PIMPRI CHINCHWAD EDUCATION TRUST'S

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PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH RAVET, PUNE - 412101.

Department of Electronics & Communication

Electronica 2020b

Academic Year 2020-21

(Sem-I)

Department at a Glance
Department of Electronics & Telecommunication

About Department :

The Bachelor of Engineering Program in Electronics and Telecommunication has commenced from the academic year 2014-15. The current student intake capacity is 60. The department is consisting of 03 class rooms and 09 well-equipped laboratories in the department. The Electronics and Telecommunication department is having online access to top journals through J-GATE. The department is having latest software's needed as per the academic curriculum. One practical batch is limited to 15 students and students are encouraged to perform practical individually. For each experiment a group of maximum 02 students performs the practical.

Vision :

* To be a premier department in the field of Electronics and Telecommunication Engineering with emphasis on hands on activities.

Mission :

* M1 : Producing Engineers of academic excellence, ready with skill sets required to handle the state of art technologies in the field of electronics and telecommunication engineering.
* M2 : Imparting research and innovative aptitude with moral and professional ethics for overall development of students to achieve desired outcome.

Program Educational Objectives (PEO's) :

*PEO1: To provide learning environment and hands on training in each area of Electronics and Telecommunication Engineering to achieve skill up-gradation of the human capital.
*PEO2: To inculcate research capabilities in the Electronics and Telecommunication Engineering and allied interdisciplinary domains and adopt themselves to rapidly evolving technology.
*PEO3: To impart moral and professional ethics among the students so as to transform them into capable, adaptable and responsible citizens.

Program Specific Outcomes (PSOs) :

*PSO1: Graduate will be able to identify, design, prototype and test electronics and communication systems using software and hardware tools for real life problems.
* PSO2: Graduate will be able to develop and support systems based on embedded, automation, microwave, signal and image processing.

Message from HOD's Desk

Prof. Dr. Rahul Mapari

Dear All,

Greetings for the E&TC department….

Department of Electronics & Telecommunications is located on fourth floor of Pimpri Chinchwad College of Engineering & Research, Ravet, Pune. The department works with the objective of addressing critical challenges faced by the Industry, society and the academia. The department is equipped with 04 software labs and 05 hardware labs with all necessary infrastructure and instruments for Signal Processing, Power Electronics, Antenna and wave, Digital Communication, Embedded systems. The department faculty work with excellent team spirit with specialization in different areas like Electronics, Communication, Signal processing, VLSI, Embedded System, Wireless Sensor Network etc. Teachers give importance to quality teaching and learning process adapting various innovative techniques and soft skill programmes for students. Special care is taken about the students whose performance is poor in the examinations through counseling and extra classes.

Faculty and Staff Members

Sr.No.	NAME OF THE STAFF	SPECIALIZATION	DESIGNATION
1.	Mr. Rahul Ganpat Mapari	PhD (Electronics & Telecommunication)	Professor & HOD
2.	Mrs. Vijayalaxmi Sandeep Kumbhar	ME (Electronics & Telecommunication)	Assistant Professor
3.	Mr. Santosh Nagnath Randive	M.Tech (Electronics)	Assistant Professor
4.	Mrs. Maithili Shailesh Andhare	ME (Electronics)	Assistant Professor
5.	Mr.Kiran Malhari Napte	ME (Electronics & Telecommunication)	Assistant Professor
6.	Mrs. Triveni Deepak Dhamale	ME (Electronics & Telecommunication)	Assistant Professor
7.	Mrs. Arti Avinash Tekade	ME (Electronics)	Assistant Professor
8.	Ms. Rupali Ramdas Kawade	ME (Electronics)	Assistant Professor
9.	Mr. Kishor Bhaskar Wane	ME (Electronics & Telecommunication)	Assistant Professor
10	Mrs. Dipali Nilesh Dhake	ME (Electronics & Telecommunication)	Assistant Professor
11.	Mr. Rahul Sopan Parbat	ME (Microwave Engineering)	Assistant Professor
	SUPPORTING STAFF		
13.	Mr. K. D. Bhalekar	Diploma (E&TC)	Lab Assistant
14.	Mrs. S. B. Gholap	BE (E&TC)	Lab Assistant
15.	Mrs. B. L. Gawali	Diploma (E&TC)	Lab Assistant
16.	Mr. M. S. Garade	I.T.I (Electrician)	Peon

