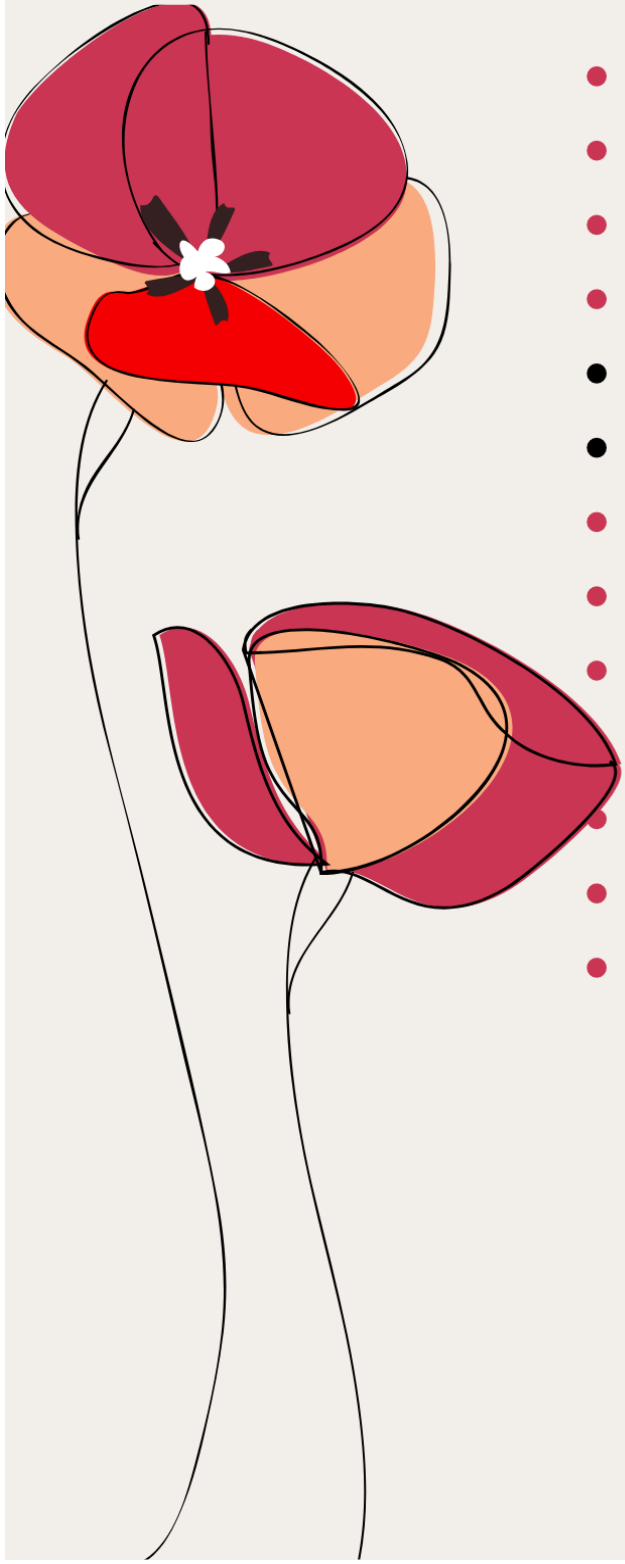

ELECTRO
SANCHAR-2020
The Electrons around you...

Whats Inside



ABES ENGINEERING COLLEGE

Estd.2000

1st in AKTU

ELECTRO SANCHAR 2020

Department of Electronics & Communication Engineering, established in the year July 2000 has been accredited by "National Board of Accreditation (NBA)" up to 2022 . ECE Department offers under graduate level programme with the annual intake of 180 students and Post graduate Programme with annual intake of 18 students in "Electronics & Communication Engineering". Department has seen remarkable growth in terms of quality of students intake, inclusion of post graduate programme. Department has well equipped Labs with necessary hardware and software to meet the curriculum requirements at undergraduate and post graduate level, they not only meet the academic curriculum but also industry requirements.

VISION

To contribute to India and the world through excellence in education and research in the field of Electronics & Communication Engineering and serve as valuable resource for the industry and the society at large.

MISSION

To create an environment, which shall encourage the development of innovative professionals and researchers in the cutting-edge technologies of Electronics & Communication Engineering, in line with industry requirements and to impart professional ethics with positive attitude.

TEAM MEMBERS

Sh. Neeraj Goel (Chief Patron)

Sh. Sachin Goel (Patron)

Dr. Shailesh Tiwari (Patron)

Dr. Sanjay Kr. Singh(Editor-in-chief)

Faculty Members

Ms. Ranjeeta Yadav (Editor)
Dr. Raman Kapoor
Mr. Sanjeev kr. Saini
Mr. Devvrat Tyagi
Ms. Tania Gupta
Mr. Dheeraj Singh

Student Members

Ms. Durgesh Nandini
Ms. Saumya
Ms. Divyanshi Chauhan

From The Desk of Director

Dear Readers,

It gives me immense happiness to release "Electro Sanchar 2020". It was quite inspiring to watch and witness the potential of our student's achievements at various stages. We always believe that “Hard Work has no shortcuts”. Here, in ABESEC, we continuously strive for excellence. We develop an ecosystem where each and every human being is motivated to align towards their goal. I must say that a student must be focused and alert to achieve his target. He/ She must know “More from less” strategy to bring most out of available resources. All the geniuses have one thing common that they are always in “Learning Mode”; the same is applicable on student as well. Once the students develop the thinking or attitude of this level than even failure becomes learning to them and they fall under category of “bound to succeed”. Best wishes and blessing to ECE Team. Congratulations to the editorial team for their determined efforts in bringing out this magazine.

Prof. (Dr.) Shailesh Tiwari
Director-ABESEC

From The Desk of Editor-in-Chief

Dear Readers,

"Education is not preparation for life. Education is life itself" It is my pleasure & great privilege to present you the information bulletin cum magazine of the ECE department. For both individuals and nation, technical education is vital for technology development, either as a way of developing human capacity that would aid in industrialization and environment protection or personnel empowerment. A common belief is that education's purpose is to replace an empty mind with an open one. Let's go a little beyond and find out what exactly education meant in the past and how, over the decades it has fundamentally altered the present education in our country. In this bulletin, one can find all the information about ECE department as well as the recent activity of ECE department in academic and research.

