ABES

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CHAKSHU

A Bi-annual Newsletter

Electronics & Communication Engineering

JAN 2022 - JUNE 2022
Volume 2, Issue 2

From The Desk Of Editor-in-Chief

Dear Readers,

It gives me immense happiness to release the newsletter **"CHAKSHU"**. 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 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 the "More from less" strategy to bring the most out of available resources. All the geniuses have one thing in common they are always in "Learning Mode", the same is applicable to students as well. Once the students develop an attitude of this level then even failure becomes learning to them, and they fall under the category of "bound to succeed". Best wishes and blessings to ECE Team. Congratulations to the editorial team for their determined efforts in bringing out this newsletter.

Sincerely,

Prof. (Dr.) Sanjay Kr. Singh

Director (Officiating) & HOD-ECE

From The Desk Of Editor

Hello Readers,

It is with great pride and pleasure that we present to you the next edition of the Newsletter **"CHAKSHU"** on behalf of the department of ECE. The newsletter is an impressive culmination of facts, achievements, opinions, and information surrounding our ECE department. It particularly highlights the experiences of students, staff, and alumni in curricular, co-curricular and extra-curricular walks of collegiate life. For your viewing, we have put together an array of articles spanning from interviews of our best and most successful to write-ups about the latest buzz in the tech world. We encourage our readers to scour through these pages because we truly believe there is something here for everyone! As Editors, we would be remiss if we fail to touch upon our gratitude to the faculty coordinators and the faculty in charge, whose help and care greatly contributed to the creation of this newsletter. In the same breath, we would also like to dearly thank our team including incredible writers, designers and editors who poured in their hours to make this newsletter possible. There is a saying, **"If you want to go fast, work alone. If you want to go far, work together"** So if there is one message, we wish to leave to our readers is that it is to never underestimate the power of unity in the face of adversity.

Sincerely,

Ranjeeta Yadav|Assistant Professor-ECE

WHATS INSIDE

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

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 a positive attitude.

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 citizens of India with an international outlook.

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 modelling 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 teamwork: 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.

Programme Specific Outcomes (PSOs)

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.

ABOUT THE DEPARTMENT

The Department of Electronics & Communication Engineering at ABES Engineering College Ghaziabad was established in the year 2000. The department runs a four-year full-time B.Tech program and a two-year full-time M.Tech program in Electronics & Communication Engineering with a total intake of 180 students in B.Tech and 6 students in M.Tech. The B.Tech program is accredited by the National Board of Accreditation (NBA). The department has well-qualified, experienced, and dynamic faculty members.

The Department has well-equipped labs with the necessary hardware and software to meet the curriculum and industry requirements. We have state of art Project Lab, Advanced Lab, and CoE's to harness the creative and innovative aspiring minds to put their imagination into reality.

The Department has an Employability Enhancement Cell (EEC) to develop high-quality, technically compliant students who become confident in the Electronics and Communication engineering field with a focus on research and socially responsible. The main objective is to enhance the student employability skills through in-house training, workshops, guest lectures from industry & projects based on student interest.

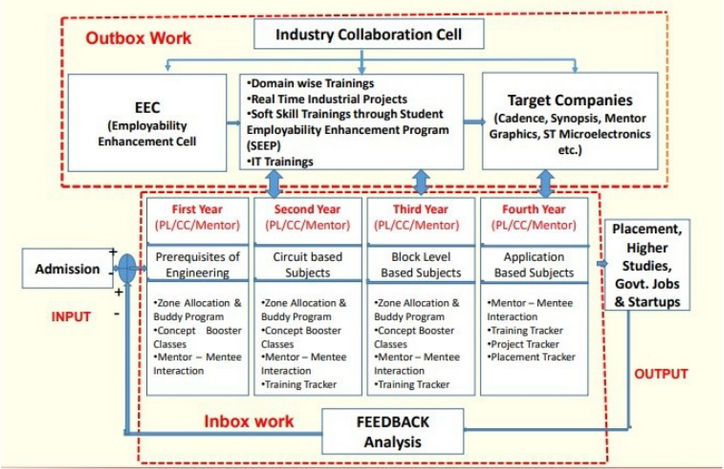
The Department also has Industry Collaboration Cell/ Industry-Academia Relationship Cell (IARC) to provide a platform for our students to develop a relevant skill set and know-how for better placement related to skill set industries.