Current Scenario of Solar Energy in India

When India started on the solar mission, many skeptics called the 22GW solar - goal an unachievable dream. They believed fossil fuels could never be replaced. Today, with over 25GW's installed, the reality has changed. Solar power is now the least expensive. We stand on the brink of eliminating every polluting fossil-fuel plant in India.

Achieving the Sustainable Development Goals to end extreme poverty by 2030 will require about $4.5 trillion annually, far more than multilateral development banks or donors can provide by themselves. To face this challenge, the World Bank Group adopted the MFD approach, which entails working with governments to crowd in the private sector while optimizing the use of scarce public resources. This approach is guided by the Hamburg Principles adopted by the G20 in 2017 and builds on the substantial experience across the institution.

Developing clean, renewable energy is crucial for India as well as the planet. The government has pledged that 40 percent of India's installed electricity capacity will come from renewable sources by 2030 as a part of its Nationally Determined Contribution (NDC) to the Paris Agreement. Solar power is crucial to achieving this and, with support from the World Bank, the government is making great strides to develop it. In collaboration, IFC has devised an innovative approach to attracting investors, which serves as a model for profitable solar generation.

Scaling up renewable power in India is crucial. The country is the world's third-largest emitter of CO2 and is also home to 13 of the world's 20 most polluted cities. Demand for power is rising too—about 250 million people (a quarter of the population) lack access to grid electricity. Under the Paris Agreement, India has committed to producing 40 percent of its electricity from renewable sources by 2030. This will cost an estimated $150 billion much of which is anticipated to come from private investors and is contingent on simplifying the energy sector's regulations and improving transmission infrastructure.

Responding to the government's request to help scale up renewable energy, the World Bank and IFC jointly supported developing solar power. This includes fostering innovative public-private partnerships, helping manage risk, and working to attract investors. As a result, the cost of producing solar energy has fallen substantially, spurring private investment and reducing tariffs for the end user.

In 2010, India committed to establishing 100 gigawatts (GW) of solar power capacity by 2022. But by 2015, only about 2 GW had been added, bringing the total solar capacity to less than 4 GW. Although solar plants can be profitable, investors had been discouraged by inadequate infrastructure, difficulty in obtaining land, a lack of familiarity with the sector, and perceived risks.

Technical Article

From 2015, the World Bank began supporting the government's efforts to address these constraints by providing $100 million in concessional finance : a $75 million IBRD loan, a $23 million loan from the Clean Technology Fund (CTF), and a $2 million technical assistance grant from the CTF a World Bank administered fund for supporting low carbon technology in developing countries (www.climateinvestmentfunds.org/topics/clean-technologies). This is helping to establish two large solar parks in Madhya Pradesh and develop the infrastructure to connect them to the grid and distribute power to consumers.

In parallel, the government worked on establishing fair and binding arrangements among the key sector players in solar energy state and national agencies, state-owned enterprises, and private energy producers as well as improving the regulatory and fiscal environment. This included doubling the portion of energy that large scale consumers must source from renewable and raising the tax levied on coal-derived energy from less than 3 percent in 2016 to more than 17 percent in 2019.

A major outcome was the establishment of a bankable solar project for both domestic and international investors. Since 2015, IFC and the World Bank have coordinated their efforts closely and played a crucial role in attracting private investors to the solar industry and delivering the power at competitive prices.

IFC's innovative approach was to make the Rewa Solar Park project “investment-ready” prior to auctioning its construction to developers. The objective was to demonstrate that large-scale solar projects can be implemented in a time-bound manner and attract commercial finance by systematically addressing risks.