Prof. (Dr.) Sanjay Kr. Singh
HOD-ECE

Message from Editor

Dear Readers,

We are very happy to announce the next series of "Electro Sanchar 2020". It is a matter of honor that our department is publishing this bulletin. The idea of updating the faculty and students with the current happenings in the department is creditable. It is glad to see the teacher-student community of our department strive to reach greater attitude. I hope this issue of departmental e-magazine will encourage the students, future students, staff and faculty.

Sincerely,

Ms. Ranjeeta Yadav

Assistant Professor-ECE

Program Outcomes (POs)

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse exams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the

engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12.Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs) relevant to the Course:

PSO1. An ability to design and analyze the concepts and applications in the field of communication/ networking, signal processing, embedded systems and semiconductor technology.

PSO2. An ability to comprehend the technological advancements in the usage of modern design tools to analyze and design subsystems/processes for a variety of applications.

PSO3. An ability to learn the courses related to Microelectronics; Signal processing, Microcomputers, Embedded and Communication Systems to develop solutions to real world problems.

PSO4. An ability to communicate in both oral and written forms, the work already done and the future plans with necessary road maps, demonstrating the practice of professional ethics and the concerns for social and environmental impact.

Programme Educational Objectives (PEOs)

PEO1: To impart the students sound technical knowledge and skills in the core & related science & mathematics subjects of Electronics & Communication Engineering so that they graduate as professionally competent engineers, capable of applying & implementing the acquired skills.

PEO2: To inculcate in students a desire to be innovative and passionate about excelling in the field of Electronics & Communication Engineering.

PEO3: To develop managerial and soft skills so that they become confident and competent enough to take challenging responsibilities & leadership roles in the industry & corporate.

PEO4: To equip them with solid foundation in ECE engineering so that they can pursue higher studies in the subject.

PEO5: To groom the students to acquire professional ethics, moral values and devotion to duty so that they prove to be worthy citizen of India with international outlook.

A Note from HOD (ECE)

Dear Readers,

A warm and affectionate welcome from the Department of Electronics & Communication Engineering of ABES Engineering College. Electronics Engineering is a dynamically changing and widening branch of the engineering profession, having applications in every discipline of engineering. It is the driving force behind rapid development in latest technological growth. Electronics and communication engineering provides excellent career opportunities in various sectors of Industries. The department has a fine blend of qualified and experienced faculty and staff members. We are continuously striving hard to improve upon the quality of education and maintain its position of leadership in engineering and technology. The Department is equipped with state of the art Laboratories to provide adequate opportunities for the students to learn and innovate new skills and ideas.

The Industry Academia relationship helps in developing a powerful engine for innovation and economic growth. This relationship helps in modernizing teaching and learning methods by fostering an exchange of ideas and skills. Is also developing people with the skills and competencies required for new innovations which transform world-wide markets and industries?

The main goal of the department is to develop innovative professionals and researchers in line with the requirement of industry and research organizations. At ABES we are committed to create an environment for the students where they can develop critical thinking and problem-solving skills. I am confident enough that our students will prove to be an invaluable asset for any organization.

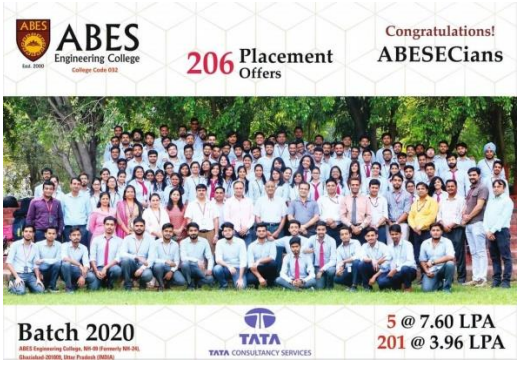
Highlights of ECE Department (NBA Accredited up to 2022)

4 YEARS B.TECH. (ECE) | 2 YEARS M.TECH. (ECE)

Among other fields of engineering, the Department of Electronics Engineering rises up. Established in the year July 2000 and offer under graduate level programme in Electronics and Communication Engineering, the Department has seen remarkable growth in terms of quality of students intake, inclusion of post-graduate programme 'Electronics and Communication Engineering' .

Prof. (Dr.) Sanjay Kr. Singh leads the Department. He is supported by a team of dynamic, skilled and energetic members of the faculty and equally trained and qualified technical staff.

- In second year, we have achieved results of 86.10%, in third year 93.16% and in fourth year 94.32%.
- In terms of placements we have achieved a level of 84.68%.



