SHRI VILEPARLE KELAVANI MANDAL'S
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
Approved by AICTE and Affiliated to the University of Mumbai

ACADEMIC BULLETIN

July 2021- Dec 2021

Department of Electronics & Telecommunication Engineering

Prepared By:

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ACADEMIC BULLETIN

Period: 1st July 2021 – 31st Dec 2021

1. ABOUT DEPARTMENT

1.1 Vision

To be a world class Institution for education, training and research in engineering, inculcating values and skills for sustainable development of the society.

1.2 Mission

- To provide competent faculty and an interactive learning environment along with world class infrastructure for nurturing professionalism & entrepreneurship in Engineers.
- To foster technical competence, research aptitude and environmental awareness amongst aspiring technocrats to develop sustainable engineering solutions.
- To provide a forum for active interaction between academia & industry, leading to continuous improvement in engineering education.

1.3 Vision of the Department

To develop technically competent and socially responsible Electronics and Telecommunication engineers capable of fulfilling expectations at indigenous and global levels.

1.4 Mission of the Department

- To provide a conducive educational environment for students by providing good infrastructural facilities, knowledge base and excellent faculty support.
- To provide a strong foundation of core knowledge and exposure to research culture.
- To motivate learners to acquire adequate professional and soft skills, to develop personality traits and eventually transform them as life-long learners.
- To strive and achieve practical exposure by maintaining good rapport with industry and professional network.

1.5 Program Specific Outcomes (PSOs)

- To develop knowledge in the domain of signal analysis and processing and provide a foundation to numerous other courses that deals with signal processing applications.
- To develop basic and applied knowledge of the architecture and assembly language programming for microprocessor/microcontroller-based systems, along with the peripheral interfacing.
- To provide an in-depth understanding of electromagnetics, transmission lines and antenna concepts along with microwave devices used for RF and microwave applications.
- To develop knowledge of the fundamental techniques related to generation, transmission and reception in communication systems for a wide range of wired and wireless applications along with revolutionary technology developments.

1.6 Program Educational Objectives (PEOs)

- **PEO1:** To prepare learners for graduate studies by providing strong foundation of basic sciences, computer programing and thus, develop analytical aptitude, and problem solving abilities.
- **PEO2:** To develop a fundamental understanding of electronic & integrated circuits, communication systems and allied disciplines.
- **PEO3:** To develop core competency and expertise in the diverse areas of communication covering Signal processing, Electromagnetic Engineering, Embedded Systems, Computer Communication and Advanced Wireless Networks domains.
- **PEO4:** To inculcate competencies and aptitude in extending acquired technical knowledge to solve real life issues with high professional and ethical standards.
- **PEO5:** To develop proficiency in soft skills and deliver adequate personality traits to enable the pass outs to pursue higher education, to find competitive employment opportunities and/or pursue entrepreneurial ventures.

1.7 Department Information

- Started in the year 1999 with the intake of 30 and which was increased to 60 in the subsequent year.
- The intake was increased to 120 in the Academic Year 2010 – 11.
- In the Academic Year 2011 – 12, Department has started M.E. Program in Electronics & telecommunication with an intake of 18 students.
- For the first time Department got NBA accreditation for two years from January 2013. In second Outcome based evaluation, Department got NBA accreditation for three years from July 2017.
- The Department started with Ph.D. program in Academic Year 2015 – 16 with an intake of 10 students.
- The department is having highly qualified, experienced and dedicated faculties and supporting staff.
- Well-equipped labs and fully air-conditioned classrooms with projectors.

2. ADMINISTRATION

IETE COMMITTEE

Dr. Amit Deshmukh

Dr. Anuja Odhekar

PROJECT COORDINATOR

Dr. Amit Deshmukh

Prof. Ameya Kadam

DEPARTMENTAL LIBRARY

Dr. Amit Deshmukh

Dr. Anuja A. Odhekar

Prof. Archana Chaudhari

ALUMNI COMMITTEE

Prof. Ranjushree Pal

PLACEMENT COORDINATOR

Prof. Aarti Ambekar

NBA CORE COMMITTEE

Dr. Amit Deshmukh

Prof. V. V. Kelkar (PC/NC)

Prof. Ameya Kadam

Prof. Venkata A. P. Chavali

EXAM COORDINATOR

Prof. Shivani Bhattacharjee

NSS Program Coordinator

Prof. Rahul Taware

DJSCE NEN

Dr S. H. Karamchandani

SPORTS COMMITTEE

Prof. Ameya Kadam

TIME-TABLE COMMITTEE

Dr. Poonam Kadam

Prof. Venkata A. P. Chavali

NPTEL and IBM COORDINATOR

Prof. V. V. Kelkar

3. IETE- SF

The Electronics and Telecommunication Department of Dwarkadas. J. Sanghvi College of Engineering presents Institution of Electronics and Telecommunication Engineers- Student Forum (**IETE-SF**). The student chapter with a working force committee of 32, consisting of **second year** and third **year students**, hosted a few of the most quintessential and technically challenging events. A membership drive was conducted at the start of the year with an overwhelming response. (www.djsceietesf.com)

IETE Organizing Committee Structure

IETE SF Branch Counsellor :- Dr. Anuja A. Odhekar

CHAIRPERSON	Adrika Singh
VICE – CHAIRPERSON	Aarya Bagde, Aayush Gandhi
SECRETARY	Jaimin Shah
JT. SECRETARY	Devarshi Shah
TREASURER	Akshat Somani
DJStrike Coordinator	Devarshi Shah
	Ayush Gandhi
	Muskan Jain
	Arya Gada

HEAD OF DEPARTMENTS	
TECHNICAL	Shweta Chavan
PUBLICITY	Vrushali Mehta
MARKETING	Jaimin Shah
BOOK BANK & COMPONENT BANK	Dev Ambani
INFOTECH	Manan Shah
EVENTS	Shree Shah
CREATIVE	Nensi Shah

3.1 Value Added Program

Book Bank

Book Bank is an initiative made by IETE that makes **reference books** available to students at **10% of the original cost**. It improved the core competency and to strengthen the teaching ability. The faculty members refer these books and hence it makes the studying process efficient and helps to increase the student's technological knowledge about the subject. It also helps to build a foundation of the concepts that could enhance the practical skills required in the future. It gets updated every year and has several books to offer currently.

Component Bank

DJSCE IETE-SF proudly introduces the **Component Bank Facility,** through which students can benefit by borrowing components they require at a lower price and return them once their job is done. The worry of buying expensive components and then thinking about what to do with them once the project is finished, is eliminated.

4. DEPARTMENT ACTIVITIES UNDER IETE-SF

4.1 Introduction to IoT

Expert: Ms. Shweta Chavan

Association of the expert: Technical Head at DJSCE IETE-SF, Third Year Student of EXTC Department

Date/s of the event: 10th October 2021

Participants: SE, TE, BE students.

Objectives of the activity:

- Familiarising participants with the basics of IoT such as diodes, current, etc.
- Educating the participants about the various needs and advantages of IoT
- Learning about coding Arduino and the basics of online simulation
- Imparting knowledge about ultrasonic sensors and their coding aspects

Contents:

IoT-Internet of Things, The Internet of Things (IoT) describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. The internet of things helps people live and work smarter, as well as gain complete control over their lives. In addition to offering smart devices to automate homes, IoT is essential to business. IoT provides businesses with a real-time look into how their systems really work, delivering insights into everything from the performance of machines to supply chain and logistics operations.

Therefore, to make students aware of the network of physical objects the IETE-SF Conducted a Session "Introduction to IoT". The Session took place on 10th October. The Session was very informative and interactive for the attendees. The Session started with good enthusiasm among the attendees to gain a good hold for IoT under the guidance of the Speaker. Firstly the Speaker introduced herself sharing her experience in the field of IoT.

She explained and made the attendees revise their basis. Once the revision of basis was done, the speaker then proceeded with Explaining what actually a Diode is and how it works and deeply explaining two types of diode LED and Zener.

Completing the basics the speaker moved to some exciting topics. Starting with Microcontroller and Microprocessor. Explained them with differences. The speaker then came upon explaining UNO.UNO is like when you start learning IOT this is a go-to place. The speaker showed how a real UNO looks like and gave the attendees practical experience of UNO. The Speaker then taught

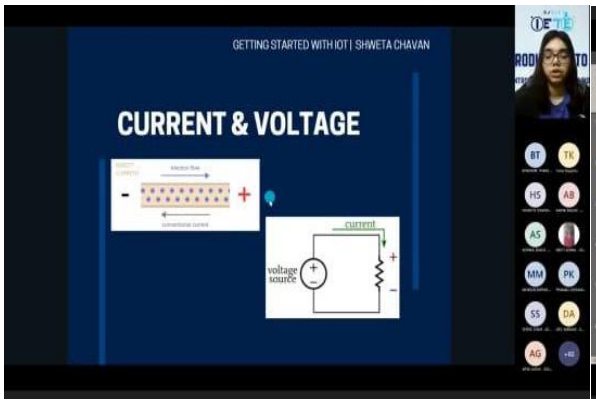
them preliminary circuit designing with Arduino and later programming the same. The students were then asked and assisted to do the same on the online simulation tool TinkerCAD. Session 2 ended with the basic knowledge of Microprocessor Arduino and its online simulation.

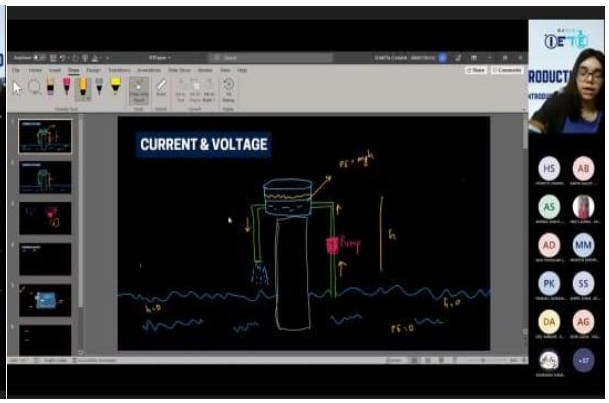
Finally, the event coming to the end, the speaker was thanked for this insightful lecture and then by the present IETE-SF committee hosts and members, with a brief doubts discussion towards the end.

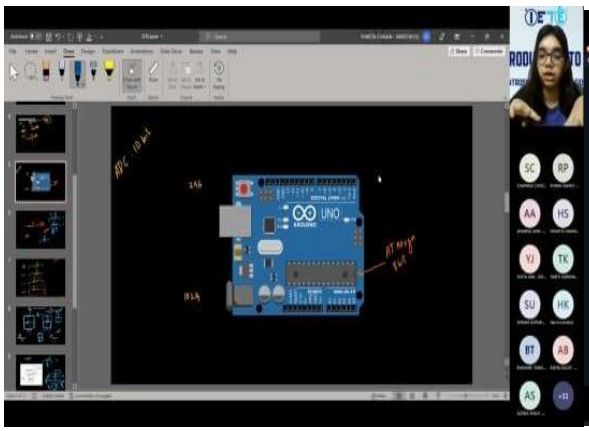
Outcomes:

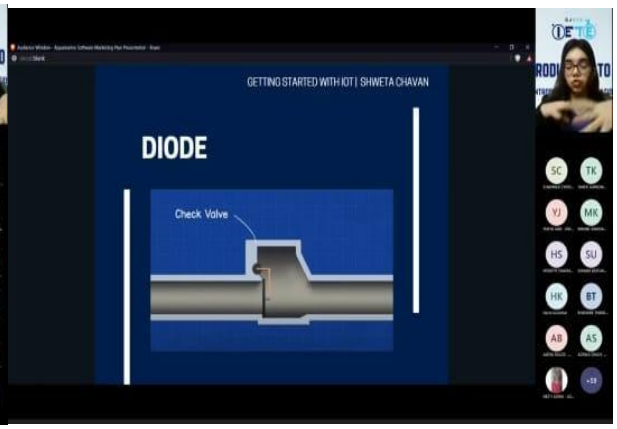
- Students and attendees became more aware of the need for IoT, its advantages and changes around the world that it imparts
- Students are well versed with potential uses of Arduino, Ultrasonic sensors and online simulation tools
- Students can implement this knowledge in their future endeavours and become better employable, more rounded individuals
- Attendees also became aware of various microprocessors, microcontrollers, and diodes.

Photograph of Event:









4.2 Basics of IoT

Speaker: Prof Shivani Bhattacharjee

Association of the Speaker: Assistant Professor, DJSCE Mumbai

Date of the Session: 15th November 2021

No. of Participants: 20

Participants: SE

Contents:

"The Internet of things is about empowering computers….so they can see, hear and smell for themselves" Kevin Ashton (Inventor of the term Internet of Things)

IoT-Internet of Things, The Internet of Things (IoT) describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. The internet of things helps people live and work smarter, as well as gain complete control over their lives. In addition to offering smart devices to automate homes, IoT is essential to business. IoT provides businesses with a real-time look into how their systems really work, delivering insights into everything from the performance of machines to supply chain and logistics operations.

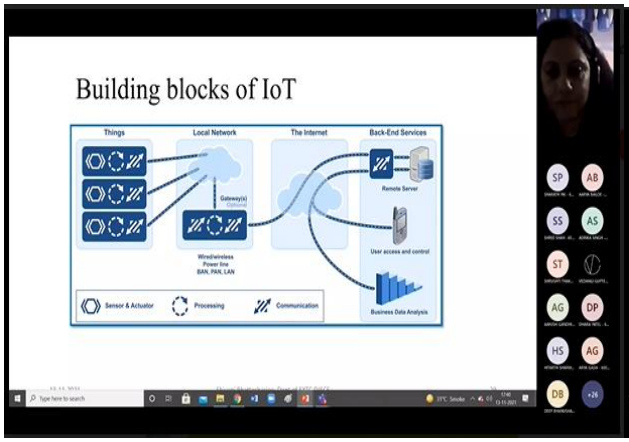
Therefore to make students aware about the network of physical objects the IETE-SF Conducted a Session "IoT for Everyone". It was an eleven days event. The aim for Day 1 was a general introduction to IoT. The Session took place on 15th November. The Session was very informative and interactive for the attendees. The Session started with good enthusiasm among the attendees to gain a good hold for IoT under the guidance of the Speaker. Firstly the Speaker introduced herself sharing her experience in the field of IoT. The speaker then proceeded to show us a general video about IoT.

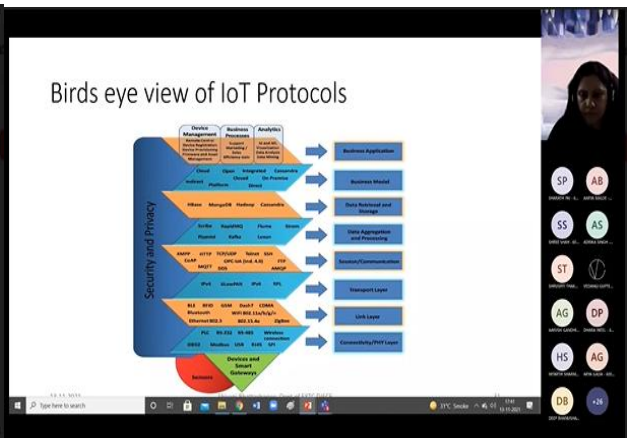
The professor broke the session into seven parts; starting with IoT domains, she explained that there are many IoT domains like Home, Transport, Community, National, Personal Use etc., with a lot of them being sub domains to one another. Then the speaker explained to us the History of IoT and let us know how far we have come from 1st generation to the current i.e. 4th generation. The speaker then explains how IoT works. Internet of things is not a single novel; instead, several complementary technical developments provide capabilities that are taken together to help bridge the gap between the virtual and physical world; and went on to explain to us about the building blocks of IoT. Basic building blocks of IoT are End devices/Node, Gateway/local processing nodes, Connectivity, Cloud-based application and storage.

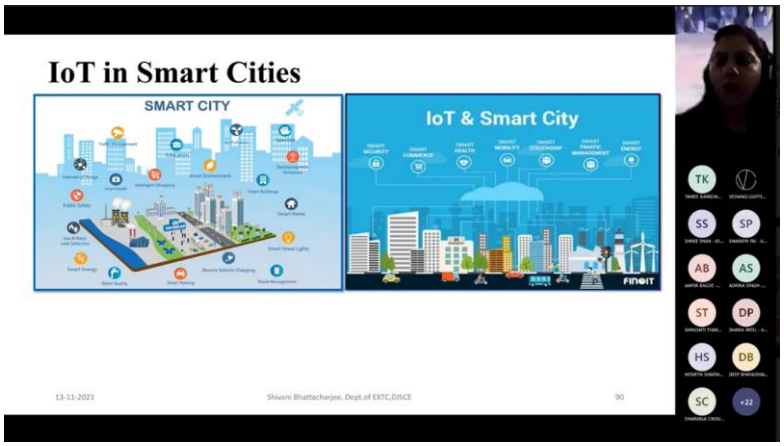
Next on the agenda was IoT stacks. It has four layers namely the application layer, management layer, communication layer, sensing layer. Next was IoT Spectrum. The speaker then explained the spectrum needs of IoT and what frequency they fall under.

IoT protocol was next, this was explained with various IoT protocols and examples in tow. For example RFID, Bluetooth, Zigbee etc. The experienced professor also gave us brief examples of home automation with examples like if someone is outside and wants their room to be cool they can switch on their AC with the help of their phone. Lastly, the professor explained the applications of IoT. Some of them are smart metering, logistics, transportation, e-health, smart cities etc; which were explained in detail in this part. Our representative from IETE thanked ma'am for a wonderful and informative session.

Photographs of the Event:







Outcomes:

- The students understood the need for IoT and how it works.
- They further understood how IoT works, its architecture and building blocks. Thus gaining an understanding into the core of this emerging technology
- The speaker further discussed the spectrum, IoT stacks and protocols with detail. Giving insight into how various devices connect to one another
- The participants also understood discussing use cases and applications of IoT

4.3 IoT and Embedded Systems

Speaker: Prof. Ninad Mehendale

Association of the Speaker: Assistant Professor, K. J. Somaiya College of Engineering

Date of the Session: 27th November 2021

No. of Participants: 20

Participants: Second Year students

Contents:

"The Internet of things is about empowering computers….so they can see, hear and smell for themselves" Kevin Ashton (Inventor of the term Internet of Things)

Embedded systems are microprocessor based hardware systems which have become an integral part of the devices we use in our day-to-day life. They are those computer systems that do not look like computer systems to the everyday user. They form a part of a larger system or product, ranging from a simple mobile phone to tedious medical devices, agricultural farming and manufacturing equipment as well.

Therefore to make students aware of the network of physical objects the IETE-SF Conducted a Session "IoT for Everyone". It was an eleven days event. The aim for Day was a general introduction to IoT. The Session took place on 27th November. The Session was very informative and interactive for the attendees. The Session started with good enthusiasm among the attendees to gain a good hold for IoT under the guidance of the Prof. Ninad Mehandale.

The professor then commenced the session by introducing the different programming languages required to understand the role of Embedded Systems for IoT. He explained all the required content from C, C++, PYTHON ,etc. The speaker also gave a brief description on JAVA, HTML and how they are not suitable for Embedded Systems. This helped the students to comprehend the in-depth insights of programming languages and their core motives related to Embedded Systems.

The students were then briefed about the different types of sensors and how the sensors are used and operated. He commenced by explaining core sensors like Temperature, Infrared, Humidity, Smoke, Track, Colour and Accelerometer. The most used and famous core sensors were presented in a picture format. Further, the details regarding the most used sensors were explained. Part one of the session, henceforth terminated by displaying the top 10 famous IOT Boards.

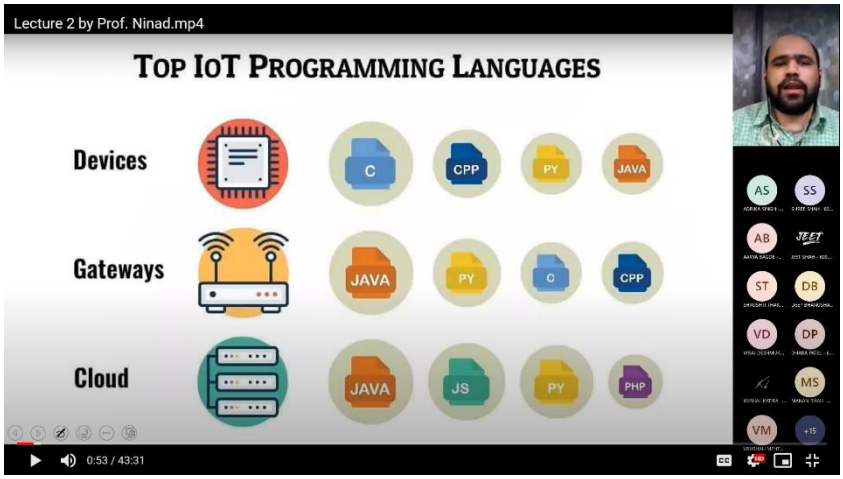
In part two of the session, Professor Mehendale began with the explanation of the "Architecture of Embedded Systems". This was considered as the most crucial part of the session. The data flow movement in Embedded Systems and Digital Block diagrams were also simplified in the session. Next, the two types of Embedded Systems were explained, which are completely based on Performance and Functional Requirements or on performance of the microcontroller.