The Rewa Solar Park established a record low tariff for renewable energy less than 5 cents per kilowatt hour. Competitive with power produced from non-renewable sources, the tariff has made new investments in coal plants far less attractive. This could not have been achieved without the efforts of IFC to create a bankable project for domestic and international investors, and support from the World Bank to make land and infrastructure available in a timely manner.

Of the $100 million the World Bank is investing in establishing solar parks in India, $18 million was dedicated to infrastructure for Rewa, which leveraged almost 32 times that amount in commercial investment ($575 million).

Source : (https://www.worldbank.org/en/about/partners/brief/india-developing-solar-energy-meet-rising-demand-electricity)

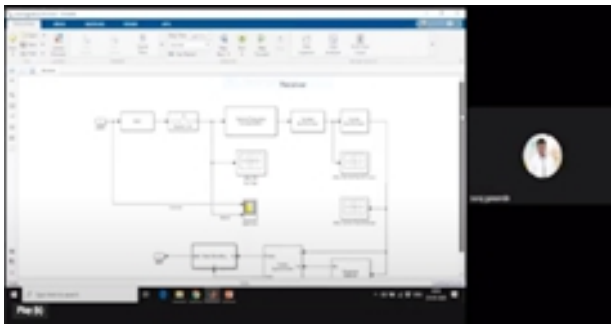
Departmental Activities

Webinar on Entrepreneurship and its importance in decades ahead

Objective: To make students aware about entrepreneurship and its importance. A webinar on “Entrepreneurship and its importance in decades ahead” by Mr. Ajinkya Chopade, Entrepreneur, Educator, Author is organized on 14/08/2020 at 2.00pm. In this Webinar information about career opportunities in entrepreneurship after Bachelor of Engineering was given.

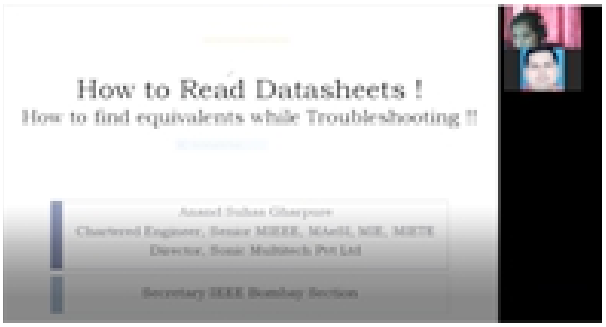
Expert Lecture on Modeling of Digital Communication Systems using SIMULINK

IEEE student branch department of E&TC PCCOER organized a industry expert lecture on “Modeling of Digital Communication Systems using SIMULINK” for TE students on 28/09/2020. The resource person for this session was Mr. Suraj Gawande, Application Engineer, DesignTech Systems Ltd., Pune. The objectives of the session are to make students aware about Simulink and its use in modeling and simulating digital communication systems.



Expert Lecture on How to read Datasheets

IEEE student branch department of E&TC PCCOER organized a industry expert lecture on “How to read Datasheets” for SE students on 08/10/2020. The resource person for this session was Mr. Anand S. Gharpure, CEO, Sonic Multitech Pvt Ltd, Nashik. The objectives of the session are to make students to read datasheets of logic gates, BJT, microcontroller etc



Virtual Speaker Program on "Introductory presentation on practical electronics for hobbyists, makers, and beginners"