Strengths

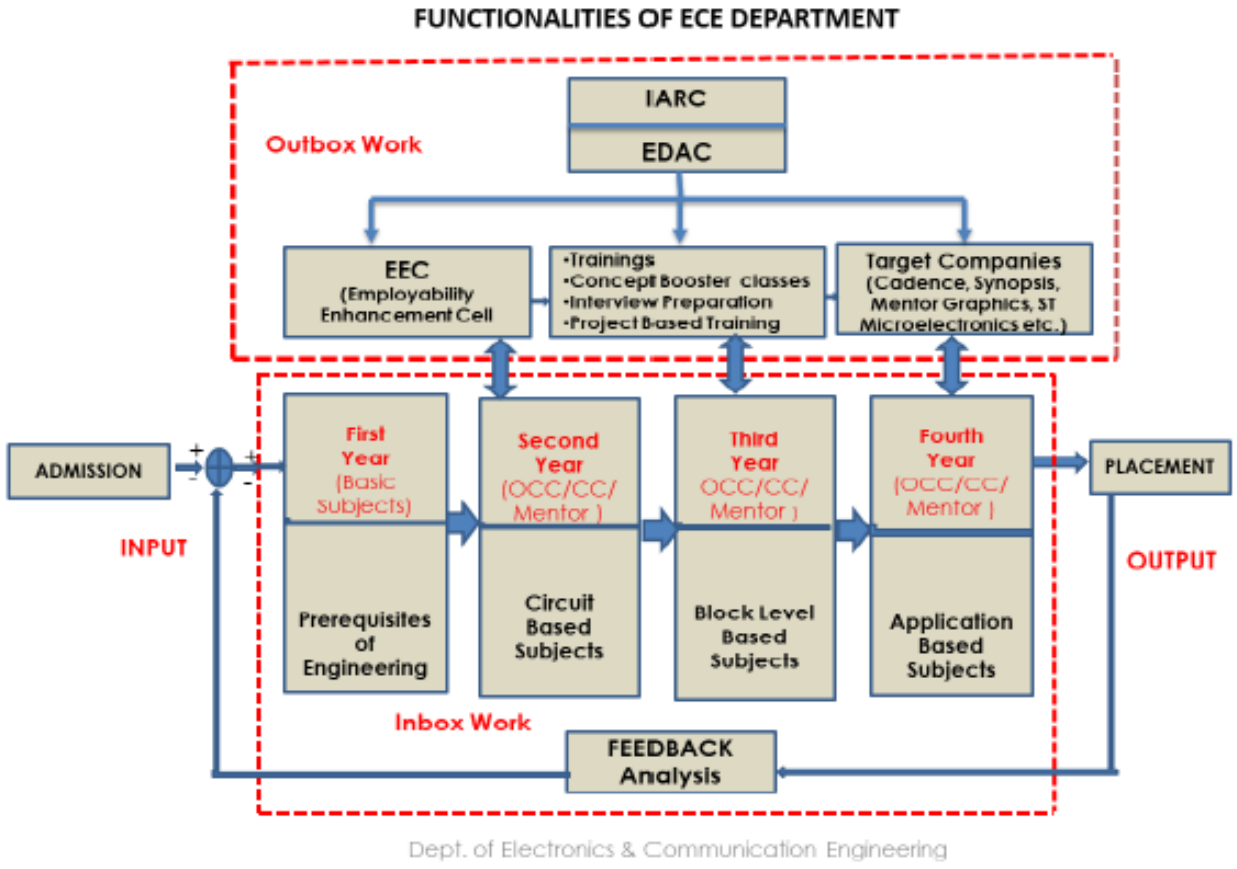
- EEC (Employability Enhancement Cell)
- IARC (Industry Academia Relationship Cell)
- EDAC (Electronic Design and Consultancy)
- Electronic ICU
- In house Trainings : 06
- FDP : 04
- Guest Lectures : 03
- Industrial Visit : 04
- MoUs : 05
- Patents : 05
- Workshops : 06
- Consultancy Projects : 03
- Faculty Publications : 43
- Student Publications : 17

Placement

Total Placement from ECE: 328+

Prominent Recruiters:

- Capgemini : 61
- TCS : 50
- Truechip Sol. Pvt. Ltd. : 16
- Wipro : 15
- Infosys : 14
- Beehive Systems : 08
- HCL Technologies : 08
- DELHIVERY : 07
- Fiserv India : 07
- Others : 134+



Department Achievements

The Department actively promotes research and provides high-quality research projects, and sponsored projects.

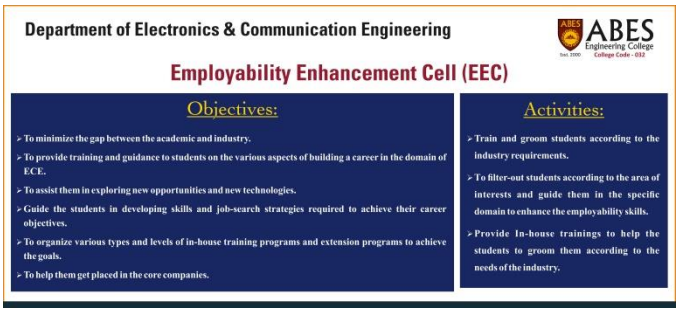
To minimize the gap between industry and academia, department has organized various Guest lecturers for the students where the various eminent persons from the industry shared their views on the recent trends in the industry. The department also provides in-house trainings in the field of PLC, Embedded systems, LABVIEW, VLSI etc.

The Department has organized various Seminars, Short-term Courses and Faculty Development Programs.

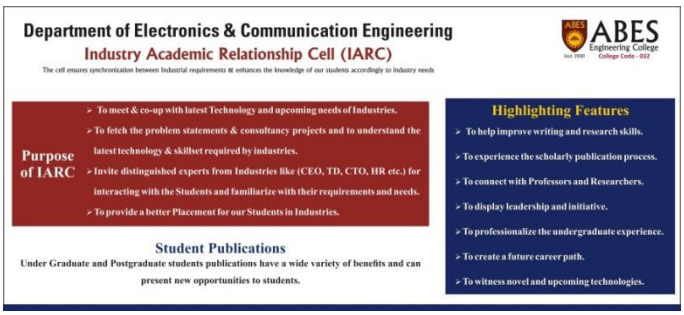
EEC (Employability Enhancement Cell)

The Purposes and Outcomes of EEC are:

- EEC members counsel students one by one, discuss their interests and assign them domain.
- To explore new opportunities and technologies.
- To enhance the confidence level of students
- To understand and fulfill the requirements of industry
- Students are more confident and groomed for placement drives



IARC (Industry Academia Relationship Cell)

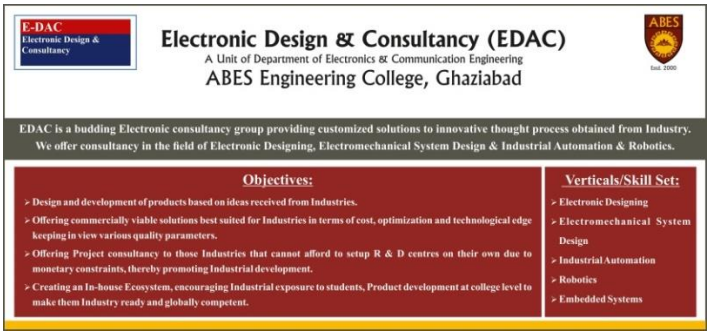


The Purposes & Outcomes of IARC are:

To build the gap between Industry and academia with the help of following fields:-

- To prepare projects that are as per recent trends and technology
- To meet the requirements of industry(Placement Support)
- MoUs with core companies
- Consultancy Projects
- To encourage towards new Start-ups and Entrepreneurships

EDAC (Electronic Design & Consultancy Cell)



The Purposes & Outcomes of EDAC are:

- The purpose of EDAC is Design & development of products based on ideas received from industries.