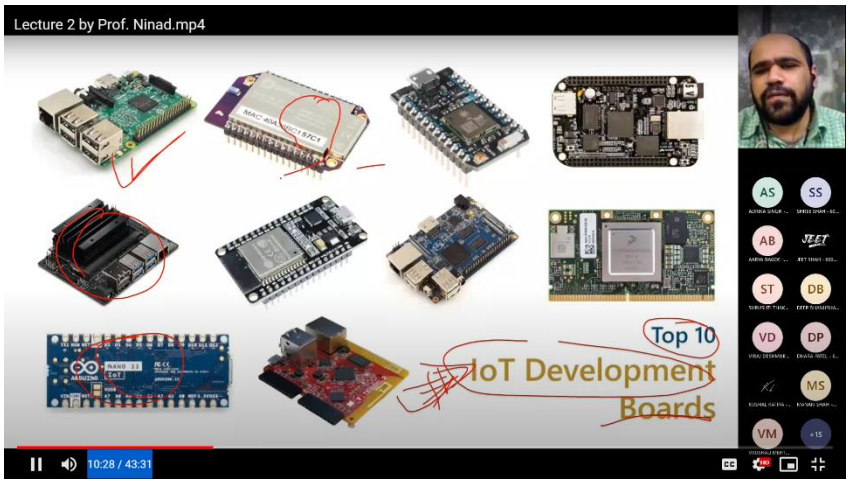
Further the participants were then explained the use of microcontrollers by the speaker, as he unfolded the difference between a microcontroller and a single-based computer. After that, the processing unit, RAM, onboard storage, reboot time and more quantities for both the equipment was explained in detail.

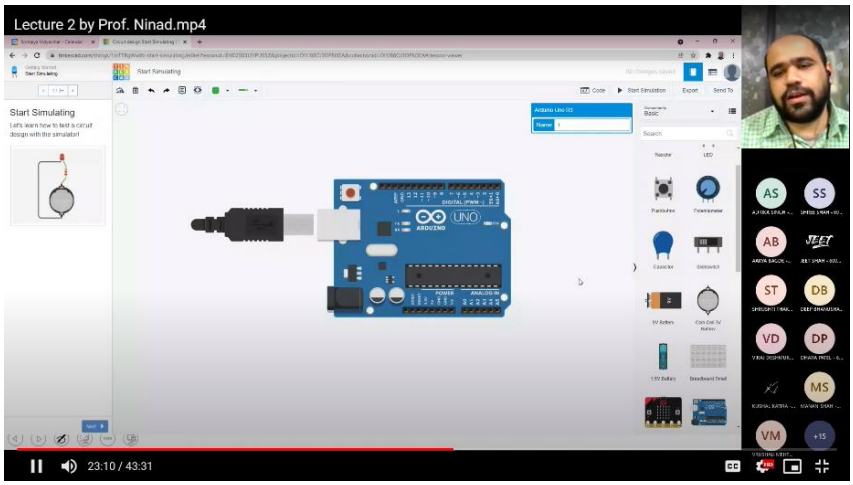
Right after the termination of the theory required, the professor started off with the practical implementation of the concepts. Two software were introduced to the students out of which the main one was 'TinkerCad'. Students learnt about objective of working with TinkerCad enhanced the students' knowledge as he went on to implement interfacing circuit and general block coding language (the highest level programming language used) . Later, the Arduino board and different sensors were used along with simulation to understand the functionality. The speaker terminated the session by briefing the students and guiding them on Block Coding.

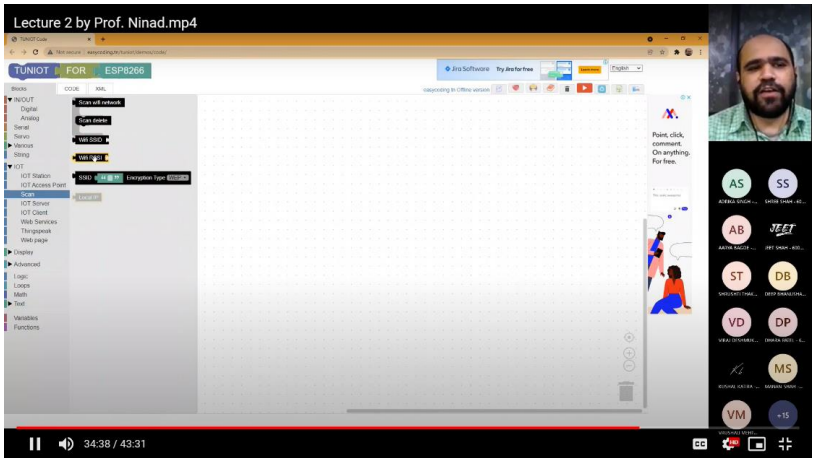
This informative session came to an end with a Question-and-Answer round after which the IETE-SF hosts solicited the presence of Professor Ninad for giving his valuable time towards imparting his expertise to the participants present.

Photographs of the Event:









Outcomes:

- The students understood the need for Embedded Systems in IoT and its implementation.
- The detailed architecture and building blocks helped the students to understand the core of this emerging technology.
- Finally the event ended with Prof. Ninad Mehendale teaching the students the basic implementation methods for IoT and Embedded Systems.

4.4 IoT and Artificial Intelligence

Speaker: Prof. Archana Chaudhari

Association of the Speaker: Assistant Professor at DJSCE.

Date of the event: 8th of December 2021

Participants: Second Year Students

Number of Participants: 20

Objectives of the activity:

- To study the domain of AI and how machines can be controlled
- For the attendees to gain better insight into the implementation of Artificial Intelligence on our daily lives and in the field of IoT
- To study the types of AI and the methods used for its implementation

Content:

Artificial intelligence is the theory and development of computer systems to be able to perform tasks normally requiring humour intelligence such as visual perception, speech recognition, decision making and translation between languages.

The Internet of Things (IoT) describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. The internet of things helps people live and work smarter, as well as gain complete control over their lives. In addition to offering smart devices to automate homes, IoT is essential to business. IoT provides businesses with a real-time look into how their systems really work, delivering insights into everything from the performance of machines to supply chain and logistics operations.

Therefore to make students aware of the network of physical objects the IETE-SF Conducted a Session "IoT for Everyone". It was an eleven days event. The aim for Day 1 was a general introduction to IoT. The Session took place on 15th November. The Session was very informative and interactive for the attendees. The Session started with good enthusiasm among the attendees to gain a good hold for IoT under the guidance of Prof. Archana Chaudhary. Firstly the Speaker introduced herself sharing her experience in the field of IoT.

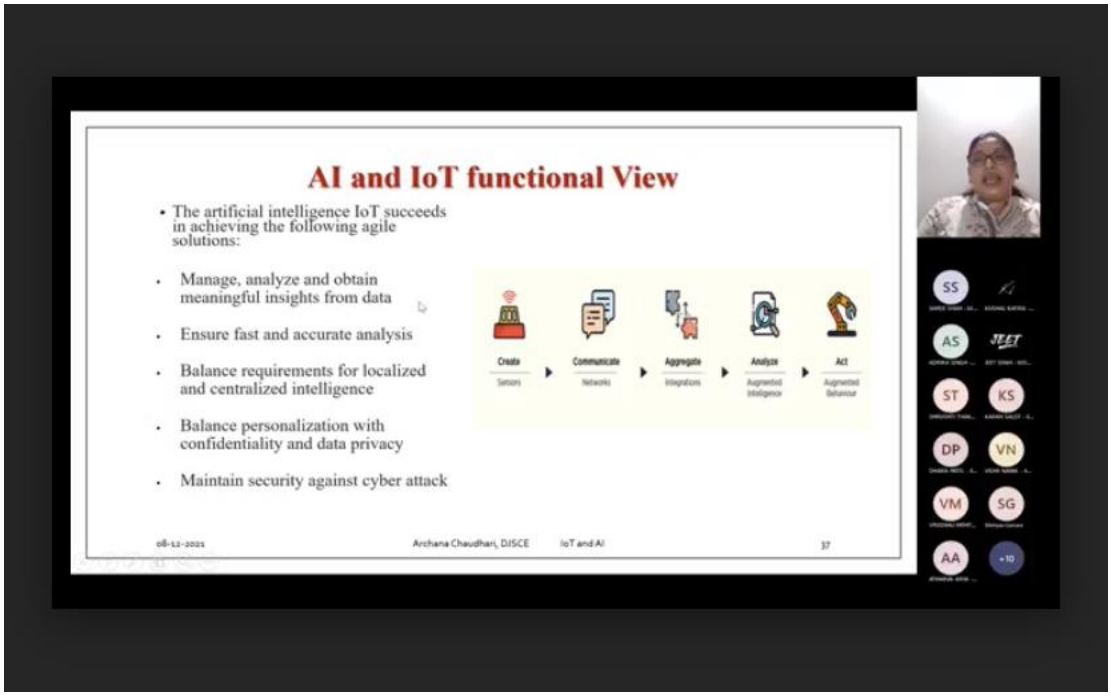
She explained and made the attendees Revise their basis, once the revision of the basics was done the speaker proceeded with explaining what is AI and gave a few examples of AI like how Google Translates entire web page in a matter of seconds or how photo gallery groups images based on the location or how it is used in smartphones, self-driving cars, gaming, banking etc. she then explained us the composition of intelligence. She explained how reasoning (The set of processes that enable us to provide basics for judgment, making decisions and prediction) , learning (it is the activity of gaining knowledge or skill by studying, practising, being taught or experiencing something), problem-solving (The process in which 1 perceives and tries to arrive at the desired solution from a present situation by taking some path which is blocked by known or unknown

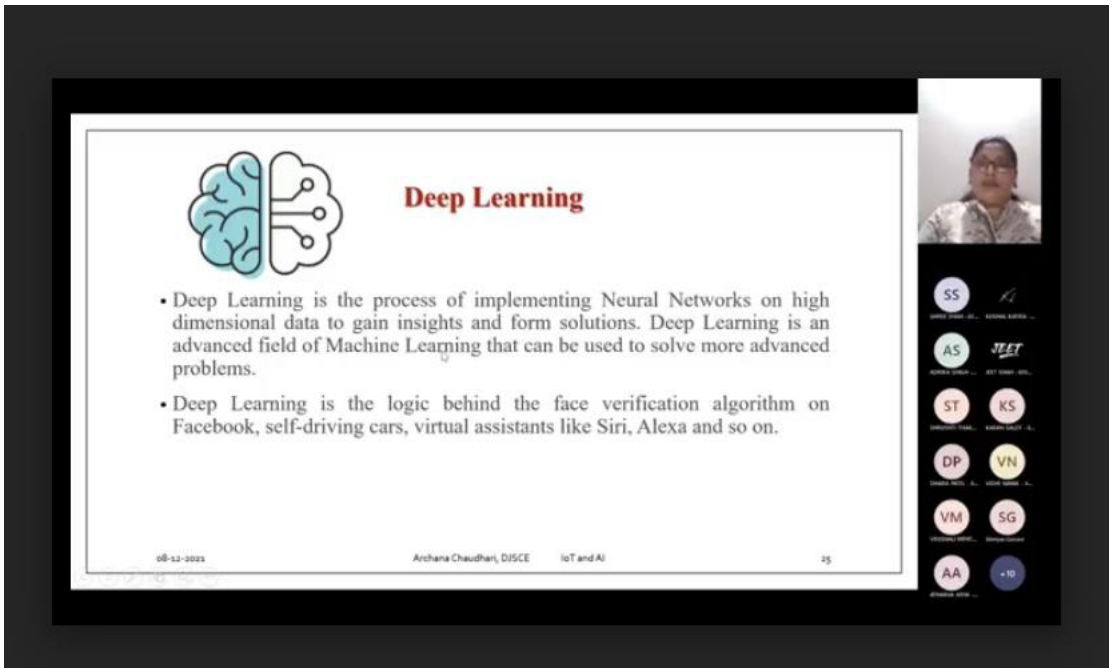
hurdles), perception (The process of acquiring, interpreting, selecting and organising sensory information) help to compose intelligence etc.

Ma'am then proceeded to explain the types of AI and how the two types are divided further into more types. She then explains how type-1 is further divided into 3 parts: narrow AI, general AI and strong AI and how type- 2 is divided into other four parts: reactive machines, limited memory, theory of mind and self-awareness. She then proceeds to explain each and every part in simple detail. She then proceeded to explain the domains of AI like deep learning, machine learning and artificial intelligence and then she showed us the general structure of ANN. She then explained to us how a machine can be trained in different methods like supervised learning, unsupervised learning and reinforcement learning. She explained to us what an expert system is, which is an AI-based computer system that learns and reciprocates the decision-making ability of a human expert and how they use if-then logical notations to solve complex problems, they are mainly used in information management medical facilities and soon. Further ma'am explained AI and IoT functional view and AI benefits. She helped us by explaining how we can use Coursera, IBM machine learning, Google Cloud, AI platform, spells and neural designer to start AI projects.

Ma'am ended the lecture by explaining to us the future scope. The lecture was very insightful and helped me gain knowledge in parts of AI and IoT. I would love to attend more lectures like this. The speaker was thanked by various faculty members present for this lecture and by the present IETE-SF committee hosts and member

Photographs of the Event:





Outcomes:

- Students and attendees became more aware of how artificial intelligence works and its applications in their daily lives
- Students are well versed with potential types of AI and how machines are trained using them
- Attendees also became aware of various domains AI comprises of and the vast projects that can be considered under this field

4.5 IoT and Cloud Computing

Speaker: Ms. Roma Jain

Association of the Speaker: Senior MLE at iSchoolConnect

Date of the event: 8th of December 2021

Participants: Second Year Students

Number of Participants: 20

Objectives of the activity:

- To study the domain of cloud computing and its benefits
- For the attendees to gain better insight into the implementation of Cloud Computing on our daily lives and in the field of IoT
- To study how to access data and the methods used for its implementation

Content:

"Cloud computing is not only the future of computing, but the present and the entire past of computing" - Larry Ellison.

With this quote in mind, IETE-SF, the student chapter of the Electronics and Telecommunications department organised their fourth lecture in the IoT for Everyone: An Immersive IoT Workshop. The workshop was taken by Ms. Roma Jain, a senior machine learning engineer at iSchoolConnect, with a vast array of experience under her arsenal from companies such as UpGrad, Jio and CereLabs.

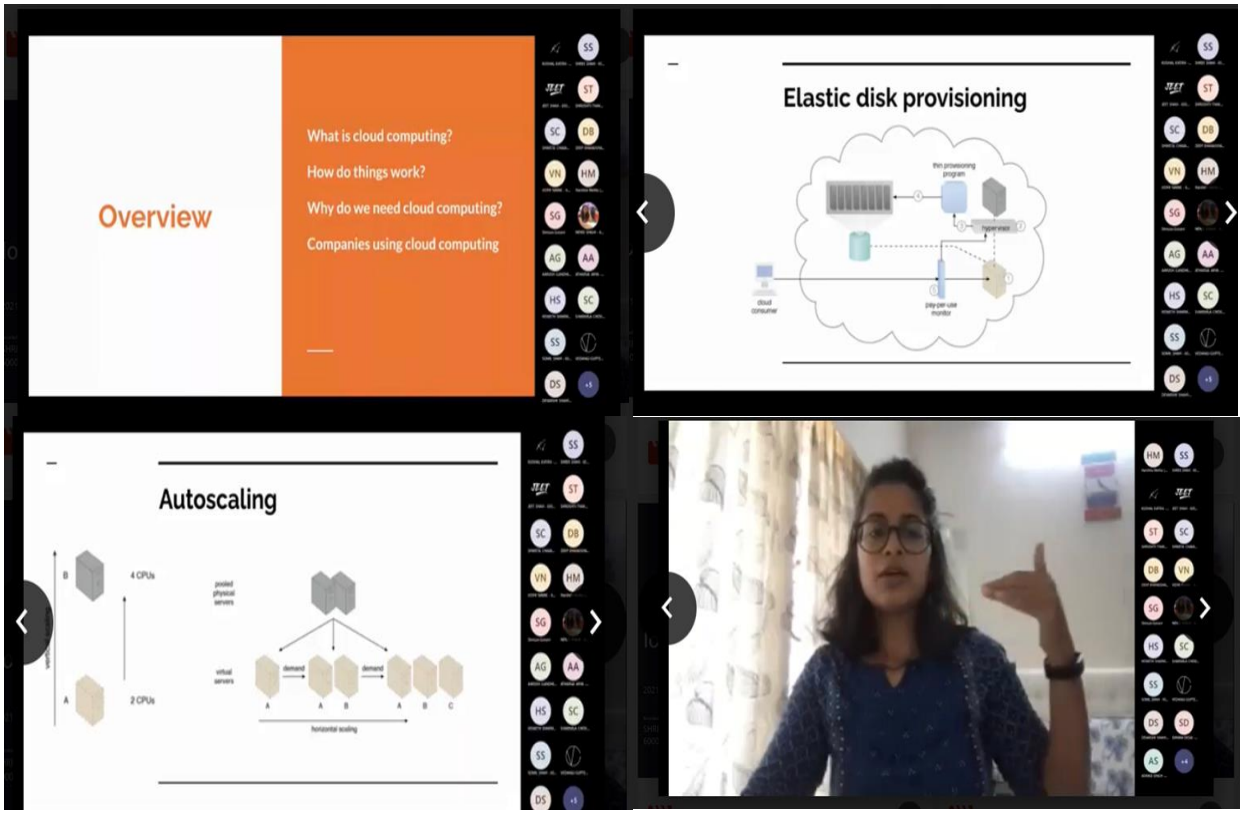
The workshop began with the events team of IETE-SF introducing the esteemed speaker and Ms. Jain giving the attendees a brief synopsis of what she was going to cover. We then moved onto learning what cloud computing is, with Ms. Jain explaining how it provides on demand functionality to the consumer as it is neither public or private and is an Internet service instead. Further the students learnt about the three terms in the technical world related to cloud computing, namely: IaaS, PaaS, and Saas. The speaker then continues to explain why we need cloud computing and explained the benefits of cloud computing and why various industries are adopting this technology over its other old-fashioned counterparts. Ms. Jain explained how it reduces cost and increases scalability, and how cloud computing helps in meeting fluctuating demands and scaling as per consumer needs.

We then moved onto practical examples of cloud computing and how they worked, with the speaker explaining how the things work actually like automated scaling listeners and hypervisor; she explained that the workload status information is monitored and virtual servers are added or removed, accordingly using this information heartbeat messages are sent by the servers to the monitors to check their health. LiveVM integration, elastic disk provisioning pattern, load balancers are the core concepts that were explained briefly and Ms. Jain then discussed the diagram of elastic disk provisioning and how it is applicable in the vast domain of cloud computing. Further, the students then there are two types of scaling horizontal and vertical and how it is better to use horizontal scaling than vertical scaling as vertical scaling has only one server and it

can go down anytime and with a single point of failure. While horizontal scaling on the other hand has multiple servers to rely on.

Ms. Jain then explained what a hypervisor is and how to access data by customizable control panels. Finally the students learnt about the cost of cloud services and which service would best suit a customer and their needs of configuration. “There are easy commands to download data uploaded to the cloud,” Ms. Jain elaborated, further explaining how many companies use cloud computing and how important it is as leading companies like Netflix, Twitter, eBay all rely on cloud computing. It was also mentioned how some companies like Facebook and Apple are reported to be off cloud and building in house data centres due to security concerns still prevalent in the industry. Ending the workshop, Ms. Jain was thanked by the events department of IETE-SF for gracing the students with her presence and taking out her valuable time. The lecture was very insightful and educational, the students were also quoted as saying. With this the lecture came to a successful end.