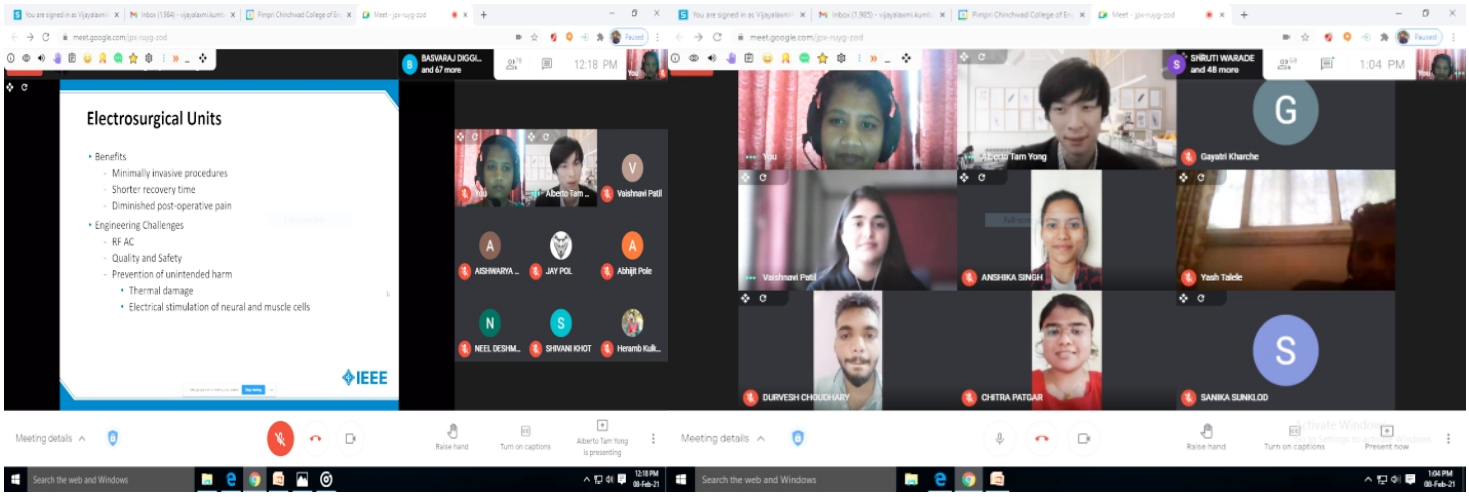
IEEE student branch department of E&TC PCCOER organized a Virtual Speaker Program on "Introductory presentation on practical electronics for hobbyists, makers, and beginners" for TE students on 08/10/2020. The resource person for this session was Alberto Tam Yong IEEE Orange County Section. Vice Chair, IEEE Region 6, YP-Students Coordinator, IEEE Region 6. SPAx Coordinator, IEEE Rising Stars. Planning Committee Member, IEEE Day 2020.

Region 6 - Regional Lead, Applied Medical. Electrical Engineer III in the Technology and Development Team. The objectives of the session are

1. To provide a comprehensive understanding of electronic devices and circuits.
2. To understand the working diode and transistor.
3. To study basic circuits using diodes and transistors.
4. To know the concept of Electrosurgery
5. To study amplifiers using transistor.