- Offering commercially viable solutions best suited for industries in terms of cost, optimization & technological edge keeping in view various quality parameters.
- Offering project consultancy to those industries that cannot afford to set up R & D center's on their own, due to monetary constraints thereby promoting industrial development.
- Creating an in-house ecosystem encouraging industrial exposure to student's product development at college level to make them industry ready and globally competent.
- EDAC has successfully commissioned several consultancy projects. Presently, around 22 consultancy projects received from industries are being developed by faculty members and students.

Electronics ICU

Electronic ICU (For the consultancy projects, provided by different companies and for R&D purpose)

The Purposes & Outcomes of Electronic ICU are:

- To cater to the servicing requirements of electronic equipments of various labs running in ABES EC.
- Troubleshooting and component level fault diagnosis of electronic equipments
- Execution of funded projects obtained from various Governments and Non-Government agencies.
- Development of prototypes of various suggested solutions for different agencies.
- All the job of repairing any equipment is to be done in electronic ICU

In House Trainings

Continuous technical training is crucial for any institution to improve the technical competence of its students. Professionally trained employees can assist the management and propose new ways to develop their companies operation at a lesser cost or provide new and more competitive services. To achieve that the EEC team of ECE Dept. along with Center of Building Skills and Employability (CBSE) conducted in-house training programs frequently to bridge the gap between theory and practical scenarios. Technical Training through ECE Dept. and CBSE helps organization to hire pre-trained resources from ABES Engineering College.

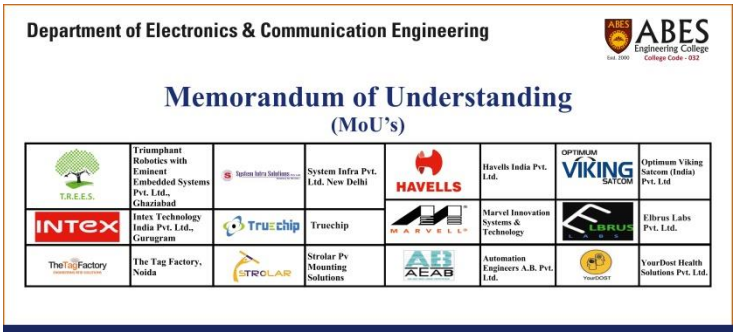
- INDUSTRIAL AUTOMATION PLC & ELECTRO PNEUMATICS
- RF AND MICROWAVE DEVICES
- SIGNAL PROCESSING USING NI-LABVIEW
- VLSI DESIGN AND TECHNOLOGY
- EMBEDDED SYSTEMS AND IOT
- ANALOG AND DIGITAL ELECTRONICS

FDPs

- Short Term course on Next Generation Communication, sponsored by NITTTR, Chandigarh
- STTP on Management Issues of Laboratory Workshop Classes , NITTTR Chandigarh
- Short Term Course on Artificial Neural Network and its applications, NITTTR Chandigarh
- Short Term Course on Research Oriented Project Work sponsored by NITTTR, Chandigarh

- The Making Webserver with Nodemcu and Controlling LEDs/appliances from web browser by Mr. Vijay Kumar, Team leader, AVAnalog, Noida.
- Satellite Communication by Mr. VC Gaur, Director, Optimum Vikingsatcomm. India pvt. Ltd.
- Image Processing and its Future Trends by Prof. (Dr.) Rashmi Gupta, Ambedkar Instutute of Advanced Communication Technologies and Research, New Delhi.

MoUs


Department of Electronics & Communication Engineering

ABES Engineering College

Memorandum of Understanding

(MoU's)

T.R.E.E.S.	Triumphant Robotics with Eminent Embedded Systems Pvt. Ltd., Ghaziabad		System Infra Pvt. Ltd. New Delhi	HAVELLS	Havells India Pvt. Ltd.	Optimum Viking Satcom (India) Pvt. Ltd
INTEX	Intex Technology India Pvt. Ltd., Gurugram	Truechip	Truechip	MARVELL	Marvel Innovation Systems & Technology	Elbrus Labs Pvt. Ltd.
TheTagFactory	The Tag Factory, Noida	STROLAR	Strolar Pv Mounting Solutions	AEAB	Automation Engineers A.B. Pvt. Ltd.	YourDost Health Solutions Pvt. Ltd.

Guest Lectures

- The Importance of IPR in Academics and Legal Patent Filing Procedures in India by Pooja Kumar, Director, Innove Intellects, Ghaziabad.

A Memorandum of Understanding between two companies for starting a new business is a legal binding agreement that is on paper. It is essentially a handshake on paper that displays each party's intent to agree or do business with one another. We

are always seeking to establish an official partnership with the industries and research organizations. That helps our students in terms of industrial exposure and placements.

- True Chip
- Automation Engineers. A.B. PVT. Ltd., Noida
- Marvel Innovative Systems & Technology
- Optimum Viking Satcom(India) Pvt Ltd
- Aim Electronics, Ambala

Industrial Visit

As a part of university curriculum and In a fast-moving global marketplace, finding a competitive edge means being right at the edge — at the edge of what's possible today and what's coming tomorrow. With this in mind, the focus of this industry connect will be on building better Institute-Industry partnerships that are truly win-win, long-term, and bring with them critical funding for research and development, new innovations with a positive impact on industry and society at large. The integration of efforts will yield stronger communities, better employees, innovative organizations, and institutes that better support their faculty and better prepare their students for bright futures.