Photographs of the Event:



Outcomes:

- Students and attendees became more aware of cloud computing and its benefits
- Students are well versed with potential types of cloud computing and how companies and individuals utilise this technology
- Attendees also became aware of practical use cases of cloud computing and its real life applications in leading companies

4.6 IoT and VLSI

Speaker: Dr. Poonam Kadam

Association of the Speaker: Assistant Professor, DJSCE Mumbai

Date of the Session: 30th of December 2021

No. of Participants: 20

Participants: SE students

Objectives:

- VLSI Methodology.
- Design Process used in VLSI.
- Frontend and Backend designs in VLSI.
- MOSFET Structure and its applications.
- Digital VLSI.
- Low Power VLSI.
- Fabrications.
- Languages of Programming like VHDL, Verilog, etc.

Contents:

IETE-SF, the student chapter of Electronics and Telecommunications Department organised the final leg of their seven-week workshop, IoT for Everyone: An Immersive IoT workshop by inviting the respected Dr. Poonam Kadam to speak on VLSI on the 30th of December 2021.

The session started off with the events team of IETE-SF introducing the speaker and telling the students about Dr. Kadam's vast teaching experience as she holds an MTech Degree from the prestigious IIT BHU in Electronics Engineering and has recently completed her PhD in Electronics & Telecommunication Engineering from University of Mumbai on the Topic "Design and Analysis of Broadband and Multiband Antennas using Defected Ground Plane Structure."

Dr. Kadam started the workshop with a brief explanation of what a VLSI is, explaining the discrete component required and briefed the students about why Integrated Circuits (IC) were developed. The professor went on to explain the classification of IC based on number of the logic gates present and showed the evolution in the field of ICs with Moore's law. then went on to the design Methodology showing the differences in both the full-Custom design and Semi-Custom Design. Madam then explained the VLSI Design flow which included Design Specification, Architecture design, Gate Level Design, Circuit level Design, HDL coding, Simulation, Verification and Meets Specification (if not HDL coding) and lastly Fabrication.

The VLSI Design is Divided into two parts the Frontend Design and the Backend Design and explained how Frontend and Backend Actually works. The frontend encompasses Design verification via Simulation and Backend involves Fault Simulation and Physical Design.

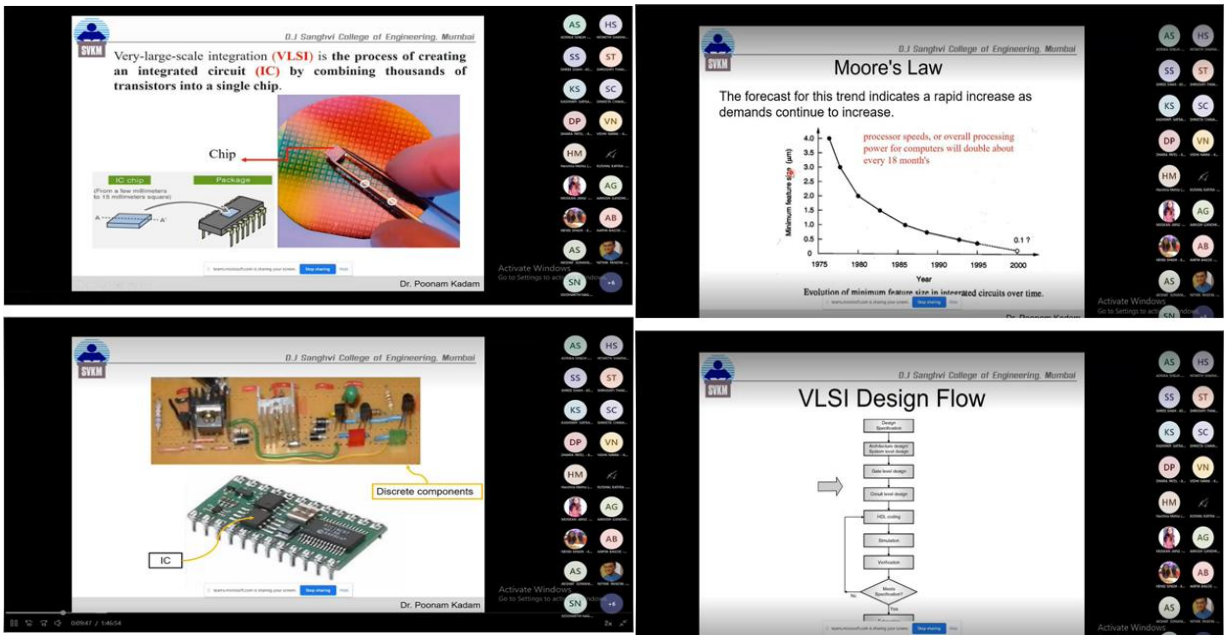
The professor talked about how Silicon IC technologies are developed by using either Bipolar process or by MOS process and then went on to elaborate the MOS process with diagrams and classifications. For working of these transistors, ma'am explained that the students need to apply a gate voltage which was explained with the help of Threshold Voltage concept and explained the mode in which the transistors must be kept and the working of voltage.

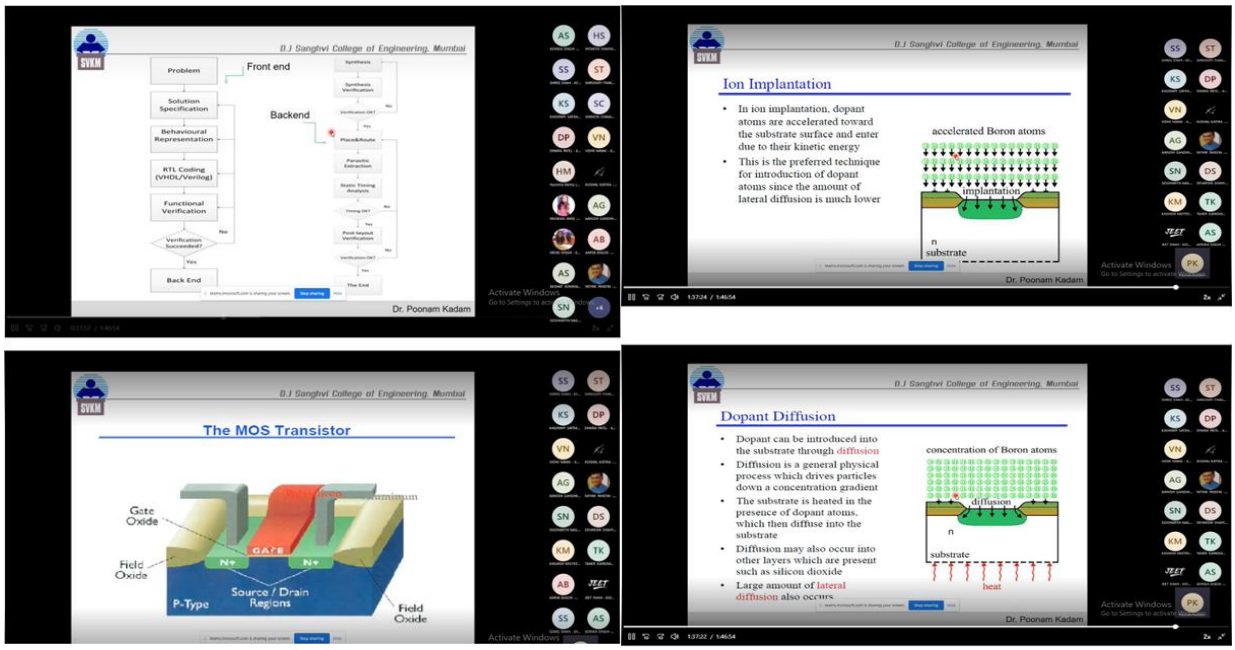
The speaker made the students work on finding the current required through equations and calculations and went on to the next topic which was Current Determinator. Firstly, explained the variables used in the determinations and then proceeded through the calculations. The next important concept was to find Channel length modulation and plot the graph for long channel I-V plots. She found of Current modulation for PMOS transistors. She later went through the threshold drops in the circuits.

Finally, Dr. Kadam went to on to explain the very important concept which defined the digital IC i.e., Noise margins and Voltage transfer characteristics. Further on the resistive load inverter was discussed along with the components of power and its dissipation. The speaker talked on the leakage Control circuits which included the explanation of sleep transistors, dual threshold voltage CMOS, body biased transistors, supply voltage scaling and transistors stacks. The professor also discussed the dopant diffusion method and the Ion implantation methods. Lastly, the students learnt about the Hardware Description Language which included VHDL and Verilog, etc. and discussed them in detail. The workshop ended with the discussion on the Level of Abstraction and the VHDL code for the half adder.

Dr. Kadam was then thanked by the Vice-Chairperson of IETE-SF, Adrika Singh for taking her valuable time and sharing her knowledge to the students present in the workshop. Students gained a lot from this workshop and it helped them to develop their knowledge in the field of VLSI.

Photographs of the Event:





Outcomes:

- Basic concepts of about VLSI were understood by the students and designing in VLSI was explained in dept
- The students were made familiar with the frontend and backend designing in VLSI.
- The students were introduced to the programming languages like VHDL, Verilog, etc.

4.7 IoT for Everyone: An Immersive IoT Workshop

Speaker: Sachin Singh Bhadoria, Rushabh Nagda, Satvik Deshmukh

Association of the Speaker: BE student mentors, DJSCE

Date of the Session: 14th November to 23rd of December 2021

No. of Participants: 20

Participants: Second Year Students

Objectives:

- For students to learn how to construct a Security-Camera with Esp32 Cam, PIR and Telegram Bot
- To understand the basics of Python and how to operate your own camera using Python code
- To become well versed with making a bot in Telegram and the study of ESP and its functions

Contents:

"Knowledge is of no value unless you put it into practice" - Anton Chekhov

With the above quote in mind IETE-SF, the Student Chapter of the Electronics and Telecommunication Department organised IoT for Everyone: An Immersive IoT workshop. This was a 7 week long event, spanning five workshops delivered by BE mentors along with five lectures from esteemed speakers on the topic of IoT and its many aspects.

Through this event students could learn how to implement various aspects of IoT not only in theory but also practically through project making, giving them hands on knowledge with the various components associated with IoT such as ESP32, BMP280 sensor and many more components.

The first workshop was conducted on the 14th of November 2021, with IETE-SF's events team spearheading the gracious welcome of the mentors for this workshop. Our mentors helped the students in downloading Anaconda along with teaching them how to set up Jupyter notebook for the purpose of Python programming. The mentors broke the session into parts for better understanding of the project topic at hand. First is Python Basics. In this part, the mentors started with operators, data types and variables. They explained some examples of operators are + - * and examples of data types are float, int, char, further explaining that as far as variables are concerned those are normal words or alphabets.

Next is the mentors explained flow control, teaching the students about booleans, which are either True or False. Logical operations such as and, or, not and their truth table, along with an If-Else loop were explained. The mentors gave us key advice for tackling indentation errors by using tab or spacebar in python. Further, loops were being introduced where they gave us insights on how

to use FOR and WHILE loops and described the advantages and disadvantages of using both loops.

Furthermore the mentors showed the students how to use python to full capacity by using its code reusability and far reaching repositories available online to their advantage. They then explained List in python, explaining its index and their naming conventions for the language. Dictionaries were then explained, with students understanding key value pairs and their practical usability. Subsequently Numpy library and OpenCV were explained, using images and videos to explain the various functions and procedures to bring about different results using these libraries; usually these libraries are used for matrix making and operations. The mentors also taught us about the different types of arrays such as 1D arrays, 2D arrays and 3D arrays, explaining pixels and how they work. The students also learned how to draw borders on existing images and make an image negative, along with using facial recognition through the student's web cameras.

The second week of the workshop was on the 21st November 2021. At the start of the session the mentors gave a recap of the first week of the workshop, covering Python basics briefly and informing the students about face recognition using Python. They explained how facial recognition has three parts, namely detection, recognition and segmentation. Sachin explained how detection means to check whether there is a face or not in the given picture and how to locate the face using Python's OpenCV library. For facial detection the students were taught how to embark on a more detailed Machine Learning journey if they were interested, with the mentor explaining how ML uses images, videos, and other media to work using deep learning. The mentors then showed us a code on face detection and gave us insights about machine Learning and how the computer is able to make a model successfully. Thus explaining the basics of the project at hand.

Once the facial detection code had been successfully completed by the students, the mentors then started teaching the students how to make a bot in Telegram. They used "BotFather" to make bots for telegram, editing features and customizing the bot to our requirement. The students then cleared their doubts about Telegram and how to successfully get a reply on the app when using their facial recognition system.

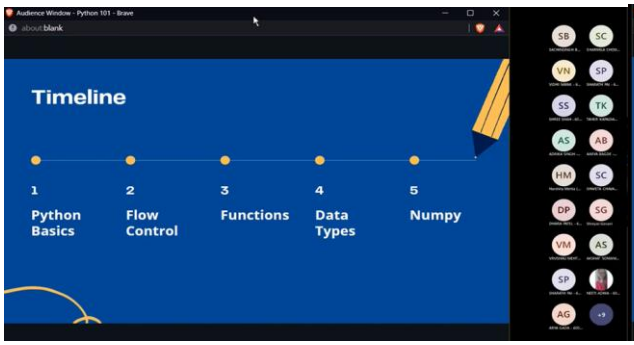
Week 3 and 4 of the workshop focused on implementing the hardware components of the workshop and were held on 28th of November and 12th December 2021. The lecture started of by participants opening there ESP Packet and learning about the various parts of the ESP and BMP. Our mentors started explaining the various connections present in the components and their various uses, using real life scenarios for easier understanding. Furthermore, Arduino coding was explained, teaching the students how to connect their ESP to their PCs and code successfully. Basic programs were taught to the students, and then the mentors moved onto making the project at hand, sharing code from Arduino to ESP using Port. They opened the Camera Web Server code which starts the ESP CAM and explained how the students could use this in their future projects as well.

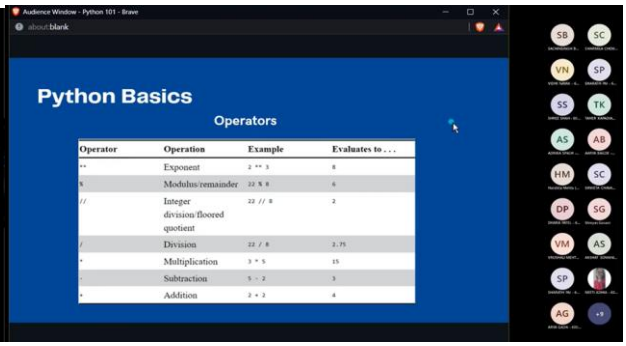
For better understanding and to clear all doubts present in the participants' minds, an interactive video was shown so that students could understand the component's part properly and their uses. These session was filled with interactive doubt solving sessions where students asked all their doubts regarding their components.

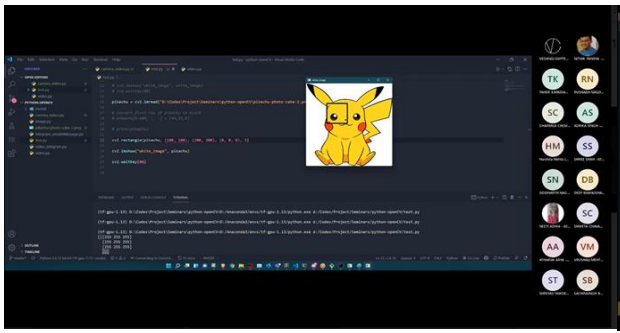
Finally moving onto Week 5 of the workshop, this was the offline workshop held at DJSCE's EXTC department. Herein, our mentor Satvik Deshmukh explained the basic concepts of soldering components and solved doubts pertaining to the telegram bot the students had coded further on. He then went on to explain APIs and their uses, finishing the project successfully with the students asking various doubts about how they could apply their learning to further projects and applications both software and hardware based.

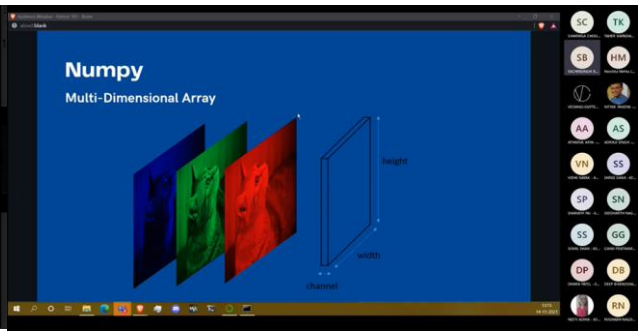
The workshop then concluded with the Vice-Chairperson of IETE-SF, Adrika Singh giving her concluding remarks to everyone present offline as well as online for attending the five week long workshop and thanking the mentors for their gracious presence throughout the term.

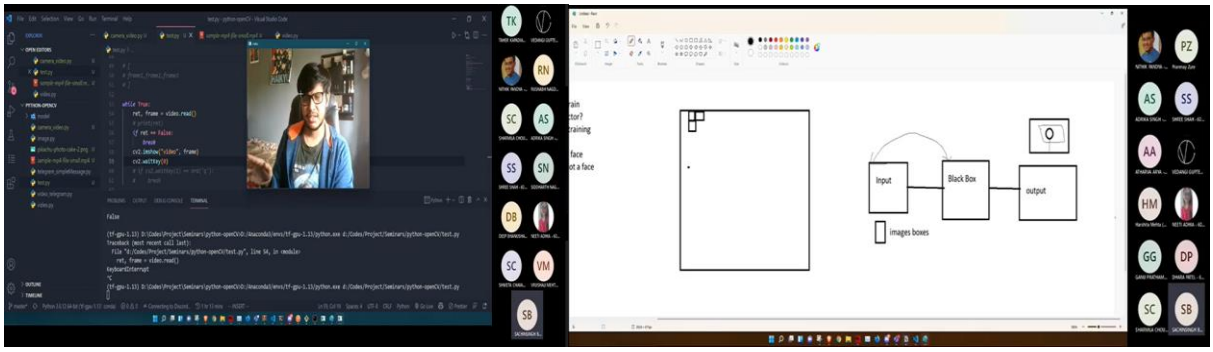
Photographs of the Event:

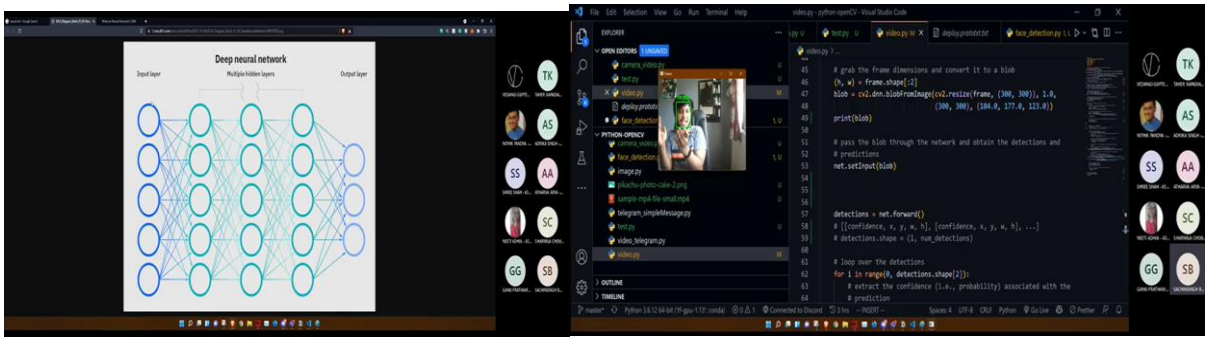


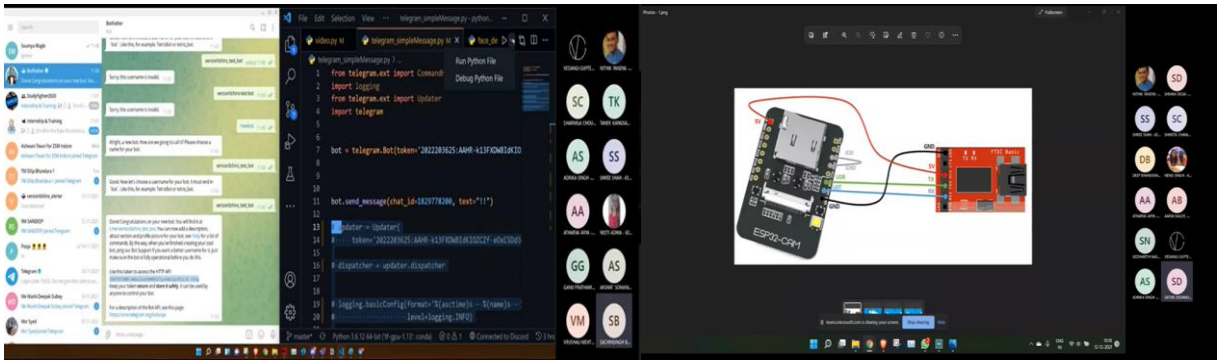


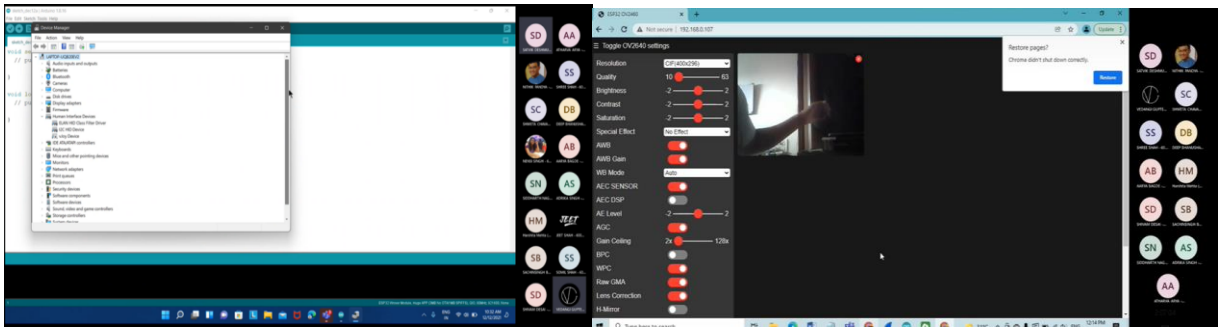












Outcomes:

- The students understood how to use python using a Jupyter notebook.
- The students are well versed with using Python libraries such as OpenCV and Numpy
- They understood how to make bots in Telegram using python and incorporating ESP32 cam into them.
- Practical techniques such as soldering and connections for the purpose of making a working security camera were also understood.