Departmental Activities

Coordinator : Vijayalaxmi S. Kumbhar

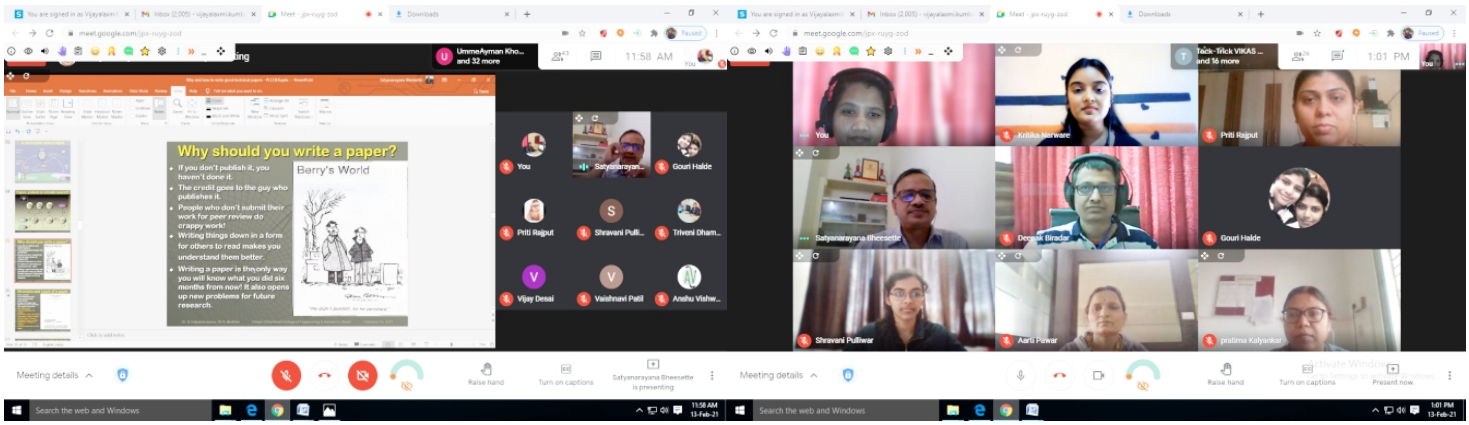


SKEP Session on "Why and how to write good technical papers?"

IEEE student branch department of E&TC PCCOER organized a SKEP Session on "Why and how to write good technical papers?" for faculties and students on 08/10/2020. The resource person for this session was Dr. Satyanarayana Bheesette, Ph.D., Scientific Officer (H) Dept. of High Energy Physics, Tata Institute of Fundamental Research & Visiting Professor, Dept. of Applied Science, American College, Madurai. The objectives of the session are

1. To provide an overview on effective technical writing, with a focus on writing technical papers.
2. To discuss guidelines for organizing and planning a technical paper.
3. To discuss writing styles, and discuss how to avoid plagiarism.

Coordinator : Vijayalaxmi S. Kumbhar



Post-COVID19 Rehabilitation - Leveraging opportunities through technology intervention to improve society (3 Days Virtual Hackathon)

IEEE student branch department of E&TC PCCOER organized a “Post-COVID19 Rehabilitation Leveraging opportunities through technology intervention to improve society” for UG & PG students from 27/11/20 to 29/11/2020. The aim of this hackathon is to give every innovator and thinker a platform where they can make a contribution and bring it to reality in the areas suggested and also to the other fields they are interested in.

Coordinator : Vijayalaxmi S. Kumbhar

Guest Lecture on Positive Attitude and Time Management

ISF of PCCOE&R comes under the Pune center of IETE.ISF of E&TC Department at Pimpri Chinchwad college of Engineering & Research, Ravet arranged an Guest lecture for the subject "Positive Attitude and Time Management" dated 27/11/2020 for SE (E&TC) and BE(E&TC) students. Mr .S. O. Dahad delivered knowledge about the Positive Attitude in every situation and Time Management in our life.

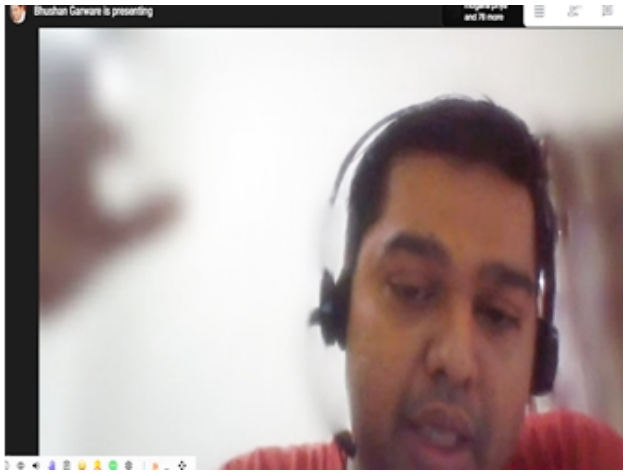
Objective :-

The objective of the Lecture was to create Positive Attitude and understand the importance of time management in life.

Program outcome achieved :

1. Students understood the benefits of time management.
2. Students learnt how to maintain a positive attitude in their life.

Guest Lecture on Leading technologies of Artificial Intelligence in industry



ISF of E&TC Department at Pimpri Chinchwad college of Engineering & Research, Ravet arranged an industry expert lecture on the topic "Leading technologies of Artificial Intelligence in the industry". Mr. Bhushan Garware delivered a lecture to TE and BE students. Sir explain what are the leading technologies of Artificial Intelligence in industries.

Objectives :-

To make students more familiar with Artificial Intelligence & what are leading technologies of Artificial Intelligence in industries.