The Industry Connect will help academics understand how to build an array of partnerships and connections with the Industry that will help enhance the impact of research efforts through know-how transfer, products and innovative technologies, and a holistic approach to academia-industry relations. This initiative will also help industries that cannot afford to set up R & D center's on their own, due to monetary constraints thereby promoting industrial development. The program will offer commercially viable solutions best suited for industries in terms of cost, optimization & technological edge keeping in view various quality parameters.

- Automation Engineers A.B. Private Limited, Noida on 04/03/2020.
- Deki Electronics Pvt Ltd, Noida on 07/02/2020.
- Solid State Physics Lab, Ministry of Defence DRDO, New Delhi on 18 /09/19.
- Bisleri International Private Limited Sahibabad on 14 /8 /19.
- Inter University Accelerator Centre (IUAC), New Delhi on 9/08/2019.

➨ Students visited to Automation Engineers A.B. Pvt. Ltd., Noida to gain the Knowledge of Industrial Automation and Development. During the visit students understood the operation and maintenance of PLC, DCS, Electrical Drives, MCC, PCC, and basic Concept of Commissioning and handling over the plant for operation

➨ To get the concept based knowledge of electronic components, students were taken to Deki Electronics Pvt. Ltd., Noida. Knowledge about Capacitor manufacturing, different types of capacitors and Selection of different types of capacitors were introduced to students.

➨ In order to give exposure about advanced semiconductor materials and devices, students visited to Solid state Physics Laboratory, Ministry of Defense (DRDO) and got knowledge about recent developments in solid state materials and devices with their applications.

➨ Students also visited Bisleri International Pvt. Ltd., Sahibabad to get an exposure of automated bottling plant, Industrial Automation and Robotics. Students also got the knowledge about quality control systems used in packaged drinking water plants.

➨ Students visited to Inter University Accelerator Centre (IUAC), New Delhi and got through exposure of the latest technological advancements in the area of nuclear physics, semiconductor devices, and engineering materials.

Student Achievements

- Vidushi Singh and Swati Khantwal stood 1st position in poster making competition in AKTU Art & Cultural fest at IMSEC, held on 22nd & 23rd February,2019
- Sarthak jain and shreya Dewan along with his college band stood 3rd position in AKTU Art & Cultural fest at IMSEC, held on 22nd & 23rd February,2019
- Riya Chaudhary, Yash verma and Utkarsh Tyagi stood 2nd position in Robowar event in AKTU ZONAL & STATE LEVEL ACTIVITIES at AKGEC, held on 30 & 31 Jaunary, 2019
- Mr. Uddeshya Agarwal stood 2nd position in Business plan event in AKTU ZONAL & STATE LEVEL ACTIVITIES at AKGEC, held on 30 & 31 Jaunary, 2019 Shadaj Tiwari stood 1st position in Battle of Bands in Dr A.P.J. Abdul Kalam Arts and Cultural Fest 2020 at Zonal and State level.
- Swati Khantwal and Swati Kushwaha stood 1st position in AKTU Art & Cultural fest in zonal and state level.
- Anushka Yadav stood 1st position in 4X100m Relay in VIT, Gautam Budh Nagar, Dr A.P.J. Abdul Kalam Sports Fest 2020 (Zonal and State).
- Anirudh stood 1st 1st Position in Football in All India Sport Fest in IMS College.
- Anushka Yadav ranked 1st position in 100m, 200m and 4x100m relay Race in RANN, 2020 in KIET Ghaziabad.
- Shailendra Kumar stood 1st Position in 100m Race and Long Jump in Sports.

REQUIZA CLUB

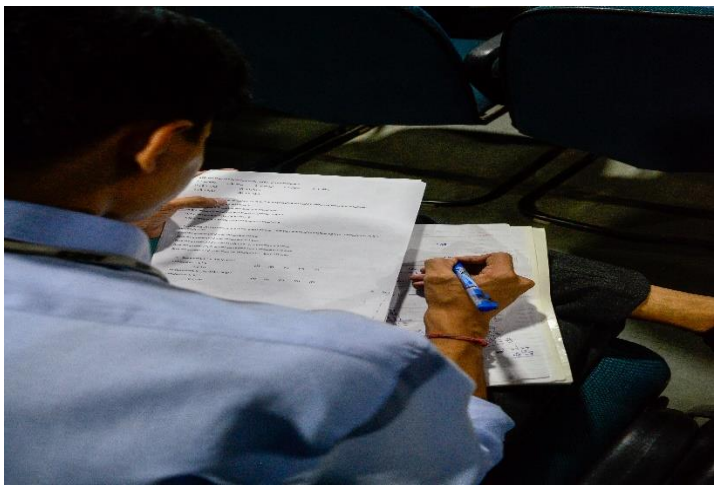
It is the official technical club of Electronics and Communication Department, ABESEC. The club started its journey three years ago, in the year 2017.This is the best platform where students can learn and showcase their talent and technical innovations. This is the place where you can build your personality and present it in front of the audience. When you get bored of daily hectic college lectures, this is the place where they can relax their mind by learning new skills according to your interest.
The various events organized for this session are:-

1. Workshop-"EMBEDDED SYSTEM" under IEI Society on 24th of September, 2019.

This was a workshop conducted in collaboration with CETPA about the present scenario of Embedded in Placements. The topics covered included the basics of Embedded Systems, Introduction to Microcontrollers and uses and advantages of Embedded Systems. The workshop was followed by a Questionnaire session. The Winner of the event is Harshit Nandan & Vishal Gupta.

2. Technical Event-"BRAINATHON" on 05th - 6th of September, 2019.

This was a two round event out of which first was an online event which revolved around the basic Electronics knowledge and quantitative and qualitative reasoning. The event helped students check their analytical skills and electrical and electronics concepts. The second round was a group discussion round which was based on knowledgeable and trending topics. The Winner of the event is Rushil Khare, Anshika & Aruneet Roy Chaudhary.