4.8 Machine Learning: Applications in Communication & Signal Processing

Date: 22nd July-24th July 2021.
Response: 180 participants
Conducted by: Electronics and Telecommunication Department, DJSCE, Mumbai

About Webinar

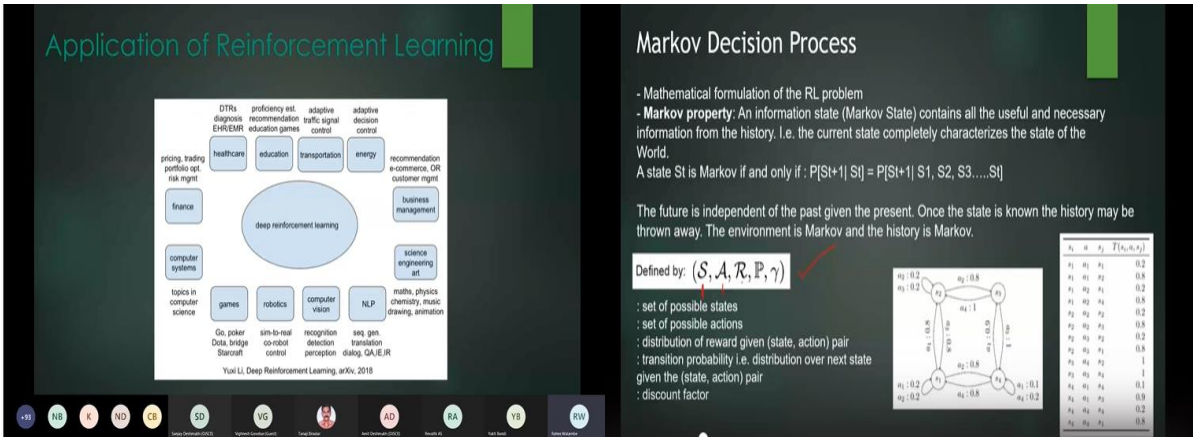
Electronics and Telecommunication Department of Dwarkadas J Sanghvi college of Engineering organized three days webinar series titled **Machine Learning: Applications in Communication & Signal Processing.** The target audience of this webinar were faculties, research scholars and UG, PG students.
Machine Learning has paved its way in almost every application building process. It is quite hard to think of any industrial activity which can be done without the use of Machine learning or Artificial Intelligence. Machine learning is important because of its wide range of applications and its incredible ability to adapt and provide solutions to complex problems efficiently, effectively and quickly. The webinar was mainly focused on reinforcement learning, Hybridization of Communication & Embedded System and role of CNN in Biomedical Image segmentation. The purpose of this webinar was to provide insight knowledge of machine learning with respect to communication and signal processing in such a way that it will motivate participants to start research works, project in these areas. The webinar benefited participants to develop their technical knowledge and skills in the field of Machine Learning.

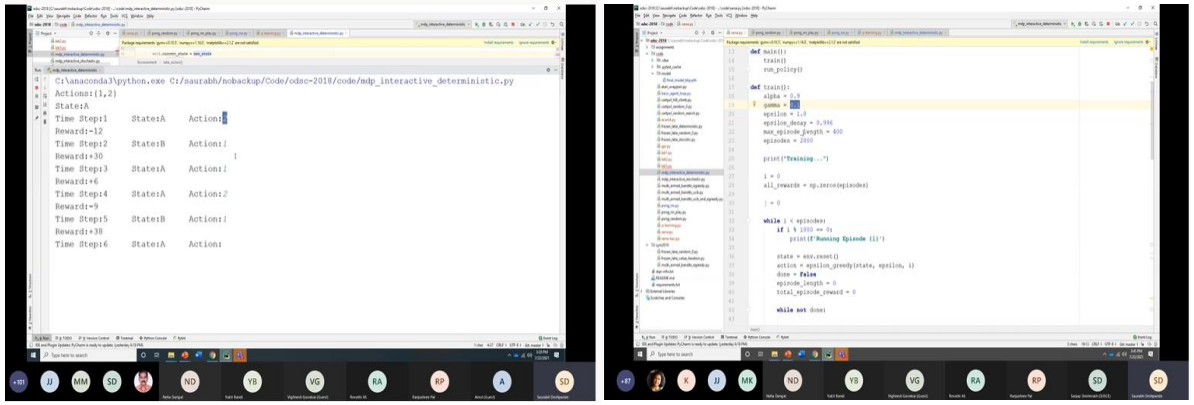
Webinar Day 1 (22nd July 2021)
Speaker: Dr Rahee Walambe
Affiliation: Associate Professor, Symbiosis Centre for Applied AI (SCAAI), Symbiosis Institute of Technology, Pune
Topic: **Reinforcement learning: Methods and Applications**
Time and Venue: 1:30-4:30 pm (MS Teams)

Day 1 of webinar series started with the welcome message by Prof. Revathi A.S. followed by speech of Dr. Amit A. Deshmukh. Prof. Yukti Bandi introduced the speaker. After that session started at 01:30 pm. Speaker explained probabilistic models and framework along with several methods & applications in field of computer vision, energy, robotics, transportation, finance & NLP. Participants received the idea of ML, Deep learning, Inverse RL along with supervised AI models. The session stressed on how RL is about taking suitable actions to maximize reward in a particular situation. Learning sequential decision-making tasks, RL plays a vital role whereas, Deep learning is best set of algorithms we have to learn representation. Speaker explained in detail information about RL components which are agent & environment as well as RL modelling Markov Decision Process (MDP). Detailed information about policy & greedy policy along with deterministic policy, stochastic policy & policy iteration were also covered. Participants also got knowledge about Value function (prediction of future reward), Q value (measure of overall

expected reward), Bellman Expectation equation (defining relationships between a given state to its successors), Bellman optimally Equations and examples related to it. At the end of the session, Speaker answered the queries. Vote of thanks was given by Prof. Yukti Bandi.

Photograph of day1:





Webinar Day 2 (23rd July 2021)

Speaker: Dr Giri Babu Kande

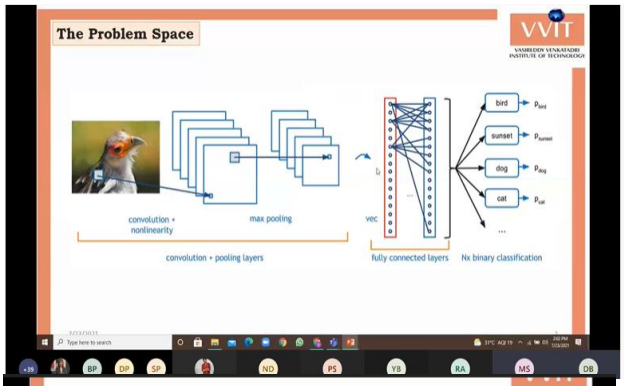
Affiliation**:** Professor & Dean of Academics ,VVIT,Guntur, Andhra Pradesh

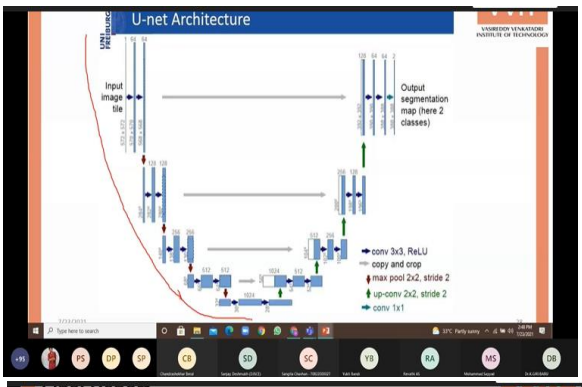
Topic: **Convolution Neural Networks: U-NET for Biomedical image Segmentation (Retinal Image Processing)**

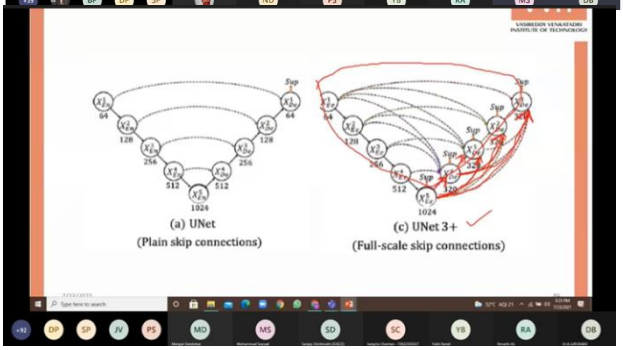
Time and Venue:02-4:30 pm(MS Teams)

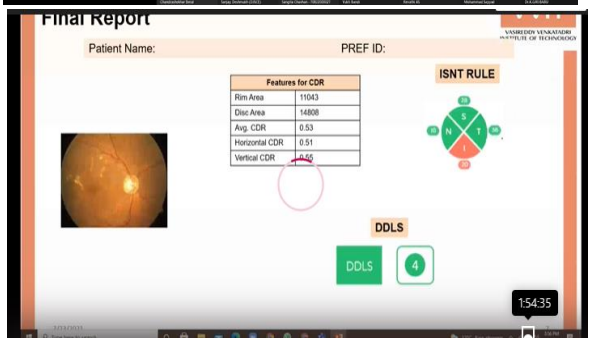
Day 2 of the webinar series started with the welcome message by Prof. Yukti Bandi. Prof. Revathi A.S introduced the speaker. After that session started at 02:00 pm. Speaker explained detail about convolutional neural networks, its modelling. Then he explained what is the difference of UNET from convolutional modelling, its scope in various projects. At the end of the session, Speaker answered the queries. Vote of thanks was given by Prof. Revathi A.S.

Photograph of the day2:





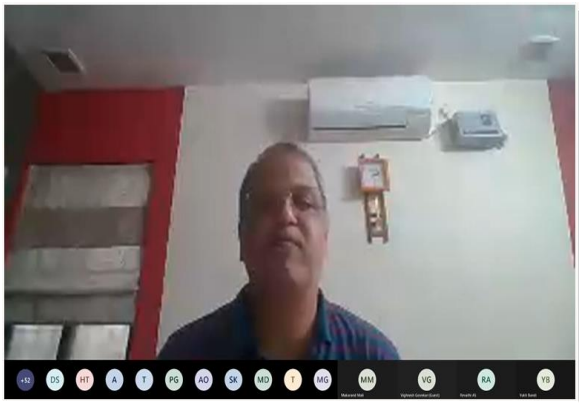


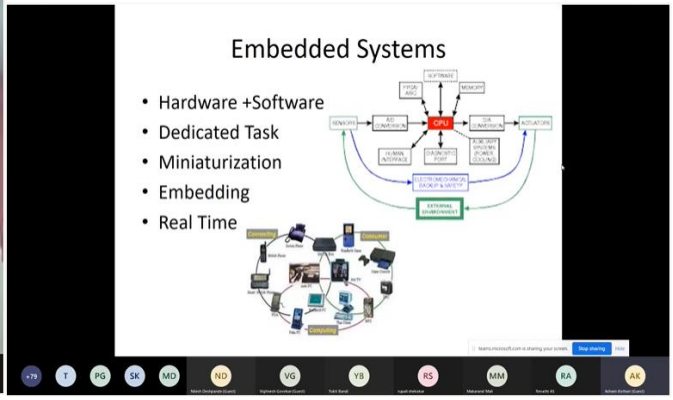


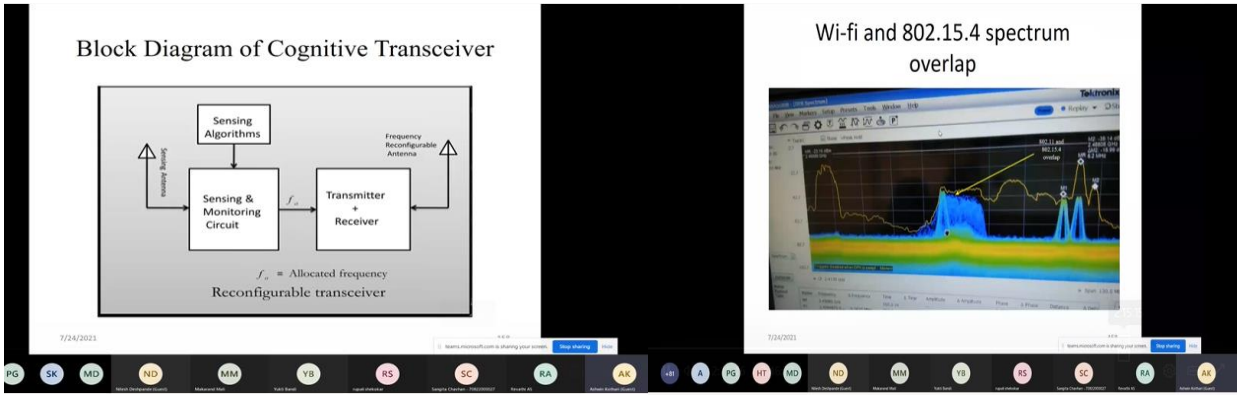
Webinar Day 3 (24th July 2021)

DAY3
Speaker: Dr Ashwin Kothari
Affiliation: Associate Professor, V.N.I.T, Nagpur
Topic: **Hybridization of Communication and Embedded Systems**
Time and Venue :02-4:30 pm (MS Teams)

Day 3 of the webinar series started with the welcome message by Prof. Revathi A.S. Prof. Yukti Bandi introduced the speaker. After that session started at 02:00 pm. At the end of the session, Speaker answered the queries. Vote of thanks was given by Prof. Yukti Bandi. Webinar is summarized by Prof. Tanaji Biradar.







Feedback Link was given to the participants and certificates were provided to the all the participants who successfully completed the webinar series.

4.9 DJS Antariksh

European Rover Challenge (ERC) 2021 Report

Achievements:

1. Team DJS Antariksh secured the **1st Rank Worldwide** in ERC 2021 Remote Edition.
2. **Won the Best Science Award.**
3. **Won the Best Navigation Award.**
4. In just its second year, our team has become the **1st Asian Team to ever win** the European Rover Challenge.
5. The team secured **2 out of the 4 Special Category** awards at ERC 2021 Remote.

About the Team:

DJS Antariksh is the official rover challenge team under the EXTC department of Dwarkadas J. Sanghvi College of Engineering, Mumbai, India. It was founded in January 2020 and ERC 2020 was the first ever competition in which the team participated. It has student members from diverse streams belonging to Second and Third Year of engineering. It focuses primarily on Technology and Innovation. Determined to participate and win National and International rover challenges, team has brought multiple laurels to the college and the country.

Competition Summary:

European Rover Challenge (ERC) is one of the best and most prestigious Space & Robotics competitions worldwide. It is an international competition where undergraduate and graduate student teams participate. They build prototype Martian rovers like Curiosity, Perseverance and perform various tasks like collecting soil samples, manipulating switches and many more. The competition has been organized since 2014 in Poland and is held in the 2nd week of September annually. ERC 2021 was conducted from 10th – 12th September 2021 at Kielce University, Poland, in the form of two editions, remote and onsite. The team qualified for both the editions but due to the current COVID-19 pandemic situation and the inability of the team to work offline, we could only actively participate in the remote edition.

1. **Science and Navigation task:** The team was supposed to reach given waypoints by navigating through the MarsYard built by ERC and deploy probes at each waypoint. The team also had to scan the MarsYard for unidentified objects and verify our hypothesis through our final reports.
2. **Maintenance Task:** The team had to remotely take over and control a 6-axis robotic arm (UR3) to do various tasks, like pressing buttons, attaching IMU sensor and inspection, which are common tasks for astronaut-assistive missions
3. **Presentation Task:** The team was expected to develop an overall presentation of the engineering approach, planning and execution of the tasks in the competition. Along with this, the business model for the commercialization of our rover on an international scale played a crucial role in the presentation.

Team Faculty Advisors:

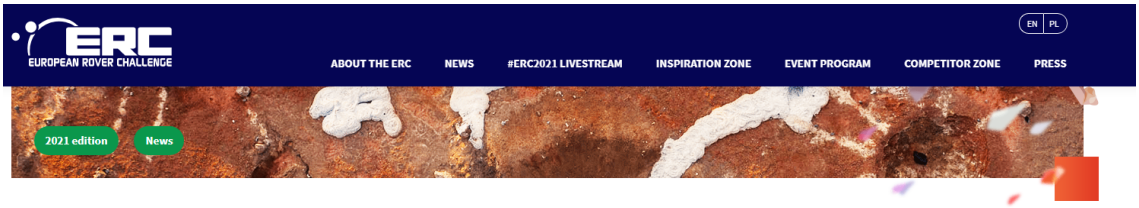
1. Dr. Amit Deshmukh
2. Prof. Sanjay Deshmukh
3. Prof. V. Venkatramanan
4. Prof. Rahul Taware
5. Prof. Tushar Sawant
6. Prof. Yukti Bandi

Team Structure:

Sr No.	Name	Position	Department
1.	Rutwik Bhangale	Team Captain	TE Mechanical
2.	Sandeep Jala	Team Vice-Captain	TE EXTC
3.	Yukti Shah	Team Manager	TE Comps
4.	Parshvi Doshi	Electronics Head	TE EXTC
5.	Vedant Singh	Mechanical Head	TE Mechanical
6.	Jazib Dawre	Coding Head	TE Comps
7.	Darshan Mehta	Marketing Head	TE Comps
8.	Vishal Umaria	Science Head	TE Mechanical

Link to ERC News Release: https://roverchallenge.eu/en/poland-and-india-triumph-during-erc2021/

Complete list of awards at ERC 2021:



13 September 2021

Poland and India triumph during ERC2021! [list of winners]

On Sunday, September 12, 2021, we met the medalists of the international Mars rover competition. The first place was taken by **IMPULS (ON-SITE) from Kielce and DJS Antariksh (REMOTE) from India**. The **ITU Rover Team (ON-SITE)** and the German **ERIG (REMOTE)** were second in the ranking. This year's podium is closed by **EPFL Xplore (ON-SITE)** and **RoboClyde (REMOTE)**.

The 7th edition of the ERC competition was held in two formulas for the first time. Teams competed stationary (ON-SITE) and remotely (REMOTE). This year's competitions took place on a track whose surface is inspired by a fragment of the volcanic plain of Mars called Elysium Planitia. The tasks prepared by the jurors reflected the work of engineers of the largest space agencies during the exploration of Mars.

This year, apart from the three main prizes, additional awards were also granted for achievements in individual categories and fair play competition.