Program outcome achieved :-

1. After completion of this industry expert lecture students able to understand what is leading technology of Artificial Intelligence in industries
2. Students can understand the different algorithms of Artificial Intelligence.

Coordinator : Mrs. Dipali N. Dhake

CODINGO Competition

Mrs. D. N. Dhake (IETE Coordinator), IETE student branch (ISF) members, Dept of E&TC, PCCOER organized CODINGO competition for SE E&TC students dated on 16/12/2020. Requirements of this competition were hacker earth account, stable internet connectivity and Prior coding knowledge. Due to this competition, students got confidence about programming skills.

Objectives :

1. To get the knowledge about recent innovations in AI, ML and DL area.
2. To develop programming skills and gained knowledge of coding.

Program outcome achieved :

After completion of this lecture

i)Compete with other students from different institutions.

ii)Acquired valuable experience in problem solving.

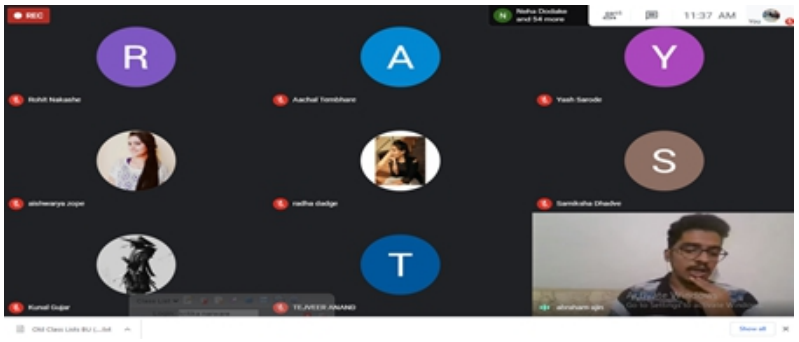
iii)Developed programming skills and gained knowledge of coding

Coordinator : Mrs. Dipali N. Dhake

Webinar on “Circuit making using Eagle software”

Objective : To design electronic circuits using Eagle Software.

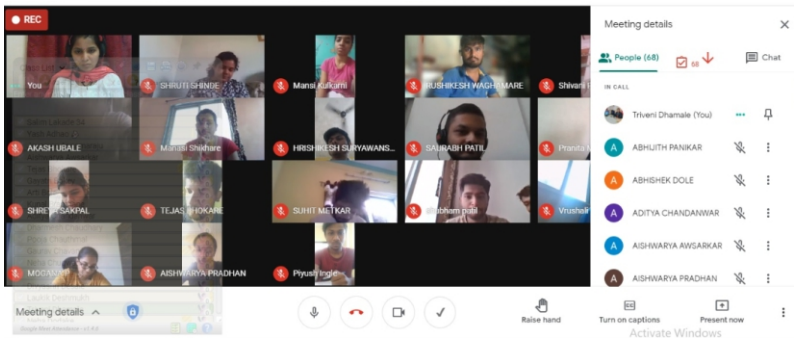
Students will be able to build circuits using different software for projects as well as simulation purpose. A webinar on “Circuit making using Eagle software” by Shivam Tekade is organized on 20/11/2020 at 10.30 am. In this Webinar information about types of PCBs, PCB etching and circuit making was given.



A Webinar on BE+MBA –A winning Profile

Objective : To make students aware about higher studies opportunities in MBA after BE.

Students will be able to choose their career and higher studies more precisely considering different opportunities. A webinar on BE+MBA A winning Profile by Mr. Ajinkya Chopade (Entrepreneur, Educator, Author) is organized on 14/08/2020 at 3.00pm. In this Webinar information about career opportunities in management after Bachelor of Engineering was given.



