Kumar MK	ATAL FDP on "Electrophysiology and Neuro-Instrumentation, organized by	11 th Nov, 2021	Dr. Ambedkar Institute of Technology, Bangalore
		one week Skill Enhancement FDP titled 'Data Science - ML&AI'	25 th - 29 th April , 2022	Electronics & ICT Academy a joint initiative of IIT Kanpur

Faculty Publications

1. Sriram Ravishankar, **Prasanna Kumar MK**, "Empirical performance analysis of speech based age classification", IEEE Connect 2021, 10TH JULY 2021. (IEEE International conference)
2. **Vasantha Lakshmi M**, Amulya V N Komala M , Pragna S Desai , "COVID-19 SOCIAL DISTANCING SYSTEM IN QUEUE BASED SERVICES USING ANDROID APPLICATION", International Journal of Electrical Engineering and Technology (IJEET) (Scopus Indexed), 20th July 2021.
3. Geetishree Mishra, **Rajeshwari Hegde**, "Performance Optimization of Task Intensive Real Time Applications on Multicore ECUs - A Hybrid Scheduler", The Journal of Engineering, IET, pp 1-7, DOI: 10.1049/tje2.12059, July 2021
4. **P.S.Gowra**, Bindushree B, Manasa M, Sanjana Rao and Vidyashee T S, "Smart Vacuum Cleaner" , International conference on Computing Systems and its Applications, organized by Acharya Institute of Technology, Bengaluru, July 16,2021.
5. **Shreenivas B**, Pranay jain, Sanjana kumari, "Frame work for real time monitoring of battery performance in electric vehicles and locating charging facilities nearby", International journal of engineering and advanced technology, ISSN:2249-8958,Volume 10, Issue 6, August 2021. (Web of Science) DOI: 10.35940/ijeat.F2980.0810621
6. **Prasanna Kumar MK**, R Kumaraswamy, "Unsupervised speech separation by detecting speaker changeover points under single channel condition ", International journal of speech technology, Springer, 3rd august 2021, doi.org/10.1007/s10772-021-09875-3
7. Akash R. Kathavate, Bhanu Priya, **Rajeshwari Hegde**, Sharath Kumar, "Critical Aspects of 5G Technology- A Study on the Drivers, Technology Enhancement, Performance, and Spectrum Usage ", Asian Journal of Advanced Research and Reports, Page 22-33, DOI:10.9734/ajarr/2021/v15i530396, 17TH August 2021,
8. Bindushree V, Manasa M, Sanjana Rao, Vidyashree T S, **Gowra PS**, "Smart Waste Management System using IoT ",International Research Journal of Engineering and Technology (IRJET) Volume 8, Issue 8, <https://www.irjet.net/volume8-issue8> S.No: 407, august 2021.
9. **K P Pushpavathi and B Kanmani**, " Design of IIR Filters from Wavelets: A comparative study. ", IUP Journal of Electrical and Electronics Engineering, Jul 2021, Vol. 14 Issue 3, p 46-65. 20p, August 2021.
10. **Balachandra K** , P.G. Poonacha, "Deep Convolutional Neural Network for musical genre classification via new Self Adaptive Sea Lion Optimization ",Applied Soft Computing, September 2021.
11. **Ambika K.**, Radhika K.R, "Speed Invariant Human Gait Authentication Based on CNN ", ICIPCN 2021, Lecture Notes in Networks and Systems, vol 300. Springer, Cham https://doi.org/10.1007/978-3-030-84760-9_68, September 2021.
12. **Dr. C. Gururaj** ,Veena Nayak, Sushma P. Holla ,K.M. Akshayakumar, Machine Learning Methodology towards Identification of Mature Citrus fruits, Computer Vision and Recognition Systems using Machine and Deep Learning Approaches, IET Computing series vol. 42, Chiranjil L.C., Mamoun A., Ankit C., Saqib H. and Thippa R.G., Eds, London, The IET, November 2021, Ch. 16, pp. 385-438