The full list of the awarded and honored ERC2021 teams is as follows:

AWARD	TEAM NAME	COUNTRY
1ST PLACE ON-SITE	IMPULS TEAM	POLAND
2ND PLACE ON-SITE	ITU ROVER TEAM	TURKEY
3RD PLACE ON-SITE	EPFL XPLORE	SWITZERLAND
1ST PLACE REMOTE	DJS ANTARIKSH	INDIA
2ND PLACE REMOTE	ERIG	GERMANY
3RD PLACE REMOTE	ROBOCLYDE	UK
BEST TEAM IN: NAVIGATION ON-SITE	AGH SPACE SYSTEMS	POLAND
BEST TEAM IN: NAVIGATION REMOTE	DJS ANTARIKSH	INDIA
BEST TEAM IN: MAINTENANCE ON-SITE	ITU ROVER TEAM	TURKEY
BEST TEAM IN: MAINTENANCE REMOTE	ERIG	GERMANY
BEST TEAM IN: SCIENCE ON-SITE	EPFL XPLORE	SWITZERLAND
BEST TEAM IN: SCIENCE REMOTE	DJS ANTARIKSH	INDIA
BEST TEAM IN: PROBING ON-SITE	EPFL XPLORE	SWITZERLAND
BEST TEAM IN: PRESENTATION ON-SITE	AGH SPACE SYSTEMS	POLAND
BEST TEAM IN: PRESENTATION REMOTE	MARS ROVER MANIPAL	INDIA

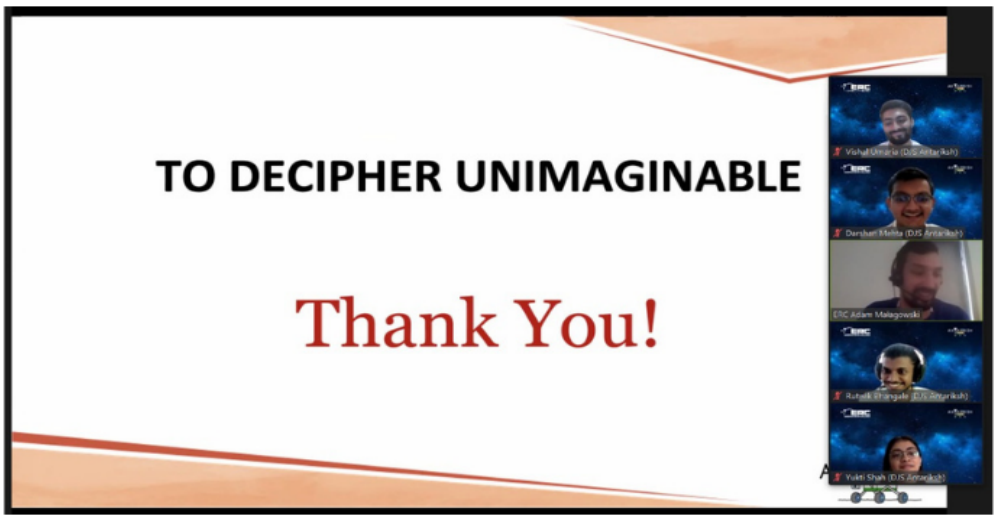
Competition snippets:

Day 1 (10/09/21) – Science & Navigation task

Day 2 (11/09/21) – Maintenance Task

Day 3 (12/09/21) – Presentation Task

ERC 2021



PRESENTATION TASK

5. ACHIEVEMENTS

5.1 Faculty Publications- Conferences / Journals

Conference Publication

Author	Paper Details
Dr. Sunil Karamchandani	Sudhakaran, P., Yadav, A.K., Karamchandani, S. "Parasitic sorority of speech processing algorithms with an assortment of statistical toolkits", 3rd International Conference on Smart and Intelligent Learning for Information Optimization (CONSILIO 2021) 9-10 July 2021, Hyderabad, India, Journal of Physics: conference series. Scopus index
Prof. Venkata A P Chavali	Venkata A P Chavali, Amit A. Deshmukh, Aarti G. Ambekar, "Rectangular Slot cut Sectoral Microstrip Antenna for Broadband Response", ICWiCOM-2021, Springer, Scopus
Prof. Venkata A P Chavali	Venkata A P Chavali, Amit A. Deshmukh, Aarti G. Ambekar, "Analysis of Broadband Circularly Polarized Half – E Shape Microstrip Antenna", ICWiCOM-2021, Springer, Scopus
Prof. Ameya A Kadam	Ameya Kadam, Amit A. Deshmukh, "Modal Analysis of Penta Band Notched Elliptical Planar UWB Antenna", ICWiCOM-2021, Springer, Scopus
Prof. Tushar sawant	Tushar sawant , Krupansh Shah, "Bus Monitoring system using Raspberry PI", ICWiCOM-2021, Springer, Scopus
Dr. Venkataramanan V	V.Venkataramanan, C.A Sathiyamoorthy, V Sivasankaran, V Venkataramanan, Mohd Faisal Mohd Sadique, Soumyaprakash Dasmohapatra, "Impact of 5G Technology on Indian Industries", ICWiCOM-2021, Springer, Scopus
Prof. Aarti G. Ambekar	Aarti G. Ambekar, Amit A. Deshmukh, Venkata A P Chavali, "Resonant Length Formulations and Redesigning Methodology for Wideband Dual Polarized Y-shape Microstrip Antenna", ICWiCOM-2021, Springer, Scopus

Prof. Aarti G. Ambekar	Aarti G. Ambekar, Amit A. Deshmukh, Venkata A P Chavali, "Stub loaded A-Shape Microstrip Antenna for Dual Polarized Multiband Response", ICWiCOM-2021, Springer, Scopus
Prof. Aarti G. Ambekar	Aarti G. Ambekar, Amit A. Deshmukh, Venkata A P Chavali, "Sectoral Microstrip Antenna for Dual Polarized Broadband Response", ICWiCOM-2021, Springer, Scopus
Prof. Vishakha Kelkar	Bhavya Sakhani, Dishay Shah, Vishakha Kelkar, "Remote ECG Monitoring System Using IOT and ML", ICWiCOM-2021, Springer, Scopus
Prof. Vishakha Kelkar	Deep Prajapati, Ankit Tripathi, Jeel Mehta, Kirtan Jhaveri, Vishakha Kelkar " Credit Card Fraud Detection using Machine Learning", ICWiCOM-2021, Springer, Scopus
Dr. Poonam Kadam	Poonam Kadam, Amit Deshmukh, "Gap-Coupled Microstrip Antenna Backed by Rectangular Slots Cut Ground Plane for Enhanced Bandwidth", ICWiCOM-2021, Springer, Scopus
Dr. Sunil Karamchandani	Khambaty, A., Joshi, D., Sayed, F., Pinto, K., Karamchandani, S. "Delve into the Realms with 3D forms: VizualizationSystem Aid Design in an IOT driven world", ICWiCOM-2021, Springer, Scopus
Dr. Sunil Karamchandani	Sunil Karamchandani, Saurabh Pednekar , Atharva Pusalkar , Shivani Bhattacharjee , Disha Issrani, "Autonomous parking system perception and control simulations on ROS-Gazebo", ICWiCOM-2021, Springer, Scopus
Dr. Sunil Karamchandani	Karamchandani, S., Sekhani, B., Nair, K., Shah, K. "E-nose for Shelf-Life Prediction of Climacteric Fruits", ICWiCOM-2021, Springer, Scopus
Prof. Shivani Bhattacharjee	Shivani Bhattacharjee, Shymal Oza, Parthivi Merchant, Rahul Sanghvi, "Technalyse Solutions – A Retail Analytical guide", ICAST2021, Elsevier, Scopus
Dr. Anuja A Odhekar	Anuja. A. Odhekar, Amit. A. Deshmukh, "Coplanar Waveguide Fed Modified Helicopter Fan Shaped Microstrip Antenna for Circular Polarization Response", *Proceedings of International conference on Wireless and Communication, 2021*, Lecture Notes on Data Engineering and Communication technologies, Springer, Scopus.

Journal publication

Author /Co-Author	**Paper Details**
Dr. Sunil Karamchandani	Nair, K., Sekhani, B., Shah, K., Karamchandani, S. "Expiry Prediction and Reducing Food Wastage using IoT and ML", International Journal of electrical & computer engineering systems, 2021, Scopus
Prof. Ameya Kadam	Ameya Kadam, Amit A. Deshmukh, "Triple Band Notched Y-shaped UWB Antenna Loaded with Modified Shape Resonator and Electromagnetic Band Gap Structures", International journal of microwave and optical technology, 2021, Scopus
Dr. Poonam Kadam	Poonam Kadam, Amit Deshmukh, "Multi-resonator gap-coupled variations of microstrip antennas backed by rectangular slot cut ground plane", Research Article, August 2021, Scopus
Dr. Poonam Kadam	Poonam Kadam, Amit Deshmukh, "Designs of regular shape microstrip antennas backed by bow-tie shape ground plane for enhanced antenna characteristics", International Journal of Electronics & communication (AEU), May 2021, Scopus
Prof. Aarti Ambekar	Aarti G. Ambekar, Amit A. Deshmukh, "Dual Polarized triple wideband circular microstrip antenna for GS and Satellite Applications", RF& Microwave computer aided engineering, Wiley, July 2021, Scopus
Prof. Aarti Ambekar	Aarti G. Ambekar, Amit A. Deshmukh, "Dual Polarized Wideband Compact P-Shape Microstrip Antenna for GSM and LTE Applications", International Journal of Microwave & Optical Technology, 4 July 2021, Scopus
Prof. Venkata Chavali	Venkata A P Chavali, Amit A. Deshmukh, "Multi-Resonator Variations of Circular Microstrip Antenna with Narrow Annular Sectoral Patches for Wideband Response", Pier_C, July 2021, Scopus
Prof. Venkata Chavali	Venkata A P Chavali, Amit A. Deshmukh, "Variations of Summation Slot Loaded Isosceles Triangular Microstrip Antenna for Wideband Response," International journal of microwave and optical technology, July 2021, Scopus

Dr. V. Venkataramanan	V.Venkataramanan,V. Radhamani V. Venkataramanan , S. Diwakaran , Muthukumar Subramanian, Arun Sekar Rajasekaran "wavelet thresholding techniques implementation in retinal images for suppressing noises", Dec 2021 Materials Today: Proceedings Elsevier, Scopus

5.2. Interaction of faculty with outside world

FDP/ STTP attended by Faculty Members:

Sr. No	Name of Faculty	Title of course	Dates
1	Prof. Yukti Bandi	AICTE Training and Learning (ATAL) Academy Online Elementary FDP on Predictive Modelling Using Data-Science Techniques at Indian Institute of Technology Guwahati.	06/09/2021 to 10/09/2021
2	Prof. Aarti Ambekar	International FDP on "Advanced technologies in Wireless Communication Networks (ATWCN)-2021" (Virtual Mode)" `, EXTC department GMR Institute of Technology, Rajam, AP, India	2nd Aug 2021 – 6th August 2021
3	Prof. Venkata Chavali	One week FDP on Advanced Technologies in wireless communication networks	2nd August to 6th August 2021
4	Prof. Yukti Bandi	FDP on Research Trends in Computer Vision and Natural Language Processing	19-23 July 2021
5	Prof. Yukti Bandi	FDP on GIS & Remote sensing	6-10 July 2021
6	Prof. Ameya A. Kadam	Coursera course on RF and millimetre-Wave Circuit Design	October 1, 2021
7	Prof. Yukti Bandi	Coursera course on Machine learning for all	01-12-2021
8	Prof. Yukti Bandi	12 Week NPTEL Course on "The Joy of Computing using Python" equivalent to 1.5 week FDP	22/11/2021
9	Prof. Ameya A. Kadam	Coursera course on Organisational behaviour: Know your people	13/11/2021
10	Prof. Ameya A. Kadam	Coursera course on Marketing analytics: Know your customers	02-12-2021
11	Prof. Ameya A. Kadam	12 Week NPTEL Course on "Advanced Microwave Guided-Structures and Analysis" equivalent to 1.5 week FDP	15/11/2021
12	Prof. Ameya A. Kadam	12 Week NPTEL Course on "Learning Analytics Tools" equivalent to 1.5 week FDP	15/11/2021

13	Prof. Vishakha Kelkar	Coursera course Machine Learning for All	24/11/2021
14	Prof. Vishakha Kelkar	One week FDP on IoT-Concepts and implementation	13/12/2021-17/12/2021
15	Prof. Vishakha Kelkar	One week FDP on Universal Human Values	20/12/2021-24/12/2022
16	Prof. Shivani Bhattacharjee	Coursera course on Customer Journey Maps with IoT Touchpoints in Miro	07-12-2021
16	Prof. Shivani Bhattacharjee	Coursera Course on Cloud Computing Applications Part 2 Big Data and Applications in the Cloud	09-12-2021
17	Prof. Shivani Bhattacharjee	Coursera Course on Internet of Things Communication Technologies	16/12/2021
18	Prof. Shivani Bhattacharjee	Coursera Course on Internet of Things Multimedia Technologies	17/12/2021
19	Prof. Shivani Bhattacharjee	Coursera Course Introduction to the Internet of Things and Embedded System	11-12-2021
20	Prof. Shivani Bhattacharjee	Coursera Course on IoT (Internet of Things) Wireless & Cloud Computing Emerging Technologies	14/12/2021
21	Prof. Shivani Bhattacharjee	12 Week NPTEL Course on "Introduction to Industry 4.0 and Industrial Internet of Things" equivalent to 1.5 week FDP	22/11/2021
22	Prof. Shivani Bhattacharjee	8 Week NPTEL Course on "Design of Internet of Things"equivalent to 1 week FDP	20/10/2021
24	Prof. Shivani Bhattacharjee	One week FDP on IoT-Concepts and implementation	13/12/2021-17/12/2021
25	Prof. Shivani Bhattacharjee	One week FDP on Universal Human Values	20/12/2021-24/12/2022
26	Prof. Revathi A S	One week ATAL FDP on "Recent Trends in speech processing"	20/12/2021-24/12/2021
27	Dr. Venkataramanan V	Coursera Course on IoT Devices-	November 29, 2021
28	Dr. Venkataramanan V	Coursera Course on Industrial IoT on Google Cloud	November 27, 2021
29	Dr. Venkataramanan V	Coursera Course on Introduction to the Internet of Things and Embedded Systems	November 27, 2021
30	Dr. Venkataramanan V	Coursera Course on Customer Journey Maps with IoT Touchpoints in Miro	November 22, 2021

31	Dr. Venkataramanan V	Coursera Course on IoT (Internet of Things) Wireless & Cloud Computing Emerging Technologies	October 25, 2021
32	Prof. Shivani Bhattacharjee	One week FDP on IoT-Concepts and implementation	13/12/2021-17/12/2021
33	Shivani Bhattacharjee	One week FDP on Universal Human Values	20/12/2021-24/12/2022
34	Prof. Revathi A S	One week ATAL FDP on "Recent Trends in speech processing"	20/12/2021-24/12/2021
35	Dr. Sunil Karamchandani	Coursera course on Machine learning for all 4 weeks	4-12-2021
36	Dr. Sunil Karamchandani	NPTEL course on "The Joy of Computing using Python" 12 weeks FDP:1.5 weeks	22/11/2021
37	Dr. Sunil Karamchandani	Coursera: Understanding and Visualizing Data with Python 4 weeks	06-12-2021
38	Dr. Sunil Karamchandani	Coursera: Design Thinking for Innovation University of Virginia 4 weeks	12-12-2021
39	Dr. Sunil Karamchandani	NPTEL course on "Film Appreciation" 8 weeks FDP:1 week	September 2021
40	Prof. Mrunalini Pimpale	Coursera: Assessment in Higher Education: Professional Development for Teachers	25-11-2021
41	Prof. Ranjushree Pal	FDP on Advanced concepts of Outcome Based Education	6/10/21,7/10/21,8/10,21
42	Prof. Yukti Bandi	NPTEL course on "The Joy of Computing using Python" 12 weeks FDP:1.5 weeks	22/11/2021
43	Prof. Vishakha Kelkar	Coursera course on “Supervised Machine Learning: Regression”, Dec 2021	Dec 2021
44	Prof. Vishakha Kelkar	Coursera course on “Machine Learning with Python”, Dec 2021	Dec 2021
45	Prof. Archana Chaudhari	AICTE Sponsored One Week Online Short Term Training Program organized by Vidhyalankar Institute of Technology on “Telecommunication Networks- Phase II”	05 th July to 10 th July, 2021

Webinar's attended by faculty members:

Sr. No	Name of Faculty	Title of course	Dates
1	Prof. Ranjushree Pal	Webinar Series in Machine Learning : Applications in Communication and Signal Processing , by EXTC Dept., D J Sanghvi COE.	22/07/21 to 24/07/21
2	Prof. Venkata Chavali	Webinar on Machine learning: Applications in Communication and Signal Processing by EXTC Dept., D J Sanghvi COE.	22/07/21 to 24/07/21
3	Prof. Venkata Chavali	Webinar on applied AI: Classification using AI tools	10th July 2021
4	Prof. Yukti Bandi	Webinar on Machine learning: Applications in Communication and Signal Processing by EXTC Dept., D J Sanghvi COE.	22/07/21 to 24/07/21
5	Prof. Arati Ambekar	Webinar on Machine learning: Applications in Communication and Signal Processing by EXTC Dept., D J Sanghvi COE.	22/07/21 to 24/07/21
6	Prof. Arati Ambekar	Webinar on applied AI: Classification using AI tools	10th July 2021

Other Events

Sr. No	Name of Faculty	Title of course	Dates
1	Prof. Aarti Ambekar	International online industrial training program of trending technology, "Block chain Using Python" by VCET, Chennai	26th July to 1st August, 2021
2	Prof. Venkata Chavali	International online industrial training program of trending technology, "Block chain Using Python" by VCET, Chennai	26th July to 1st August, 2021
3	Dr. Sunil Karamchandani	Article: Herbie goes Ubiquitous, In the Loop, Newsletter IEEE Bombay Section	October 2021
4	Dr. Sunil Karamchandani Convenor -IIC DJSCE	DJSCE has been selected as Mentor IIC for the IIC 4.0 calendar year. The Mentor-Mentee 2021-22 is a twinning program specifically for highly rated IIC institutions designed to facilitate knowledge exchange and resource mobilization between IIC institutions by offering inter-institutional collaborations and peer mentoring support.	(Oct 21 - March 22)
5	Dr. Venkataramanan V.	European Rover Challenge (ERC) 2021 Remote Report, DJS Antariksh	2021
6	Dr. Sunil Karamchandani	Institute innovation council has been assigned as a mentor to five other institutes to foster entrepreneurship activities	Oct 2021 to March 2022
7	Dr. Venkataramanan V.	Editorial Board Member Technoarete Transactions on Sensor and its Applications, Technoarete Transactions on Electrical Vehicles and Automotive systems	13/12/2021
8	Prof. Archana Chaudhari	Reviewer for the journal, "Transportation research part A: Policy and Practice", Elsevier	Dec 2021

5.3 Faculty Awards

Sr. No.	Name of Faculty	Description
1	Prof. Ameya A. Kadam	National Level Topper in the NPTEL course on "Advanced Microwave Guided-Structures and Analysis" securing Gold Medal with Elite Certification dated 15/11/2021
2	Prof. Shivani Bhattacharjee	Elite Certificate in NPTEL course on "Introduction to Industry 4.0 and Industrial Internet of Things" dated 22/11/2021
3	Prof. Yukti Bandi	Elite Certificate in NPTEL course on "Joy of Computing using Python" dated 22/11/2022
4	Dr. Sunil Karamchandani	Elite Certificate in NPTEL course on "Joy of Computing using Python" dated 22/11/2022
5	Dr. Sunil Karamchandani	Top 2 % with Elite Certification in NPTEL course on "Film Appreciation" dated 01-09-2021
6	Dr. Anuja Odhekar	Elite Certificate in NPTEL course on “Design of Internet of Things” dated July-Sept 2021
7	Dr. Anuja Odhekar	Elite Certificate in NPTEL course on “Microwave Theory and techniques” dated July-Oct 2021
8	Prof. Ameya A. Kadam	Elite Certificate in 12 Week NPTEL Course on "Learning Analytics Tools" dated 15/11/2021

5.4 Student's participation in various events

Sr. No.	Name of Student	Class	Event	Date	Description
1	Vrushali Mehta	TE EXTC	Internship at The Spark foundation	25/09/2021	successfully completed
2	Devarshi Shah	TE EXTC	Internship at frontend developer at Roombae	05/07/21 to 06/09/2021	successfully completed
3	Ishitita Panda	TE EXTC	Training at Technology at Saregama india ltd.	23/08/21 to 22/09/21	Training Projects
4	Ishita Panda	TE EXTC	CNN n Transfer learning - Multiglass image classification At TCS iON	14/06/21 to 30/07/21	successfully completed
5	Srushti Jain	TE EXTC	Internship at Spark career mentor	17/08/21 to 17/10/21	selected
6	Srushti Jain	TE EXTC	Content writing Internship at WitArist IT Services Private Limited through Internshala.	21-07-2021	successfully completed
7	Vatsal Tolia	TE EXTC	Business Developer at IllusTech Infoway Pvt. Ltd	1.04.2021 to 31.08.2021	successfully completed
8	Aarushi Raichur	TE EXTC2	Internship at Trivia Software's	28th May 2021 to 28th Jul 2021	successfully completed
9	Aditi Kulkarni	TE EXTC	Internship computer vision & machine learning intern at Neo-Thermal		successfully completed
10	Akshat Somani	TE EXTC	Business n Market strategist at at Roombae	05/07/21 to 06/09/2021	successfully completed
11	Bhoomi Patani	TE EXTC	Internship on Full Stack Web Development at Mindports Ltd.	01st February,21 to 31st July 2021	successfully completed