Students Corner

Anshika Singh
SE E&TC

Anshika Singh
SE E&TC

New Vision for 2021 from the Survival of 2020

By Darshana Bhavsar

2020 the year, if I am not wrong was full of unexpected things and had provided us with many moral, virtuous, ethical lifelong lessons. They are the ones that we should never forget in our lives and saying goodbye to 2020 we had welcomed 2021 with great enthusiasm and hope for new sunlight. Each and every experience of 2020 marked our lives with new colour. Although Corona cast a shadow over entire year, the same year defined the new normal. Starting with Corona and the other crisis/events witness in 2020 are Lockdown, China-India Skirmishes, Beirut blast, Nirbhaya cases, Bushfires in Australia, Locust swarm attack, Ram temple, etc. The above each and every event had a long lasting affects on our lives, providing with the great Visions for 2021 and the upcoming years.

2020 was fully marked by COVID-19 and its consequences. The lockdown of nation leads to industries, school-colleges, markets, malls to remain close for long period of time. During this period people were locked in their homes and the country was full of silence. 2020 taught us that technology can do anything. Whether , its online Education, work from home , inventions in medical field, e-commerce, COVID-19 vaccine, etc. As a result of this the new vision for 2021 would be to get acquainted with the new technologies and always hope for positiveness. As there's a great saying - ***"Where there is a will there is a way ".***

Unemployment, Lack of transport to migrant workers, no money no food, etc were issues spot during COVID-19 era. Never depend on only one source of income, always try to spare the money for difficult times and never lose hope because crisis is a tremendous opportunity to learn and grow, these could be the vision for 2021.

According, to World Population review report, India managed to rank fifth in world economy by overcoming France and Britain. To remain among the top would be the vision for 2021. Prime Minister Narendra Modi made a clarion call for "MAKE IN INDIA". India is getting vocal for local. Making India self Sufficient all-roundedly and especially in case of Medical field, Apps-developments, manufacturing of raw material and like in many fields and ways is one of the greatest visions for 2021. Beirut blast, Bushfires in Australia, Locust Swarm attack are some of the crisis that came are way due unwanted intervension of man in nature and one must have the vision to go green, to maintain and save our earth and its beauty.

Though, the first few days of 2021 provided us with the relaxation from COVID-19 threat but it's not over yet. It has come back our ways. So we all should be on a mission to always follow the rules and regulations made by our government and make a helping hand in defeating the Corona. As a result of various lessons learned unknowingly from 2020, vision for 2021 are likely to be follow a healthy life, diet, hygiene, to follow the safety precautions during the crisis, to save are nature and its beauty, women empowerment, to become self sufficient and have patience in oneself, etc. Also anything can happen anytime, so leave our lives to the fullest everyday .

2020 was a year that will be remember for its mess and 2021 will be in our memories for the victory over this mess

" Happiness can be found ,
even in the darkest of times,
if one only remember to turn
on the light".
- Dumbledore

Testimonials

Qaeed Hamid Rawal
TE E&TC (2020-21)

As we all know that due to the pandemic we had to study online. My experience of online learning is wonderful as we got all information about subjects in online mode through our subject teachers. Department has organized number of workshops, seminars, expert lectures, webinars, etc to boost our knowledge.

Pranita More
BE E&TC (2020-2021)

I thank my ECE department and its faculty members for encouraging me to think globally and spread my wings to take off for the land of rising Sun. My experience at PCCOE&R is great and memorable. The teachers and mentors are really helpful and helped me to improve my academic and interpersonal skills.

Alumni Feedback

I work as a Software Engineer in Bombardier Transportation. This is though the 3rd company I am selected in . I was not a bright highlight in studies but when it was about extracurricular activity , leadership activities I never missed a chance ! Although I never had backlogs (PS: Because of Our Helpful and supportive teachers. They will give you a right pathway for your future.) Though i enjoyed my engineering life to the fullest!! A just short note for juniors: Give your 100% when it comes for placement preparation time, it is like a golden hour, Make the most out of it. Dont think will do it later because that is never gonna happen !! Trust your instincts a lot and Believe in good, do good and good will happen to you certainly !! Enjoy this 4 years now to the fullest, also the summer vaccation you have now, You gonna miss the vaccation and my words later.

Laxmi Sonimindia
Software Engineer, Bombardier Transportation
(2018-2019 Batch Student)