13. Sriram Ravishankar, **Prasanna Kumar MK**, Empirical Performance Analysis of Speech Based Age Classification, *2021 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)*, 2021, pp. 01-05, doi: 10.1109/CONECCT52877.2021.9622575, 7th December 2021
14. **Pushpavathi.K.P** , B Kanmani, Design of FIR filters for LTE-Advanced Technology, *IUP Journal of Electrical and Electronics Engineering*. Vol 14, issue 4, pp 18-26, October 2021.
15. Chirag S Rao; M Rahul; Srijoni Dasgupta; **Rajeshwari Hegde**, Sustainable Pesticide usage in Agriculture, 2021 IEEE Mysore Sub Section International Conference (MysuruCon), 22 December 2021
16. Ishika Agrawal; Adarsh Kumar; DG Swathi; V Yashwanthi; **Rajeshwari Hegde**, Emotion Recognition from Facial Expression using CNN, 2021 IEEE 9th Region 10 Humanitarian Technology Conference (R10-HTC), 22 December 2021
17. Preksha B ,Rishika Harish, **Shreenivas B ,Vasanthalakshmi M**, Image Steganography using RSA Algorithm for Secure Communication, 2021 IEEE International Conference on Mobile Networks and Wireless Communications (ICMNBC), 3-4 December 2021
18. **Prasanna Kumar MK** ,R Kumaraswamy, Role of Speech Separation in Verifying the Speaker Under Degraded Conditions Using EMD and Hilbert Transform, *Proceedings of the International Conference on Paradigms of Communication, Computing and Data Sciences. Algorithms for Intelligent Systems*. Springer, Singapore, 1st Jan 2022
19. **B Kanmani**, Implementing the NEP within the AICTE Model: An initial Step, *The Ninth International Conference on Transformations in Engineering Education (ICTIEE 2022 Virtual)*, organized by Indo Universal Collaboration for Engineering Education (IUCEE) Foundation, 8th January 2022
20. **C. Gururaj**, MK Rahul, Praveen L. Uppunda, Sumukh B, Raju S Vinayaka, Self-Driving Car using Behavioural Cloning, *Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools and Applications*, Pradeep Singh Ed, February 2022, Ch. 16, Scrivener Wiley Publications, ISBN: 9781119821908, ch. 16, ISBN: 9781119821250, pp 379 – 396, DOI: 10.1002/9781119821908.ch16 (ESCI Indexed), 1st Feb 2022.
21. Asha K S , **Rajeshwari Hegde**, Relative Analysis of PBERR And LPRV Routing Technique To Enhance Network Lifetime For VANET, *Webology* (ISSN: 1735-188X), Volume 19, (Scopus indexed), 2nd feb 2022
22. **C. Gururaj**, Roshan Nayak, B S Ullas Kannantha, Kruthi S, Multimodal Offensive Meme Classification Using Transformers and BiLSTM, *International Journal of Engineering and Advanced Technology (IJEAT)*, ISSN: 2249-8958 (Online), Volume-11 Issue-3, February 2022, pp 96-102 DOI: 100.1/ijeat.C33920211322 (Scopus indexed), 28th feb 2022.
23. **T Anushalalitha**, Precovid, Covid and Post Covid Classes and Online Engineering, *REV 2022*, Egypt, MARCH 2022

24. Feroz Morab, **Rajeshwari Hegde**, Veena N. Hegde, Detection, Estimation and Radiation Formation Using Smart Antennas for the Spatial Location, Traitement du Signal Vol. 39, No. 1, February, 2022, pp. 389-398, 28 March 2022
25. **C.Gururaj**, Archishman Udaysinha Zanzaney, Chaitanya Krishna Sharma, Lakshya Jain, Proficient Evaluation of Visual Cryptography using Transposition Cipher and Bit Reversal Techniques, IEEE International Conference on Advances in Electrical, Computing, Communications and Sustainable Technologies (ICAECT), ISBN: 978-1-6654-1120-2, 20 – 21 April 2022, Shri Shankaracharya Group of Institutions Bhilai, 21st april 2022
26. KS Srujana, Sukruta N Kashyap, G Shrividhiya, **C Gururaj**, KS Induja, Supply Chain Based Demand Analysis of Different Deep Learning Methodologies for Effective Covid-19 Detection, Innovative Supply Chain Management via Digitalization and Artificial Intelligence, Springer Publishers, Kumaresan Perumal, Chiranji Lal Chowdhary, Logan Chella Eds, May 2022, Chapter 9, ISBN: 978-981-19-0239-0, pp 135-170, DOI: 10.1007/978-981-19-0240-6_9
27. **Balachandra Kumaraswamy**, Optimized deep learning for genre classification via improved moth flame algorithm, Multimedia Tools and Applications, Springer <https://doi.org/10.1007/s11042-022-12254-y>, May 2022
28. Vemana A , Mahima M.P ,**C. Gururaj**, Optimal Evaluation and Detection of Alzheimer's, IEEE International Conference on Intelligent Technologies (CONIT – 2022), 24 – 26 June 2022, KLE Institute of Technology, Hubballi, June 2022
29. Nidhishree arun (1BM18TE064), Namrataha V (1BM18TE030), Ananya Dutta (1BM18TE005), **Shreenivas B**, Hand gesture recognition and volume control , International journal of creative research thoughts, Volume 10, Issue 6, June 2022