12	Sakshi Jain	TE EXTC	Internship on Fund Raising & Strategy Development at JMES, Nagpur	2021	successfully completed
13	Jaival Patel	TE EXTC	Virtual Workspace Application / Python Developer at Pheme Software Pvt. Ltd.	7th June – 19th July 2021	Internship completed
14	Harsh Shah	TE EXTC	Project on Build Your Own Chatbot - Level 1 by IBM	17-Sep-21	successfully completed
15	Divya Jain	SE EXTC	Internship program as web development intern at hie5.in	July 20, 2021, to August 21, 2021.	Internship completed
16	Dhwanit Pandya	SE EXTC	Participating in doubleslash by IEEE Jadavpur University	9th -11th July 2021	Certificate of Participation
17	Divya Jain	TE EXTC	single-handedly designing our website:hie5.in at HIE5	2021	Certificate of Achievement
18	Garav Dhavda	SE EXTC	Internship program at technical IoT dept at TECHMR	15 Dec '2019 to 15 feb'2021	Internship completed
19	Dakshit Shah	TE EXTC	online, Advanced Excel Skills for Business by coursera		course completed
20	Vrushali Mehta	TE EXTC	Freelancer - Academics WFH at Synergy Eduservices	12 months	Trainee
21	Lakshita shetty	TE EXTC	Audio Visual Developer at Pheme Software Pvt. Ltd	7th June – 19th July 2021	Internship completed
22	Sarthak Mistry	TE EXTC2	Employee Orientation Web Application / Python Developer at Pheme software Pvt.Ltd	7th June – 19th July 2021	Internship completed
23	Khushi Gandhi	TE EXTC	internship at Talakunchi Networks Private Limited	1st June,21-1st September, 2021	Internship completed

24	Rishi Savla	TE EXTC	internship at StandWeSpeak	1st March 2021 to 30th April 2021	Internship completed
25	Jaival Patel	TE EXTC	Internship as a Technology Manager at Roombae	from 5th July 2021 (7 week period	Internship completed
26	Rahil Shah	TE EXTC	Information technology - Product Management Internship at Ergode IT services Pvt Ltd	14th April ,21 to 14th July, 2021	Internship completed
27	Harsh Shah	SE EXTC	summer Internship at softefin Parking Pvt.Ltd.	05/07/21 to 05/08/2021	Internship completed
28	Vrushali Mehta	TE EXTC	Data Analytics Consulting Virtual Internship at Forage (KPMG)	September 21st, 2021	Internship completed
29	Vrushali Mehta		software Engg. Virtual Experience at Forage (JPMorgan Chase n co.)	September 21st, 2021	Certificate of Completion
30	Abhijay Rane	TE EXTC2	business n Market strategist at Roombae	05/07/21 to 06/09/2021	successfully completed
31	Vrushali Mehta		Participated DD- Robocon 2021 online Festival	"18-08-2021	9th Rank to DJSCE
32	Vinit Shah	SE EXTC2	Completed 30 Days of Google Cloud Challenge	Oct-21	successfully completed
33	Dhara Patel	SE EXTC2	Completed coursera course on 'Building AI Powered Chatbots Without Programming'	7 th Nov 2021	successfully completed
34	Aarya Shah	TE EXTC1	Aarya Shah, is an intern with Giift Plus India Private Limited	Since 1 st Sept 2021.	successfully completed
35	Vidhi Tarak Nayak	SE EXTC	Completed coursera course on 'getting started with AI using IBM Watson	21st Dec 2021	successfully completed

36	Disha Kunjadia	TE EXTC	Internship at 'Artoon Solutions - Trudawn Solutions' as Servor management intern	1st Sept to 30th Nov	successfully completed
37	Disha Kunjadia	TE EXTC	completed her six-month internship at Trudawn Solutions	19th April 2021 to 19th Oct 2021	successfully completed
38	Kashish Mistry	SE EXTC	Winner in the event, 'Thought Conclave -A debate competition by the Shah Foundation'	24th Oct 2021	successfully completed

6. RESULT ANALYSIS

Academic Year : Academic Year 2020-2021

Academic Session : Semester IV

Exam Year : Academic Year 2020-2021

Exam Session : Semester IV

	Female	Male	Unknown	Total
No of students appeared for Examination	38	87	0	125
No of students passed	38	87	0	125
No of students failed with ATKT	0	0	0	0
No of outright failures	0	1	0	1
Thus % of result is	100	100		100

Academic Year : Academic Year 2020-2021

Academic Session : Semester VI

Exam Year : Academic Year 2020-2021

Exam Session : Semester VI

	Female	Male	Unknown	Total
No of students appeared for Examination	44	93	0	137
No of students passed	44	93	0	137
No of students failed with ATKT	0	0	0	0
No of outright failures	0	0	0	0
Thus % of result is	100	100		100

Academic Year : Academic Year 2020-2021

Academic Session : Semester VIII

Exam Year : Academic Year 2020-2021

Exam Session : Semester VIII

Over all records	Female	Male	Unknown	Total
No of students appeared for Examination	44	104	0	148
No of students passed	44	104	0	148
No of students failed with ATKT	0	0	0	0
No of outright failures	0	0	0	0
Thus % of result is	100	100		100

7. PLACEMENT DATA

Total no. of Students placed Company wise = 97

Sr. No.	Company Name	No. of Students Placed	Salary Per Annum(LPA)
1	MSCI	1	1534000
2	Enfusion	2	1300000
3	ZS Associates	5	1280000
4	JP Morgan Chase	2	1200000
5	Axxela	1	1200000
6	Think360	3	955000
7	RBL	2	900000
8	Quantiphi	4	850000
9	Oracle Financial Services Software	9	822000
10	Accolite Digital	5	800000
11	GEP	3	800000
12	TCS Digital	1	730000
13	TresVista	3	700000
14	Edelweiss	6	700000
15	HDFC Bank	3	657000
16	Amdocs	8	600000
17	NSEIT	3	600000
18	Citius Technologies	2	550000
19	"Larsen & Toubro Infotech (Level 1)"	3	500000

20	Media.net	1	463000
21	Selec Controls	1	450000
22	Brillio	7	450000
23	Accenture	7	450000
24	Cognizant (GenC)	6	450000
25	PwC India	2	450000
26	Ernst & Young	3	437000
27	Mu Sigma	2	350000
28	TCS Ninja	2	336877
Minimum CTC in LPA: 3.36 LPA	**Maximum CTC in LPA : 1534000 LPA**		

SHRI VILEPARLE KELAVANI MANDAL'S
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)

ACADEMIC BULLETIN

Jan 2022- June 2022

Department of Electronics & Telecommunication Engineering

Prepared By:

Prof. Archana Chaudhari
(Assistant Professor, EXTC, DJSCE)

Dr. Amit A. Deshmukh
(Professor & Head EXTC, DJSCE)

Prof. Mrunalini Pimpale
(Assistant Professor, EXTC, DJSCE)

ACADEMIC BULLETIN

Period: 1st Jan 2022 – 30th June 2022

1. ABOUT DEPARTMENT

1.1. Vision

To be a world class Institution for education, training and research in engineering, inculcating values and skills for sustainable development of the society.

1.2. Mission

- To provide competent faculty and an interactive learning environment along with world class infrastructure for nurturing professionalism & entrepreneurship in Engineers.
- To foster technical competence, research aptitude and environmental awareness amongst aspiring technocrats to develop sustainable engineering solutions.
- To provide a forum for active interaction between academia & industry, leading to continuous improvement in engineering education.

1.3. Vision of the Department

To develop technically competent and socially responsible Electronics and Telecommunication engineers capable of fulfilling expectations at indigenous and global levels.

1.4. Mission of the Department

- To provide a conducive educational environment for students by providing good infrastructural facilities, knowledge base and excellent faculty support.
- To provide a strong foundation of core knowledge and exposure to research culture.
- To motivate learners to acquire adequate professional and soft skills, to develop personality traits and eventually transform them as life-long learners.
- To strive and achieve practical exposure by maintaining good rapport with industry and professional network.

1.5. Program Specific Outcomes (PSOs)

- To develop knowledge in the domain of signal analysis and processing and provide a foundation to numerous other courses that deals with signal processing applications.
- To develop basic and applied knowledge of the architecture and assembly language programming for microprocessor/microcontroller-based systems, along with the peripheral interfacing.
- To provide an in-depth understanding of electromagnetics, transmission lines and antenna concepts along with microwave devices used for RF and microwave applications.
- To develop knowledge of the fundamental techniques related to generation, transmission and reception in communication systems for a wide range of wired and wireless applications along with revolutionary technology developments.

1.6. Program Educational Objectives (PEOs)

- **PEO1:** To prepare learners for graduate studies by providing strong foundation of basic sciences, computer programming and thus, develop analytical aptitude, and problem solving abilities.
- **PEO2:** To develop a fundamental understanding of electronic & integrated circuits, communication systems and allied disciplines.
- **PEO3:** To develop core competency and expertise in the diverse areas of communication covering Signal processing, Electromagnetic Engineering, Embedded Systems, Computer Communication and Advanced Wireless Networks domains.
- **PEO4:** To inculcate competencies and aptitude in extending acquired technical knowledge to solve real life issues with high professional and ethical standards.
- **PEO5:** To develop proficiency in soft skills and deliver adequate personality traits to enable the pass outs to pursue higher education, to find competitive employment opportunities and/or pursue entrepreneurial ventures.

1.7. Department Information

- Started in the year 1999 with the intake of 30 and which was increased to 60 in the subsequent year.
- The intake was increased to 120 in the Academic Year 2010 – 11.
- In the Academic Year 2011 – 12, Department has started M.E. Program in Electronics & telecommunication with an intake of 18 students.
- For the first time Department got NBA accreditation for two years from January 2013. In second Outcome based evaluation, Department got NBA accreditation for three years from July 2017.
- The Department started with Ph.D. program in Academic Year 2015 – 16 with an intake of 10 students.
- The department is having highly qualified, experienced and dedicated faculties and supporting staff.
- Well-equipped labs and fully air-conditioned classrooms with projectors.

2. ADMINISTRATION

IETE COMMITTEE

Dr. Amit Deshmukh — Dr. Anuja Odhekar

PROJECT COORDINATOR

Dr. Amit Deshmukh — Prof. Ameya Kadam

DEPARTMENTAL LIBRARY

Dr. Amit Deshmukh — Dr. Anuja A. Odhekar — Prof. Archana Chaudhari

ALUMNI COMMITTEE

Prof. Ranjushree Pal

PLACEMENT COORDINATOR

Prof. Aarti Ambekar

NBA CORE COMMITTEE

Dr. Amit Deshmukh — Dr. V. V. Kelkar (PC/NC)

Prof. Ameya Kadam — Prof. Venkata A. P. Chavali

EXAM COORDINATOR

Prof. Shivani Bhattacharjee

NSS Program Coordinator

Prof. Rahul Taware

DJSCE NEN

Dr S. H. Karamchandani

SPORTS COMMITTEE

Prof. Ameya Kadam

TIME-TABLE COMMITTEE

Dr. Poonam Kadam

Prof. Venkata A. P. Chavali

NPTEL and IBM COORDINATOR

Dr. V. V. Kelkar

3. IETE- SF

The Electronics and Telecommunication Department of Dwarkadas. J. Sanghvi College of Engineering presents Institution of Electronics and Telecommunication Engineers- Student Forum (**IETE-SF**). The student chapter with a working force committee of 32, consisting of **second year** and third **year students**, hosted a few of the most quintessential and technically challenging events. A membership drive was conducted at the start of the year with an overwhelming response. (www.djsceietesf.com)

IETE Organizing Committee Structure

IETE SF Branch Counsellor: - Dr. Anuja A. Odhekar

Chairperson	Adrika Singh
Vice – chairperson	Aarya Bagde, Aayush Gandhi
Secretary	Jaimin Shah
Jt. Secretary	Devarshi Shah
Treasurer	Akshat Somani
DJStrike Coordinator	Devarshi Shah
	Ayush Gandhi
	Muskan Jain
	Arya Gada

HEAD OF DEPARTMENTS	
Technical	Shweta Chavan
Publicity	Vrushali Mehta
Marketing	Jaimin Shah
Book bank & component bank	Dev Ambani
Infotech	Manan Shah
Events	Shree Shah
Creative	Nensi Shah

3.1 Value Added Program

Book Bank

Book Bank is an initiative made by IETE that makes **reference books** available to students at **10% of the original cost**. It improved the core competency and to strengthen the teaching ability. The faculty members refer these books and hence it makes the studying process efficient and helps to increase the student's technological knowledge about the subject. It also helps to build a foundation of the concepts that could enhance the practical skills required in the future. It gets updated every year and has several books to offer currently.

Component Bank

DJSCE IETE-SF proudly introduces the **Component Bank Facility,** through which students can benefit by borrowing components they require at a lower price and return them once their job is done. The worry of buying expensive components and then thinking about what to do with them once the project is finished, is eliminated.

4. DEPARTMENT ACTIVITIES UNDER IETE-SF

4.1 Power Bi Workshop

Speaker: Prof. Ameya Kadam

Date of the event: 19th May 2022

Participants: FE and SE

Number of Participants: 120

Objectives of the workshop:

Participants should get familiar with the basics of Power BI software which is as strong as a business analytical tool that creates useful insights and reports by collating data from unrelated sources.

Contents:

"By visualizing information, we turn it into a landscape that you can explore with your eyes. A sort of information map. And when you are lost in information, an information map is kind of useful." – David McCandless Microsoft Power BI is a collection of apps, software services and connectors that come together to turn unrelated data into visually impressive and interactive insights. Power BI can work with simple data sources like Microsoft Excel and complicated ones like cloud-based or on-premises hybrid Data warehouses. Power BI has the capabilities to easily connect to your data sources, and visualise and share and publish your findings with anyone and everyone. Power BI is simple and fast enough to connect to an Excel workbook or a local database. It can also be robust and enterprise-grade, ready for extensive modelling and real-time analytics. This means it can be used in a variety of environments from a personal report and visualisation tool to the analytics and decision engine behind group projects, divisions, or entire corporations. As Power BI is a Microsoft product and has built-in connections to Excel, many functions will be familiar to an Excel user.

Therefore, to make students aware of data visualisation and analysation; IETE-SF Conducted a Workshop on "Power BI". The Session took place on 19th May 2022 and was a roaring success with over 120 participants attending the event. The Session started with good enthusiasm among the attendees to gain a good hold on Data Analytics under the guidance of the Speaker. Firstly, the

speaker for the day, Prof. Ameya Kadam, introduced himself sharing his experience in the field of Data Analytics and Visualization. The speaker had instructed the participants to download POWER BI beforehand by sharing a video for the same. He yet quickly showed everyone how to download the POWER BI tool and connect it to Microsoft Excel. With everyone having POWER BI Tool-ready on their laptops, the speaker started the session by discussing various tools for Data Visualization and modelling and why POWER BI is the most used application.

The speaker then shared with the students, the sample data to analyse. Data on the Superstore was shared with the students. The students were expected to work on the same throughout the workshop. After going through the data, the speaker then taught the attendees to load the data on the Power BI applications. Students followed the instructions and were on par with the Professor.

The next step was to analyze the sample given. The speaker guided the students to analyze the data given concerning different parameters and charts. The students were then engaged in transforming the data to create visuals and reports. The session also focused on making the students learn the different features of data visualisations by introducing the different types of charts viz, Column Chart, Stacked Column Chart, Pie Chart, Ribbon chart, Sankey Chart, ScrollerBox plot, Map Filled Map Gauge, Meter Drill down Line Chart, Funnel Chart, Donut Chart, etc.

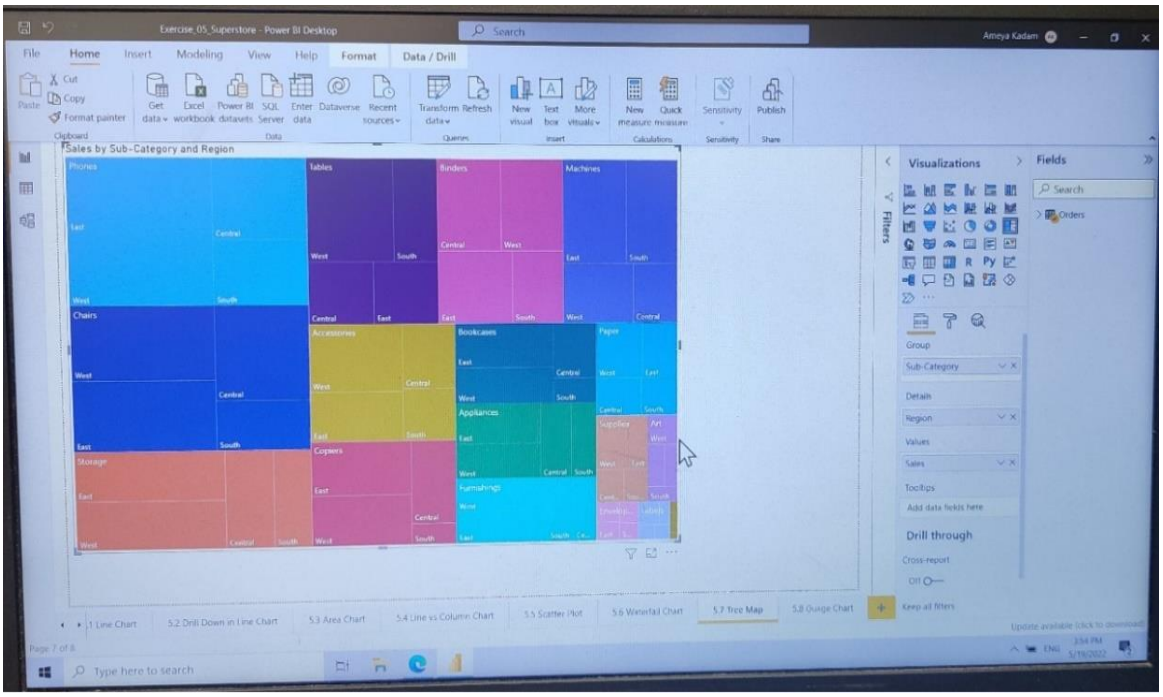
Once the students were familiar with the charts and visualisation parameters, the speaker explained to them the formatting of the charts for better visualisation and modelling. Finally, Professor also taught them how to share the created visuals or reports using different Power BI services. The students were now enhanced with the skill of Data Visualisation and Modelling by using Power BI. The speaker concluded the session by briefing them on the summary of the workshop and finally taking up the questions and answers round. The session came to an end with the IETE team presenting Prof. Ameya Kadam with a Certificate of appreciation.

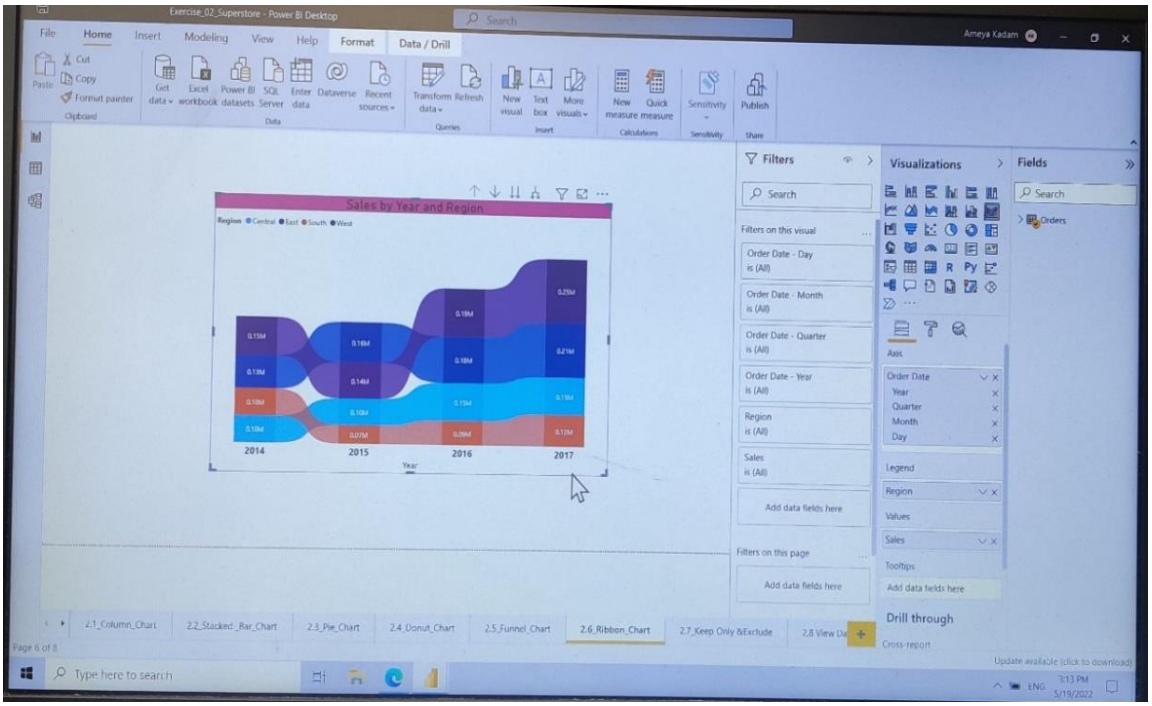
Outcomes:

At the end of the workshop participants were able to

- Extract data and transform data from various data sources
- create visuals or reports on Power BI
- Share the visuals built using Power BI services.