3. Technical Event—"KICKSTART" on 13th Feb, 2019.

It was an exciting Coding Quiz Competition in which about 100 students participated from different branches and different years.
The event was organised with the sole aim of giving exposure to the students regarding the types of coding questions they will be facing during their interviews. The students participated with a lot of enthusiasm and the event was a great success.

4. Workshop- "MACHINE LEARNING" under IEI Society on 25th of January, 2020.

The department of ECE organized a Workshop on Machine Learning under REQUIZA (Technical Society of ECE department) and IEI Society on 25th January, 2020 for 2nd year students of all branches of B.Tech.

Following topics were covered in the workshop:

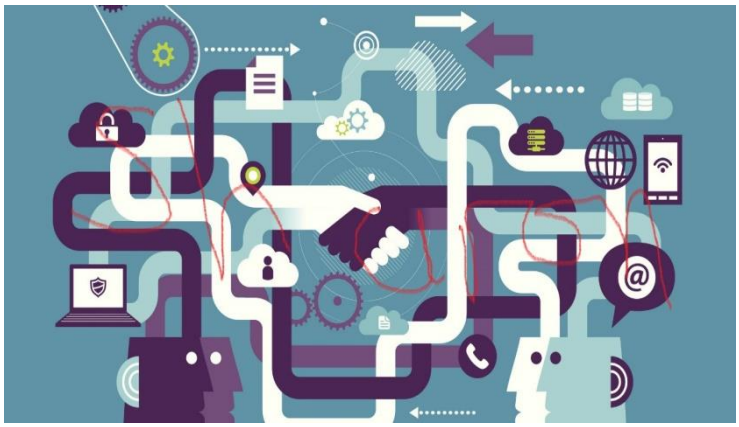
- Difference between Artificial Intelligence, Machine Learning, Data Science, and Internet of Things.
- Types of Machine Learning.
- The hands-on session.
- How to integrate it with the web?

Advisory Board

The Advisory Board is an informal group of experts who are consulted on various matters to do with Open Knowledge activities, strategy & operations but hold no legal responsibility for the organization. The concept of the Departmental Advisory Board (DAB) is based on a belief in the importance and value of shared leadership. Management, administration, Faculty members, parents & students work together to share advice and suggestions regarding departmental policies in accordance with the mission and vision of the department. The primary function of the advisory board is to provide advice & assistance to achieve the same.

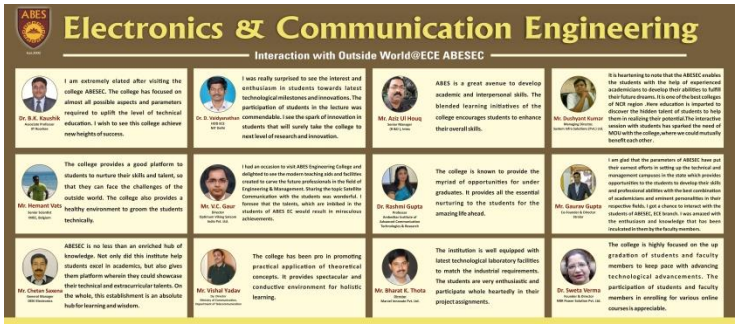
Members of the Advisory Board

Prof. (Dr.) Shailesh Tiwari (Director, ABES EC)
Prof. (Dr.) Sanjay Kr. Singh (HOD, ECE)
Prof. (Dr.) D.S Chauhan (Vice Chancellor, GLA University, Mathura)
Dr. Arti Noor (Director, CDAC Noida)
Prof. Sampat Kumar V (Assocoate Dean, AKTU)
Prof.(Dr.) B.K Kaushik (Associate Professor, IIT Roorkee)
Prof.(Dr.) D. Vaithiyanathan (HOD (ECE), NIT Delhi)
Prof.(Dr.) Sajai Vir Singh (Associate Professor, JIIT Noida)
Mr. Navneet Kumar (System Application Engineer, Synopsis, Noida)
Mr. Dushant Kumar (Director, System Infra Solution PvtLtd)
Mr. Hemant Vats (Researcher, IMEC, Belgium, Neuven)
Mr. V.C. Gaur, (Director, Optimum Viking Satcomm (India) Pvt. Ltd.)



Academic Collaboration

Collaboration always pays off to learn and experience new technologies for both the partners. Academic and research collaboration is a very valuable tool that not only accelerates the progress but also enhances the quality of the work and extends the repertoire of the partners. Academic collaboration is beneficial to the faculty and students in learning new teaching tools and to increase the breadth of their knowledge and learning different approaches to solving a problem. The Department of ECE at ABES Engineering College always strives for academic collaborations with renowned universities and research centers across the country. The faculty members of the Dept. have been working together with the well reputed academicians from the leading universities/institutes/research organizations for their research:



Industrial Collaboration

Collaboration between universities and industries is critical for skills development (education and training), the generation, acquisition and adoption of knowledge (innovation and technology transfer) and the promotion of entrepreneurship (start-ups and spin-offs). Academic-industry collaboration can also expand the relevance of research carried out in public institutions and foster the commercialization of public R&D outcomes. The benefits of Academia-industry collaboration are also evident in developing countries. ABES EC plays an active role in bridging the gap between industry and academia. Dept. of ECE believes collaboration with industries as an important and strategic mission Collaboration ensures that classroom and textbook knowledge is being disseminated to the society. Industrial collaboration is a key access for ECE students to practice research and innovation agenda in the business community. In the recent past Dept. of ECE has tied up with the following companies and list is going on -

MARVELL, HAVELLS, OPTIMUM VIKING SATCOM, LBRUS LABS, STROLAR, TheTagFactory ENGINEERING RFID SOLUTIONS

Words from Alumni

1. The academic experience with a world class infrastructure and excellent faculty at ABES Engineering College, Ghaziabad has endured me with a lifelong career excellence. The exceptional program and teaching methodologies backed by practical skills and industry interface have given me the confidence to pursue my career ahead.