Photographs of the Event:





4.2. Workshop on MATLAB

Speaker: Prof Venkataramanan V

Association of the Speaker: Professor, DJSCE Mumbai

Date of the Session: 24th of March 2022

No. of Participants: 40 SE and TE students

Participants: SE

Contents:

MATLAB is a simple programming language with its own extensive library of mathematical and graphical subroutines. MATLAB is the world's most successful piece of numerical analysis software. Cleve Moler, founder of MATLAB in his interview outlined that he created MATLAB for educational purposes from a freely distributed package. MATLAB combines a desktop environment tuned for iterative analysis and design processes with a programming language that expresses matrix and array mathematics directly. It includes the Live Editor for creating scripts that combine code, output, and formatted text in an executable notebook. It is one of the most versatile platforms which is useful in Data Analysis, Graphics, Parallel Computing, App Building and Web Development. It is widely used in academia as well as in industry. Therefore, to make students aware about the MATLAB Programming Software, IETE-SF Conducted a Session "Workshop on MATLAB Programming". It was a one day event. The aim for the event was to give a general introduction to MATLAB. The Session took place on 24th March. The Session was very informative and interactive for the attendees. The Session started with good enthusiasm among the attendees to gain a good hold for MATLAB Platform under the guidance of Professor V. Venkataramanan. Firstly, the Professor introduced himself. The speaker then proceeded to show us a detailed slide of MATLAB Programming.

Whole session was broken into ten parts: Brief Introduction to MATLAB GUI, Interactive Commands in MATLAB, Introduction to Operators, Introduction to Arrays & Functions, a Fun Gaming Session, Audio Processing, Introduction to Python Basics, Fun Animation, Introduction to Microcontroller & Microcomputer, Introduction to Arduino & Raspberry-pi and so on. While giving Brief Introduction to MATLAB GUI, the Professor explained how to start MATLAB and explained all the components on the Workspace Window of the software. He also explained

applications of these components to make the use of software more fluent. Next on the agenda was Interactive Commands in MATLAB. Interactive Commands includes multifarious commands like Commands for managing sessions, Commands for working with the system, Commands for Input/Output, Plotting Commands and so on. To make the workshop more interactive, the Professor then introduced Funny Commands like 'Why' to attendees, which throws Funny Jokes on running the command.

Operator was the next, this was explained with the help of basic examples. For example, Arithmetic Operators, Relational Operators, Logical Operators, etc. Students also tried these examples which helped them to learn Operators. Professor also explained how to write the Matrix. These Matrices included Row, Column & Square Matrices. Professor explained various Data-Types available in MATLAB. To make the workshop livelier he conducted a small Puzzle Game and announced a Prize money for the winner. The group who solved the puzzle first became the winner and collected the prize. Then, the Professor briefly illustrated Arrays and various functions available on software. And lastly while concluding his session he illustrated Audio Processing with the help of code which plays 'Sa-Re-Ga-Ma-Pa' on running.

After a complete Introduction to MATLAB Programming, the event was continued by Ms. Adrika Singh and Mr. Durvang Parab in which Ms. Adrika firstly explained how to install Python and further she gave a brief introduction regarding the fundamentals of Python. She also explained Data Structures & Data Types available in Python. Then, she explained Mutable and immutable classification of objects i.e. if value can change, the object is called mutable, while if the value cannot change, the object is called immutable. She concluded her session with a fun animation. In his session, Durvang gave a brief introduction to Microcontrollers and Microcomputers. He also explained the difference between each one of them. He then gave introduction to Microcontroller Arduino Uno Board and Microcomputer Raspberry-pi. After introduction to fundamentals, he demonstrated Arduino-LED interfacing using python in which the LED was blinking with a rest time of 3 seconds. Lastly, he concluded the event by illustrating Raspberry-pi and Arduino Integration with the help of python. IETE-SF then thanked Dr. Venkatramanan for his valuable time and contribution and thus ended the workshop.

Photographs of the Event:

Outcomes:

- The students understood the need for MATLAB and how it works.
- They further understood how MATLAB works, its Workspace window and its GUI.. Thus gaining knowledge of a versatile software.
- The speaker further discussed operators, datatypes, arrays and functions available on software.
- The participants also understood Audio-Processing and MATLAB's integration with Python.

4.3. DJ STRIKE

Response: 150+ Students

Dates: 9th August to 14th of May

Conducted by: IETE-SFs committee in association with the faculty of DJSCE's EXTC Department

Contents:

IETE-SF's DJ Strike aims at bridging the gap between knowledge and application. The sole annual project-based competition of DJSCE; DJ Strike attracts a large enthusiastic crowd from across the college. Realising how imperative application-based learning is, a plethora of students across all disciplines come forth every year to take part in the competition. The review process is carried out in four steps. Initially, students were required to form a group and unanimously select a particular topic for the project. After zeroing on the topic, a design report was submitted in the first review, which not only included the technical aspects but also provided an overview of the cost-effectiveness and the impact the project carries on society. The next step was the second review wherein the group showed 20 per cent progress of their project. This progress report is a representation of the basic structure of their chosen topic. The members were screened whereupon reviewers assessed them on the basis of concept clarity, efforts and research. During this process, the faculty constantly guided and motivated students to improve their projects by sharing their wisdom with the teams.

Next in line was the third strike review, where the team demonstrated about 80 per cent of their project. The final project submission included the exhibition of the entire project with eminent personnel coming from outside of the college to grade the project based on presentation, working, impact and other factors. Winning projects then went on to win coveted cash prizes with all qualifying papers being published in the DJ Strike Magazine 2022.

DJ STRIKE project exhibition

Initially about 60 groups were formed and then after rigorous review, evaluation and gradation, 38 papers were shortlisted for the competition based on the review marks and timely submission of the technical paper for DJ Strike magazine. On the day, the Strike event commenced with a roaring success with six to seven teams being allotted to each one of the six EXTC department's

labs in DJSCE. Our respected judges, Dishant Shah, a managing partner at Neo Thermal with extensive practical electronics and software experience along with Vedant Awasthi, the founding member of DJS Arya and founder of AICAN Automate LLP began judging each group one by one.

The judges made sure to evaluate the teams on their ability to become a product, presentation, implementation and innovation. Both the judges encourage teams towards thinking about taking their projects on a larger scale and turning the project into an industry level product, offering software and tools for the same. After a smooth demonstration of all the projects, the judges deliberated over the winning teams, and finally came on the following teams as the projects they found the most promising.

Position	Paper title	Members	Faculty Mentor
1	IoT based Autonomous Vehicle with Lane Detection, Traffic Signal Detection Using OpenCV Python	Harshal Vaidya, Sohail Shaikh, Sanika Kanawade, Vrisha Shah, Adit Vakil	Prof Aarti Ambekar
2	Audio Source Separation as applied to Vocals-Accompaniment Separation	Vanshaj Agrawal, Soham Sawant, Sharath Pai, Arsh Nirmal	Dr Sunil Karamchandani
3	Audio Source Separation as applied to Vocals-Accompaniment Separation	Darshan Mehta, Dakshit Shah, Jaimin Shah, ShwetaJoshi, Manavi Jain, Dhanvi Choksi	Prof Yukti Bandi

Our respected Head of Department, Dr. Amit A. Deshmukh announced the winners to a roaring applause from the participants. Dr. Deshmukh encouraged students to innovate further and focus on the practical implementation of their future projects. Both the judges were thanked extensively by the present IETE-SF committee, with the DJ Strike proceedings being unveiled by our respected judges. Finally, all the strike faculty co-ordinators Prof. Yukti Bandi and Prof. Ameya Kadam were thanked, and thus DJ Strike 2022 came to a close.

4.4. DJ SPARK 2022

Date: 11th April 2022

Participants: 40+ teams from all across India

Objective:

- Students developed a systematic approach towards their respective project topic
- Equipping students with technical paper writing and research abilities
- Upskilling students on project presentation and towards making the leap from project to product

Contents:

DJ Spark is an annual project-based national level competition where students are provided with an opportunity to showcase their technical skills and compete at multiple fronts with other students from all across India. In order to participate in DJ Spark, one has to send across a technical paper of any on-going project or any other project idea that they aim to execute. After sending the IEEE format technical paper at the mentioned email address, they will be subjected to scrutiny and assessment by the faculty of the EXTC department. The short-listed teams will then be given a chance to exhibit their projects at our very own college. In addition to this, their project will also be assigned an ISBN Number, irrespective of whether the team wins the competition, which holds immense value during the course of engineering. On the contrary, those who win the competition are awarded cash prizes and other exciting prizes. DJ Spark proves to be an inspiration to budding engineering students and gives them an incentive to expand their knowledge, indulge in application-based learning and flourish. It encourages students to step outside of their comfort zones and build something innovative, catering to an array of applications and at the same time bringing about a change in the world. This year, DJ Spark was held on the 11th of April 2022.

The Chairperson of DJSCE IETE-SF, Adrika Singh inaugurated the IETE-SF's awaited flagship event with a warm welcome speech, highlighting the year IETE-SF 2021-22 has had and how the transition from online college to offline college has been. After her welcome speech, Adrika introduced Dr. Anuja Odhekar, IETE-SF's Branch counsellor to the stage. Dr. Odhekar introduced our eminent judges for day, Dr. Sandeepak Kakatkar and Dr. Ninad Mehendele. Post Dr. Odhekar's speech which was received with great applause, she introduced our honourable Principal Sir of DJSCE Dr. Hari Vasudevan along with Dr. Manali Godse and Dr. A C Daptadar,

the college's eminent Vice-Chairpersons to the stage. Dr. Vasudevan during his address to the waiting participants and audience talked about the legacy of DJ Spark over its span of 11 years and how for the first time this year the event has gone onto a national scale receiving submissions from BITS Goa and other institutes throughout India. After his address, the much-anticipated DJ Spark and DJ Ignite magazines were unveiled to the enthusiastic participants and audience.

Initially more than 45 papers were submitted to DJ Spark for consideration and then after rigorous review, evaluation and gradation, 26 papers were shortlisted for the competition. Projects from within Mumbai were invited to DJSCE to present their projects online while teams present outside the college were invited to present their projects in online mode for the first time ever. After deliberation and judging each project meticulously the judges announced the winners of the competition. The winning papers and the respective teams are listed below. A total of Rs. 24,000 was given to the winning teams, with emphasis being placed on project to product induction.

Position	**Paper Name**	**Members**	**Faculty Mentor**
1	Automobile Accident, Prevention, Detection, Reporting System, and communication using Li-fi technology	Dhwanit Pandya Durvang Parab Dhaval Solanki Maahi Trivedi Niharika Damodaran Mohammed Owaish	Prof. Yukti Bandi
2	Crowd Monitoring System	Yash Dange Srihari Kamath Rahil Shah Devesh Agarwal Nihal Shaikh Mohammad Sadiq	Prof. Tushar Sawant
		Aarushi Raichur	Prof. Ameya Kadam

3	Autonomous Bot Using ROS, LIDAR, Raspberry Pi with A QR Code Based Smart Parking System	Sakshi Jain Urja Shah	
3	Design of Wideband Antenna for Small Range Ultra - Wideband Communication	Parth Salia Tanay Mehta Urvil Shah Yatrik Mehta	Prof. Amit A. Deshmukh

Outcomes:

- The students became aware of practical applications in the field of electronics and telecommunication.
- Students from various departments and colleges came together to piece up a single project.
- Students explored various other research papers and improved their project work under the guidance of their mentors

Photographs of the Event:

4.5. Technical Paper Writing Seminar 2022

We all are surrounded by technology and we humans cannot live without it. These technological processes are very difficult to read and understand by common people and the fact is that scientists and engineers actually work for common people- the end-users. To make this task easy, technical paper writing comes into the picture. This makes it easy by writing the complex technological processes into easy, graspable information. IETE-SF conducted informative session the "Technical Paper Writing Seminar" on the 5th of February 2022 between 2:30-4:00 pm. This session was hosted by Professor Aarti Ambekar and Professor Venkata Chavali with around 100 attendees waiting to obtain the amazing information on the topic from the eloquent speakers.

Professor Venkata Chavali started off the session by introducing herself and the need of writing technical paper writing with deep thinking, framing, and producing professional documentation which is free of errors and can be used for a different range of users, they explained a successful paper is one that is accepted into a technical publication and then is read and referenced by others. To achieve this end, it must first be determined that a particular body of work is unique and valuable to others, the paper must be well written and follow the style guide of the chosen publication. Prof Chavali also explained the difference between conference presentations and journal writing in technical papers. Furthermore, importance of plagiarism and piracy was made clear in the minds of the students eagerly waiting to listen. Concept of indexing and the different institutions who take care of indexing were explained clearly.

Professor Ambekar took over the explanation to take a deep dive into the format of paper presentation step by step, starting off with choosing the most vital part, an appropriate title for your technical work which will convey the information at first. Professor Ambekar explained each section concisely with accuracy. Student learnt about the proper flow, clear and useful language, objectivity, brevity, being some of the major points covered, hence covering from introduction through the body characteristics, concluded with results to references Professor Chavali explained the authorship which is also one of the main key concepts towards technical paper writing along with the analysis of the profile of one of the technical paper also explaining the term citation and its importance.

The session was then concluded with a quick questions and answers session by the professors which eventually made the doubts of the students cleared in a jiffy. Students showed their gratitude for the very session to the Professor Chavali and Professor Ambekar

Photographs of the Event:

4.6. Industrial Visit to GMRT

As part of Radiating systems course in semester VI for third-year engineering students, an industrial visit was conducted to GMRT Pune, Khodad district on 1 April 2022. The trip was accompanied by Faculy members, Dr. Amit A. Deshmukh (Professor & Head of EXTC Department), Dr. Sunil Karamchandani, Prof. Venkata A P C and Prof. Revathi A S alongside students.

GMRT(Giant Metrewave Radio Telescope) is used by astronomers all over the world to observe different astronomical objects such as HII regions, galaxies, pulsars, supernovae, and Sun and solar winds. One of the aims of the telescope during its development was to search for the highly redshifted 21-cm line radiation from primordial neutral hydrogen clouds to determine the epoch of galaxy formation in the universe. In August 2018, the most distant galaxy ever known, located at a distance of 12 billion light-years, was discovered by GMRT. In February 2020, it helped in the observation of the biggest explosion in the history of the universe, the Ophiuchus Supercluster explosion.

During this industrial visit, we studied the Parabolic antenna used for radio astronomy. Radio astronomy is the field of science in which the radio waves emitted by objects, and celestial bodies in space are captured by the receiver which is used to determine the object in detail which can be used for space exploration, finding resources on planets, stars, etc. Clouds and weather conditions do not affect the reception of radio waves. However, lightning strikes can interfere with the electric field of the signal. The only requirement is that the source should have an RF signature of its own for efficient study of the object.

Structure:

It is a parabolic dish with an outer diameter of 45m.To make it lightweight, meshes of steel are used. The outer mesh has dimensions of 15m x15m and the inner mesh has dimensions of 5m x 5m. The azimuth angle of this antenna is ±270° and the elevation (solid angle) is 18° - 90°. The antenna is equipped with a boat-shaped structure between the parabolic dish and servo motors to balance the Centre of Mass of the parabolic dish. A BLDC (Brushless DC) servo motor is used for the rotation of the antenna in the direction of the source. The antenna is painted every five years to prevent corrosion.

The resolution of an antenna is directly proportional to the size of the antenna. But practically designing antennas with huge sizes is not a viable solution. Therefore, 30 small parabolic antennas are spread over an area of a 25km radius. These small antennas form an array feed network. All of these antennas receive signals from one source at a time.

Receiving signals:

Fiber optic cables are used to feed the electrical signals. It can be used in single or multimode. For antenna remoting applications, a single mode is used as it supports longer link distance and faster transmission of signals since a single mode is used. Signal loss is very low as the core used has a diameter of 1310 nm. In addition, walls are built around the antenna to prevent the ground propagation of signals. The feeds presently available are Band-5 (1000-1460 MHz), Band-4 (550-850 MHz), Band-3 (250-500 MHz), and Band-2 (125-250 MHz) feed. The reflecting surface is formed by a wire mesh and the efficiency of the antennas varies from about 60% to about 40%, from the lowest to the highest frequency. Signals from two orthogonal polarisations are brought to the control room from each antenna, over optical fiber. The native polarisations for all receiver systems are circular, except for the Band-5 system, which delivers linear polarisations.

Working:

When receiving signals, these antennas have to be synchronized in time with the source for the sound reception of signals. Hence, the antenna is rotated according to the source. Once the reception of the signal is completed, the antenna calibrates itself with the reference source every 20 mins. By default, the antenna completes one rotation every 30 mins. For perfect signal reception, counter-rotation is provided by the servo motors. After receiving the signals, correlation is performed to remove noise.

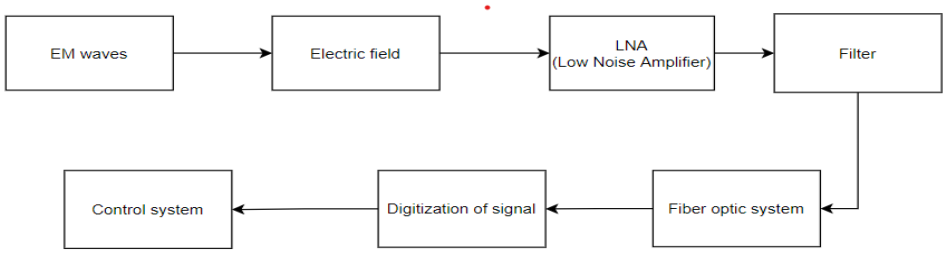


Fig. 1. Block diagram of signal reception and processing by an antenna

Frequency of operation and gain:

This antenna operates in the frequency range of 100-1500 MHz. The maximum gain of this antenna is 40dB. Gain is controlled by using the parabolic dish's inner and outer meshes. GMRT has played a crucial role in the exploration of space. In the past, this telescope was used to measure the atomic hydrogen content of distant galaxies. It is always at the forefront to collect data to discover the secrets of space.

4.7. Alumni Meet

The alumni meet was organized on 7th May, 2022 at 10.30 am on third floor Seminar Hall. Professor & Head of department, Dr. Amit A. Deshmukh welcome and addressed the gathering. The meet was both in offline and online mode. Around Forty-five alumni from various academic years attended the event offline. About twelve alumni from abroad joined the meet online from their universities/workplaces. They shared their experiences and views with faculty as well as with the current students. The meet was followed by lunch. The feedback received from alumni shows that they would like to be associated with institute/department in future. Also, they were very happy to visit institute and interact with their own faculties.

5. ACHIEVEMENTS

5.1 Faculty Publications- Conferences / Journals

Conference Publication

Author	Paper Details
Shivani Bhattacharjee, Pariv Doshi	Shivani Bhattacharjee, Pariv Doshi, "Automatic Vending Machine of Stationary Items using STM32", ICDSAI, 2022, Scopus

Journal publication

Author/Co-author	Paper Details
Dr. Poonam Kadam, Dr. Amit Deshmukh	Dr. Poonam Kadam, Dr. Amit Deshmukh, "Variations of Compact Rectangular Microstrip Antennas Using Defected Ground Plane Structure" Journal of Microwaves, Optoelectronics and Electromagnetic Applications, 01-06-2022, Scopus
Venkata A P Chavali, Dr. Amit A. Deshmukh	Venkata A P Chavali, Amit A Deshmukh, "Wideband Designs of Regular Shape Microstrip Antennas Using Modified Ground Plane", Progress in Electromagnetic Research C, doi:10.2528/PIERC21110202, Scopus
Aarti G. Ambekar, Dr. Amit A. Deshmukh	Aarti G. Ambekar, Dr. Amit A. Deshmukh, "Dual Band Compact Square Microstrip Antenna for GSM and GPS Applications", Progress in Electromagnetics Research C, Vol. 118, 99-112, 2022, Scopus
Venkata A P C, Dr. Amit A Deshmukh	Venkata A P C, Amit A Deshmukh, "Wideband designs of proximity fed isosceles triangular microstrip antennas gap-coupled with parasitic pairs of sectoral patches", International Journal of RF and Microwave Computer Aided Engineering (Wiley), Scopus
Aarti G. Ambekar, Dr. Amit A. Deshmukh	Aarti Ambekar, Amit A. Deshmukh, "Dual polarized designs of square microstrip antenna for GSM and LTE applications", International Journal of Communication System, Wiley, 02-05-2022, Scopus

Revathi A S, Raut Vyas	Revathi A S, Rut Vyas, "Seasonal sales prediction and visualization for Walmart retail chain using time series and regression analysis: A comparative study", 01-04-2022, SCOPUS
Dr. V. Venkataramanan, S. Lakshmi	V Venkataramanan, S Lakshmi, "Performance analysis of LTE physical layer using hardware cosimulation techniques and implementation on FPGA for communication systems", January 2022 International Journal of Communication Systems 35(1): e4125, DOI: 10.1002/dac.4125 (Web of Science/ SCI)

5.2. Interaction of faculty with outside world

FDP/ STTP attended by Faculty Members:

Sr. No	Name of Faculty	Title of course	Dates
1	Revathi A S	Machine Learning for All	19-01-2022
2	Yukti Bandi	Coursera course on Understanding and Visualizing Data with Python	07-02-2022
3	Yukti Bandi	Coursera course on Introduction to data analytics	09-02-2022
4	Yukti Bandi	Coursera course on Tools for data science	09-02-2022
5	Yukti Bandi	Coursera course on Python for data science, AI & Development	14-02-2022
6	Rahul Taware	Coursera course on Psychology of popularity	11-02-2022
7	Rahul Taware	Coursera course on Advance instructional Strategies in the virtual classroom	02-02-2022
8	Dr. Vishakha Kelkar	TCS webinar on Industry Perspective on Cyber Security	27-01-2022
9	Dr. Vishakha Kelkar	Couersera course Fundamentals of Digital Image and Video Processing	11-02-2022
10	Dr. Vishakha Kelkar	Couersera course The Teacher's Social and Emotional Learning	28-02-2022

11	Venkata A P Chavali	Coursera Course- Introduction to Ansys HFSS	18-02-2022
12	Venkata A P Chavali	Coursera Course-Design of Antenna Arrays for 5G communication systems	17-02-2022
13	Dr. V. Venkataramanan	online short term course - "Statistical Modelling and Analysis of Advanced Wireless Communication Systems"	17-03-2022 - 23-03-2022
14	Yukti Bandi	ATAL FDP on "Smart cities for sustainable development"	07-03-2022-11-03-2022
15	Yukti Bandi	Coursera course on "Statistics for Data Science with Python"	12-03-2022
16	Venkata A P C	Coursera- Wireless communications for everybody	31-03-2022
17	Venkata A P C	Coursera- Psychology of popularity	31-03-2022
18	Sanjay B. Deshmukh	Coursera-The Arduino Platform and C Programming	14-03-2022
19	Rahul Taware	Coursera-The Arduino Platform and C Programming	14-03-2022
20	Rahul Taware	Coursera-online education, the foundation of online teaching	21-03-2022
21	Mrunalini Pimpale	Coursera- 5G for Everyone	31-03-2022
22	Mrunalini Pimpale	Coursera- AI for Everyone	31-03-2022
23	Mrunalini Pimpale	Coursera- Psychology of Popularity	30-03-2022
24	Mrunalini Pimpale	Coursera - Wireless Communications for Everybody	31-03-2022
25	Archana Chaudhari	Coursera- 5G for Everyone	31-03-2022
26	Archana Chaudhari	Coursera- AI for Everyone	29-03-2022
27	Archana Chaudhari	Coursera- Psychology of Popularity	30-03-2022
28	Archana Chaudhari	Coursera - Wireless Communications for Everybody	31-03-2022
29	Archana Chaudhari	coursera- Machine Learning Introduction for Everyone	31-03-2022
30	Archana Chaudhari	The Teacher's Social and Emotional Learning	30-03-2022

31	Aarti G. Ambekar	Coursera: -Basic Image Classification with TensorFlow	14-04-2022
32	Aarti G. Ambekar	Coursera: -Psychology of Popularity	16-04-2022
33	Aarti G. Ambekar	Coursera: -Crash Course on Python	14-04-2022
34	Aarti G. Ambekar	Coursera: - Wireless Communication for Everybody	14-04-2022
35	Venkata A P Chavali	Coursera-The teachers coacial and emotional learning	05-04-2022
36	Venkata A P Chavali	Coursera: -Basic Image Classification with TensorFlow	14-04-2022
37	Mrunalini S. Pimpale	Coursera- Customer Journey Maps with IoT Touchpoints in Miro	05-04-2022
38	Mrunalini S. Pimpale	Coursera-Machine Learning Introduction for Everyone	06-04-2022
39	Mrunalini S. Pimpale	Coursera- Programming for Everybody (Getting Started with Python)	07-04-2022
40	Mrunalini S. Pimpale	Coursera- The Teacher's Social and Emotional Learning	05-04-2022
41	Shivani Bhattacharjee	Wireless Communications for Everybody	13-04-2022
42	Shivani Bhattacharjee	IoT Networking	09-04-2022
43	Archana Chaudhari	Coursera- Customer Journey Maps with IoT Touchpoints in Miro	05-04-2022
44	Archana Chaudhari	Coursera- Programming for Everybody (Getting Started with Python)	12-04-2022
45	Archana Chaudhari	Udemy- COMSOL Multiphysics all features walk through	18-04-2022
46	Archana Chaudhari	No code AI' training organised by Dycam India	6-04-2022
47	Dr. Anuja A Odhekar	Coursera-Introduction to the Internet of Things and Embedded Systems	June 2022
48	Dr. Anuja A Odhekar	Coursera-Customer Journey Maps with IoT Touchpoints in Miro	June 2022

49	Dr. Anuja A Odhekar	Coursera-Cloud Computing Applications, Part 2: Big Data and Applications in the Cloud	June 2022
50	Dr. Anuja A Odhekar	Coursera-Internet of Things: Communication Technologies	June 2022
51	Dr. Anuja A Odhekar	Coursera-Wireless Communications for Everybody	June 2022
52	Dr. Poonam Kadam	Coursera-Introduction to the Internet of Things and Embedded Systems	June 2022
53	Dr. Poonam Kadam	Coursera-Wireless Communications for Everybody	June 2022
54	Dr. Poonam Kadam	Coursera-Internet of Things: Communication Technologies	June 2022
55	Dr. Poonam Kadam	Coursera-Customer Journey Maps with IoT Touchpoints in Miro	June 2022
56	Dr. Poonam Kadam	Coursera-Internet of Things: Networking	June 2022
57	Dr. Poonam Kadam	Coursera-Cloud Computing Applications, Part 2: Big Data and Applications in the Cloud	June 2022
58	Venkata A P Chavali	Coursera-C for Everyone: Programming Fundamentals	June 2022
59	Venkata A P Chavali	Coursera-Design, Format, and Presentation in Microsoft PowerPoint	June 2022
60	Aarti G. Ambekar	Coursera-C for Everyone: Programming Fundamentals	June 2022
61	Aarti G. Ambekar	Coursera-Design, Format, and Presentation in Microsoft PowerPoint	June 2022
62	Ameya Kadam	Completed 4-week NPTEL course on “Python for Data Science”	Jan- Feb 2022
63	Ameya Kadam	Completed 12-week NPTEL course on “Data Analytics with Python”	Jan- April 2022

Other Events

Sr. No	Name of Faculty	Details	Dates
1	Dr. Amit Deshmukh	'Judge' for Selection Round of 16 th Inter-Collegiate/Institute/Department Avishkar Research Convention: 2021-22 organized by Department of Students' Development, University of Mumbai for Engineering and Technology category and UG/PG/PPG/TH Level/s	29-04-2022
2	Dr. Amit Deshmukh	External expert for the candidates interviews for the post of RS (Electronics & RF) at SAMEER	28-04-2022 and 29-04-2022
3	Dr. Amit Deshmukh	4th Meeting of Board of Studies in Electronics & Telecommunication Engineering at K. J. Somaiya Institute of Engineering and Information Technology	29-04-2022
4	Yukti Bandi	PET score card	01-05-2022
5	Dr. V. Venkataramanan	Editorial Board Member, Advances in Mobile Learning Educational Research (AMLER) (ISSN: 2737-5676)	01-12-2021
6	Yukti Bandi	NET score	19-02-2022
7	Dr. V.Venkataramanan	Delivered a Talk on Internet of Things (IoT) Wireless Emerging Technologies, The promises and the challenges as a resource person at CMS College of Engineering, Tamilnadu	18-03-2022
8	Dr.V. Venkataramanan	Conducted a Hands-on session / Workshop on MATLAB, as a resource person at D.J. Sanghvi College of Engineering, Mumbai	24-03-2022

9	Shivani Bhattacharjee	Elite Certificate in NEPTEL Course "Emotional Intelligence"	01-04-2022
10	Shivani Bhattacharjee	Avishkar selection round for Project " leaf disease detection using deep learning and image processing"	25-04-2022

5.3 Faculty Awards

Sr. No.	Name of Faculty	Description
1	Ameya Kadam	2% topper for the NPTEL course “Data Analytics with Python”

5.4. Student's participation in various events

Sr. No.	Name of Student	Class	Event	Date	Description
1	Kunal Rajdan		Industrial Program on Web Development from Raise Digital on E-Commerce Website(Single Page) - Advance E-Commerce Website	20th Nov, 2021 to 20th Jan, 2022	successfully completed
2	Mansi Shah	TE	Internship at The Spark foundation for function web developmwnt & designinig	27-12-2021	successfully completed
3	Srihari Narendra Kamath	TE	Python data structurs , an online non-credit course authorized by University of Michigan and offered through coursera	29-01-2022	successfully completed
4	Jeet Patel	BE	Completed course on Data Science Orientation, authorized by IBM, powered by coursera	28-01-2022	successfully completed
5	Aarya Shah	TE	Internship as a Graphic Designer in Marketing department at Giift Plus India Private Limited ("Giift")	1st Sep to 31st Dec 2021	successfully completed
6	Nenshi Tushar Patel	TE	4-week online training on Internship & Job Preparation through Internshala Trainings	25 Nov'21	Certificate of Training
7	Yash Dange	TE	Making Ad film event of Kshitij 21 organised by Mithibai college	2021	2nd position
8	Yash Dange	TE	Foundation of Project Management, an online non- credit course authorised by Google and offered through coursera	08-01-2022	successfully completed
9	Yash Dange	TE	Project Initiation: Starting a Succesful Project ,an online non- credit course authorised by Google and offered through coursera	20-01-2022	successfully completed

10	Nenshi Tushar Patel	TE	6-week online training on Programming with Python through Internshala Trainings	24-10-2021	Certificate of Training
11	Yash Dange	TE	Analyzing Video with OpenCV and NumPy, an online non- credit course authorised by coursera project network and offered through coursera	05-02-2022	successfully completed
12	Aaryan Shah	BE	Research paper topic:-Prediction System Design for Monitoring the Health of Developing Infants from Cardiotocography Using Statistical Machine Learning.	Vol 2021:Issue 07	Design Engineering Journal (Scopus)
13	Jeet Patel	BE	Research paper topic :-Prediction System Design for Monitoring the Health of Developing Infants from Cardiotocography Using Statistical Machine Learning.	Vol 2021:Issue 07	Design Engineering Journal (Scopus)
14	Disha Kunjadia	BE	Research paper topic :- Implementation of Applied Machine Learning for Identification of Exoplanets Using NASA's API	Vol 2021:Issue 09	Design Engineering Journal (Scopus)
15	Aaryan Shah	BE	Completed Course on Tools for Data Science, authorised by IBM and issued by Coursera	27-01-2022	successfully completed
16	Jeet Patel	BE	Completed Course on Tools for Data Science, authorised by IBM and issued by Coursera	27-01-2022	successfully completed
17	Yash Dange	TE	Certificate course on Colour coding with Da Vinci Reslove : Beginner to Advance by Udemy	20-08-2021	Certificate of completion

18	Smit Vasant Chheda	BE	Completed coursera course on 'Data Analysis Using Python' by the University of Penn	2/7/2022	Successfully completed
19	Jatin Shihora	TE	Internship at a Android Hire as a Mobile App Developer	1st Feb to 31st march 2022	successfully completed
20	Ms. Anushka Kanbar	TE	Internship Program at Innovage Fintech Private Limited in Mumbai	07-Oct-2021 to 10-Jan-2022	successfully completed
21	Taher Kutbuddin Kapadia	SE	Introduction to Artificial Intelligence (AI) an online non-credit course authorized by IBM and offered through Coursera.	Jul 25, 2021	successfully completed
22	Taher Kutbuddin Kapadia	SE	Introduction to the Internet of Things and Embedded Systems , an online non-credit course authorized by University of California and offered through Coursera.	August 10, 2021	successfully completed
23	Taher Kutbuddin Kapadia	SE	Interactivity with Java Script, an online non-credit course authorized by University of Michigan and offered through coursera.	August 12, 2021	successfully completed
24	Taher Kutbuddin Kapadia	SE	Smart Device & Mobile Emerging Technologies, an online non-credit course authorized by Yonsei University and offered through Coursera	August 10, 2021	successfully completed
25	Arya Gada	TE	Modern JavaScript: ES6 Basics , an online non-credit course authorized by Coursera Project Network and offered through Coursera	March 21, 2022	successfully completed

26	Taher Kutbuddin Kapadia	SE	What is "the mind" and what is artificial intelligence, an online non-credit course authorized by University of Colorado Boulder and offered through Coursera	July 25, 2021	successfully completed
27	Taher Kutbuddin Kapadia	SE	Building AI Powered Chatbots Without Programming , an online non-credit course authorized by IBM and offered through Coursera	Dec 29, 2021	successfully completed
28	Taher Kutbuddin Kapadia	SE	Getting Started with AI using IBM Watson ,an online non-credit course authorized by IBM and offered through Coursera	Oct 23, 2021	successfully completed
29	Taher Kutbuddin Kapadia	SE	Embedded Hardware and Operating Systems , an online non-credit course authorized by EIT Digital and offered through Coursera	Dec 19, 2021	successfully completed
30	Taher Kutbuddin Kapadia	SE	Internet of Things: Sensing and Actuation From Devices, an online non-credit course authorized by University of California San Diego and offered through Coursera	Dec 19, 2021	successfully completed
31	Taher Kutbuddin Kapadia	SE	Internship at CeX WeBuy Entertainment Pvt. Ltd.	15th July 2021 till 21st January 2022	successfully completed
32	Nenshi Patel	TE	Internship as a Manegement Trainee at Programmaticx Institute	March 23,2022	successfully completed
33	Parth Pandey	TE	Participated as Team Synergy in Case-ino Royale , The Case Study Competition organised by Shaheed		Certificate of Participation

			Sukhdev College of Business Studies(SSCBS), University of Delhi (DU), Delhi		
34	Parth Pandey	TE	Participated in the Analytics Challenge of E.P.I.C Season 3 organised by TVS Credit		Certificate of Participation
35	Parth Pandey	TE	Participated in the IT Challenge of E.P.I.C Season 3 organised by TVS Credit		Certificate of Participation
36	Srihari Narendra Kamath	TE	Internship Program as "React Js Developer" at Skill Safari		successfully completed
37	Srihari Narendra Kamath	TE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	2nd Position Secured
38	Monisha Uberoi	BE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	Certificate of Participation
39	Shrey Desai	BE	Internship program in Kiwhode learning Pvt.Ltd. as a Mentoring, Community Building, Auditing, Content Writing and also worked as a Sensei at Tekier	10 May 2021 to 13 April 2022	successfully completed
40	Aayush Gandhi	TE	Internship Program as a Data Analyst Intern at Sapio Analytica Pvt.ltd.	17th January to 17th April 2022	successfully completed
41	Ridham Suhagiya	TE	KJSCE HACK 6.0 CONDUCTED BY KJSCE CODECELL, Computer Engg. & IT Dept.,KGSCE	9TH & 10TH April 2022	Certificate of Participation
42	Jimit Patel	BE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	Certificate of Participation

43	Dhwanit Pandya	BE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	Ist Position Secured
44	Abhijay Rane	TE	Online Course of "Simulation of Business System :An Applied Approach" at NAPTEL Online Certification ,(Funded by the MoE, Govt of India.)	Jan - March '2022 (8 week course	successfully completed
45	Yash Dange	TE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	2nd Position Secured
46	Nimish Sabnis	TE	"DJS SKYLARK" - SAE Aero Design East 2022, held in Fort Worth Texas, USA	20th May to 22nd May 2022,	Certificate of Participation
47	Durvang Vijay Parab	TE	National Level Project Competition "DJ Spark 2022" orgnized by IETE-SF ,EXTC Dept.	April 11, 2022	Ist Position Secured
48	Dakshit Shah	TE	DJ STRIKE 2022 - A Project Competition held on the topic "Smart Drive",organised by EXTC dept	14-May-22	3rd Position Secured
49	Darshan Mehta	TE	DJ STRIKE 2022 - A Project Competition on the topic "Smart Drive",organised by EXTC dept	14-May-22	3rd Position Secured
50	Harshal Vaidya	TE	DJ STRIKE 2022 - A Project Competition held on the topic "IOT based Autonomous Vehicle with Lane Detection, Traffic Signal Detection using OpenCV Python" , organised by EXTC dept	14-May-22	1st Position Secured

6. RESULT ANALYSIS

Program of study : B.E- Electronics & Telecommunication Engg.

Academic Year : Acad. Year 2021-2022

Academic Session : Semester VII

Exam Year : Acad. Year 2021-2022

Exam Session : Semester VII

Over all records	Female	Male	Unknown	Total
No of students appeared for Examination	44	94	0	138
No of students passed	44	94	0	138
No of students failed with ATKT	0	0	0	0
No of outright failures	0	0	0	0
Thus % of result is	100.00	100.00	0	100.00

7. PLACEMENT DATA

Total no. of Students Placed Company Wise = 139 (Including Multiple Placement Offers)

Sr. No.	Company Name	Salary Per Annum (LPA)	No. of Students Placed
1	Amazon	28.00	1
2	MSCI	19.00	1
3	Samsung	14.50	1
4	JP Morgan Chase	14.00	2
5	Enfusion	13.36	2
6	ZS Associates	12.80	6
7	Axxela	12.00	1
8	Accolite Digital	11.00	5
9	Think360	9.55	3
10	RBL	9.00	2
11	Quantiphi	8.50	4
12	TresVista (GTD)	8.50	1
13	Oracle Financial Services Software	8.22	9
14	GEP	8.00	3
15	TCS Digital	7.60	1
16	Mu Sigma	7.50	2
17	TresVista	7.00	3
18	Edelweiss	7.00	7
19	Samsung (Indo vision)	7.00	3
20	HDFC Bank	6.57	3
21	Publicis Sapient	6.50	1

22	TATA Consulting Engineers limited	6.50	1
23	Tata Communication	6.50	1
24	Piramal Group	6.50	1
25	Ernst & Young	6.37	3
26	Amdocs	6.00	8
27	NSc-IT	6.00	3
28	Infor India	6.00	1
29	Unifynd	6.00	1
30	Citius Technologies	5.50	3
31	Godrej and Boyce	5.50	1
32	"Larsen & Toubro Infotech (Level 1)"	5.00	3
33	Media.net	4.63	1
34	Selec Controls	4.50	1
35	Brillio	4.50	7
36	Accenture	4.50	7
37	Cognizant (GenC)	4.50	6
38	PwC India	4.50	2
39	Code Array	4.50	1
40	Delloite India	4.32	1
41	Delloite	4.12	1
42	TCS Ninja	3.90	3
43	Infosys	3.60	5
44	Mirraw	3.60	2
45	Zell	3.50	1
46	Tata Elxsi	3.50	14
Minimum CTC in LPA: 3.5 LPA		**Maximum CTC in LPA: 28 LPA**	