   Kanchit Sharma
   L&T Technology Services Pvt. Ltd

2. One of the most interesting stages in life that had given me an opportunity to explore is my 'college life'. I have developed a lot during my college, not only in terms of knowledge but also as a person. The dance club helped in building a lot of confidence within me. I owe a sincere gratitude towards my ECE faculty, as they helped me in guiding through my career path. The faculty at ABES aims to incorporate new knowledge, behaviors, and skills in students that add to their range of learning. My teachers in college helped me to develop my analytical and logical skills.

   Akanksha Singh
   A&MS Layout Design Engineer, Synopsys

3. College is another name for childhood. We not only learn lessons of course, but also learn a chapter of life. It educates us about all spheres of life. My college has been the best part of my life. It taught me how to handle situations, and how to face ups and downs of life. Learning from books is the easiest task one can do, but facing the challenges is the most difficult part. I learnt how to take charge, how to decide my priorities, how to think constructively and how to nourish yourself accordingly. Being successful in college depends on how seriously you take it. College really makes you grow up fast because you are on your own and your parents aren't there to bail you out.

   Sushmita Chaudhary
   HCL Technologies, Noida

4. Life at ABES Engineering College is a wild mish-mash of experiences, what with all sort of hilarious stuff going down in the hostels. My experience in college has given me a chance to sharpen my skills in my field of choice. The college clubs aims to develop analytical and creative thinking skills and especially the dramatics club that helps to create your personality. I owe my sincere thanks and gratitude to ECE faculty's for teaching me that emotion and logic exist best together and the concepts taught in class for the completion of my endeavour.

   Deepanshu Srivastava
   Cadence Design Systems

Interview

Ms. Shivangi Sharma
B.Tech (ECE)
2019 Batch Passout

1. In which companies are you placed and what is the domain of your job?

   I am placed in AVL India Pvt Ltd, Gurgaon and my domain department there is AVL Big Data, on a profile of Engineer - Data Science

2. How did the college help you with the placements?

   The college helped me in providing the opportunity to take part in the placement process and sit for multiple good companies. It also helps in preparing our resume and to prepare us for such competitions by doing mock interviews sessions, helping with the resume, mock GD sessions, etc.

3. What was your preparation mechanism for an interview?

   1. To research and know well about the company the interview was scheduled with.
   2. To know in detail about the profile that was offered by the company.
   3. Studying the basics of the domain we applied for and looking for some common interview questions asked by the company on glassdoor, quora, indeed, etc.

4. What kind of questions were you asked during the interviews and how did you answer them?

   My interview at AVL was for the post of a Data Scientist, so I prepared myself by getting a brief knowledge about what the profile is and what are the requirements for the profile. My interview consisted of basic maths questions mostly, intermediate level.
   It was started with introducing me and later the questions were maths based and logical.
   They include the concepts from probability, sin and cosine angles, basic statistics and correlation.
   It was more focused on how well the problem was understood and what approach and methodologies were used to solve the mentioned problem.

5. Did you face any difficulties during the placement drive?

   There was no difficulty as such but opting for IT Industries has some initial challenges over the programming languages.

6. What message would you like to give your juniors to achieve their goals?

   I want to convey to my juniors that they can decide the domain in the second year of their graduation and start working on small projects based on the skill learning and groom themselves for better placement opportunities. They must participate in technical competitions which are organized inside and outside the college at time to time. This will enhance their leadership skill which will help during the team work at the time of job.

Articles by Faculty Members & Students

Static Noise Margin Analysis of 6T SRAM

Dr. Raman Kapoor and Dr. Sanjay Kumar Singh

The complementary metal oxide semiconductor (CMOS) technology has long benefitted from the conventional scaling trends which require reducing the critical dimensions of the transistor. The static random access memory (SRAM) has also benefitted from such downsizing and has long been used as cache memory. In this paper, we present the static noise margin (STM) analysis of the most favored 6-transistor SRAM or the 6-T SRAM. The STM analysis has been performed for various parameters such as temperature, drain voltage, cell ratio, and threshold voltage to obtain optimization. Since memory elements like SRAM consume the majority of the silicon area in a typical integrated circuit, such optimization is critical for major requirements like portability, operating speed, and reduced power consumption.

Integrated electro-optic tunable power splitter based on microring resonators having interleaved PN junctions

Dr. Priyanka Bhardwaj

This paper presents novel designs and simulation results of electro-optic modulators in integrated silicon photonics platforms. The electro-optic modulators described in this paper are based on the modulation of the photonic band gap in a silicon photonic crystal slab waveguide, consisting of a phase change material (germanium selenide) sandwiched in between silicon layers. Three-dimensional finite difference time domain (FDTD) modeling is employed to simulate two configurations of electro-optic modulators based on mode-gap shifting in photonic crystal slab waveguides—one that is designed for operation with the transverse electric (TE) polarization of light and the other for the transverse magnetic (TM) polarization. When the electric field is applied across the germanium selenide layer surrounded by doped silicon layers, there is a change of phase of the germanium selenide layer.

Advancement of 5G Technology

Mr. Ajay Suri

Commercial 5G networks are live throughout the world. One factor you might notice will be that when you listen to about 5G, you notice a lot of chat about speed. Obviously, regarding newbies like kids, the particular speed of 5G has been the easiest thing to know. But 5G is a lot, a lot more... The world's on-line needs are changing. International mobile data traffic will be anticipated to multiply by five prior to the end of 2024. Particularly in dense downtown areas, the latest 4G sites simply will not able to be able to keep up. 5G smartphones will always be available in beginning regarding 2019. The significance of 5G is definitely the opportunity it offers for people, business along with the world at large: sectors, regions, towns and urban centres which might be more connected, better and much more sustainable. It's enabling industries to reinvent on their own.

FPGA Implementation of Efficient FIR Filter

Ms. Ranjeeta Yadav

Improve the functionality of an FIR Filter by modifying the internal components used to design a filter. These past years have seen some great improvements in the speed, power, and area of the filter. Here, we will, therefore, use an ALU-based algorithm to design our FIR filter. The internal components of the ALU block will be an Adder and a Multiplier. A Floating point Adder and a Floating Point Multiplier will be the basic backbone of the ALU block, which finally will be used to design and implement our FIR filter design. Therefore, the parameters of the area are our main target but we will also see the power consumed by the Filter operation, both static and dynamic power consumed will be seen. The programming language will be written in VERILOG and the simulation and implementation of the design will be done by the help of Xilinx ISE suite version. One important aspect is that there will be 16 input samples and 16 coefficients which will be directly from a 16 tap filter. These coefficients and input values will be generated through MATLAB software.

Smart Shoes for Blind

Ms. Geetanjali Raj

A Normal human being is bestowed with 5 sensory organs, from which Eye plays the most crucial part for the human beings in order to interact with the environment. Vision plays the major role for a person in every function or activity it do in this world. Visually challenged person in this world faces more difficulties than any other human being. They experience problems in every vital works of the day; their normal day will be pathetic for a normal human being. As now we live in 21st century, this is no roman era; this is the era of innovations. We have witnessed many breath-taking innovations in various disciplines of the world, so we thought we should do something in making their life easier, as they are also a human being having equal rights and must have equal opportunities as well. Previously many products have already been made in order to solve this burning problem, but either they were inefficient or expensive for a normal human being. So we decided to accept the challenge and making them a low cost product to provide them a reliable solution to the problem. Everyday challenges faced by a visually challenged person is not correctly understood, as we gave worked over this project. We have gone through detailed analysis of the challenges they face in everyday work. In this review paper, we have presented an idea-turned-into-reality of creating a tool for the visually challenged person. We have worked over various disciplines in order to generate a meaningful product which could be life changing for the 286 million people who are visually challenged outside. The project which we have made will help the blind people to navigate freely, will help us in understanding the day to day problems of visually challenged person and will encourage other people in developing more meaningful and problem-solving products in this segment of innovation to benefit more and more people throughout the world.

Development of Sign Language using Flex Sensors

Mr. Ajay Suri

Sign Language is not familiar to those who are not deaf or dumb. When humans talk to each other, they convey their words through both speech and gestures. For a deaf and dumb individual, it is really difficult to lead a normal life with such a big communication barrier. This affects their social life as well as relationships. So, this framework is developed to assist them and help them in conveying their message easily. The creation of such a device involves both electronics and computer engineering knowledge. It will include flex sensors, Arduino, Bluetooth module, accelerometer, glove and an android application to display the results. The framework plans to reduce the communication barrier between a normal individual and a deaf/dumb individual. Also, the aim is to realize the gaps and options available in this field to further improve the framework.

Appearance Tracking Framework Using GSM

Ms. Ranjeeta Yadav

RFID is an identification verification method which is gaining recognition over the years due to its flexible design and cost effectiveness. It is used for various operations like attendance monitoring, inventory control, library management etc. This technology is also used for Bank security .It is used in locker to provide access to authentic user only This method is exceptionally much secure, quick and simple to utilize with overheads in differentiate with the other methods such as bar code, biometrics etc. RFID system has two components i.e. RFID Tag and Reader. RFID reader gathers information from RFID Tag, which sends using antenna. RFID Tag are of two types, Active tag and Passive tags. Active Rfid tags are battery operated while passive tag uses EM field to charge the capacitor for short duration and send information. This survey paper presents a design of an Attendance Monitoring System for both students and faculties with enabled notification sent via GSM. This project is to simplify attendance monitoring system by using RFID. This paper reviews this attendance monitoring systems and provides information about various components involved in this.

Low Power VLSI Design of Arithmetic and Logic Circuits using Multiple Threshold CMOS Technique

Ms. Prachi Kataria, Ms. Anuwarti Rai, Ms. Aanchal Singh, Mr. Ashwin Anand, Dr. Raman Kapoor and Dr. Sanjay Kumar Singh

An exponential increase in the transistor density on a single substrate in an integrated circuit has paved the way for tremendous growth in the semiconductor industry. Very Large-Scale Integration (VLSI) of these transistors on a single substrate boosts performance, but also causes multiple issues related to delay and power consumption. It is important to boost performance but keep the trade-offs related to delay and power to a minimum. This has resulted in researchers moving towards low power design techniques. Such techniques are different from conventional design techniques in such a way that power is consumed as and when needed. This helps in minimizing the total power consumed by any circuit. The aim of the work presented in this paper is to demonstrate the capability of the multiple threshold complementary metal oxide semiconductors (MTCMOS) technique to achieve low power consumption with approximately same delay time in a single circuit. Standard arithmetic and logical circuits have been simulated at the

45 nm technology node and critical parameters, namely power and delay have been calculated using the MTCMOS technique and compared with conventional CMOS design. It is shown by studying some elementary yet frequently used circuits that by using transistors of different threshold levels (as in MTCMOS technique) power consumption is significantly reduced.

IoT based- Advanced Weather Monitoring System

Ms. Pranavi Yadav, Mr. Nimish Nigam, Ms. Ranjeeta Yadav

The proposed system is a progressive solution for weather monitoring at a particular place and make the data available over the internet. The system makes use of the cutting-edge technology Internet of Things (IoT) which aids to connect the embedded system to a network and also to the devices for their operation. The designed system monitors the environmental parameters such as wind speed, temperature and humidity followed by generating real-time data which can be processed and saved on to a cloud. This data can then be viewed in an application so that necessary and timely actions can be taken. The system makes use of sensors, motor and other electronic components for the monitoring of weather parameters.

Microcontroller Based Monitoring and Alert System

Ms. Deepti Rawat, Ms. Divya Mishra, Mr. Himanshu Chauhan, Ms. Tripti Mishra, Ms. Ranjeeta Yadav

The objective of this paper is to design and implement microcontroller based monitoring and alert system. It monitors the surrounding temperature and smoke level employing LM35 for monitoring the temperature, MQ2 as a smoke sensor and the value of which are displayed the LCD screen. It focuses mainly on our homes. It also automatically controls the fan connected to the motor driver depending upon the temperature sensed by the microcontroller thus also working as an automated control system. When the sensor value exceeds the threshold limit causing fire, the owner of the house will be alerted by SMS through SIM900 GSM module. Hence, it discusses about a low cost microcontroller based alert system.