The Department has Electronic Design and Consultancy (EDAC), the purpose is to design & develop products based on ideas received from industries and create an in-house ecosystem encouraging industrial exposure to students' product development at the college level to make them industry ready and globally competent.

Students in the Department undergo In-house industrial training to bridge the gap between Industry and Academia. Department of ECE has recently signed MoUs with Strolar Power, Systems Infra Solution Pvt. Ltd, Associated Electronics Research Foundation, The TAG Factory etc. for industry-based consultancy and projects.

ECE Department runs the research and consultancy projects funded by various government and non-government funding agencies with an aim to offer our students, the opportunity to work on real-time problems & projects.

ECE DEPARTMENT WORKING PROCESS



1.INBOX WORKING PROCESS

1.1 ACADEMICS

1.1.1 Department Academic Activities

The Initiatives are taken by the Department to improve Academic Statistics are:

- **Program Leader (PL):** The concept of this initiative was to have double-checked on the working of class coordinators and students. The PL keeps close coordination between all the class coordinators of a particular year and removes any gap between them. He also works as a bridge between class coordinators and students so that any grievance or problem related to administration or academics can be sorted out. He also handles discipline issues of that year for which he/she is designated. Program Leaders, class coordinators and mentors take care of various aspects of co-curricular activities (Academic, Counseling and Discipline) to maintain complete decorum.
- **Mentor-Mentee Program** was introduced to counsel, motivate, and guide the mentees & encourage them to achieve their potential in terms of growth & development. To make mentees aware of the resources & opportunities available for professional development. To motivate the mentees to work in emerging areas & identify their areas of strength & concern. To encourage them to take active participation in research activities and get it published. To provide observation & feedback of mentees to the next higher level.
- **Extra classes** for short attendance and academically needy students had started from the starting of the semester.
- **Daily Attendance Monitoring:** The list of students having attendance < 75% will be posted every Friday on the departmental boards. Short Attendance letters are posted fortnightly.
- **Buddy Classes:** In the class, there are slow learners and fast learners, to handhold the slow learners this initiative is undertaken. The fast learners of the class handhold some of the slow learners in academics through notes, explaining the topics, solving numerical etc. This initiative will help slow learners to come at the same platforms as others.
- **Concept Booster Classes (CBC)** for in-depth study for core companies/PSUs/ IES. The classes are taken by senior faculty members of the department.
- **Student Research Papers**, it has been made suggested for project groups to publish two Research Paper in a Scopus / UGC indexed Journal and in an International Conference.
- **Placement Tracker** was introduced to monitor the record of the interview process held that the data may be analyzed further, and effective steps may be taken to enhance the skills of the students for the upcoming interviews.
- **Training Tracker:** The 3rd year students go for industrial training for 4 to 6 weeks in some industry of their choice. The student brings a certificate after completion of training. To understand what he /she has learned day-wise a tracker was introduced. This training tracker consists of day-wise monitoring of training like in which department and under whose guidance he/she is doing training etc. After completion of training, the student will bring the tracker for evaluation.
- **Project Tracker:** Project Tracker tracks the interaction details of the project supervisor & the team.
- **Electronics ICU:** Under this initiative, the department offers maintenance and repairs of various electronic equipment at the college level.
- **Department Level Placements:** Under this initiative, the department has developed linkages with several renowned industries for MoUs which will help in internships & placements.
- **Tie-ups with Reputed Academic Universities & Institutions for Start-ups, Intellect Transfer & Faculty Development.**

1.2 Research & Innovation

The research & Innovation activity of the ECE department integrates Publications, Patents, Incubation and Startup. The purpose behind this is to improve upon quality as well as several publications. Every project group in the final year is advised to have at least two publications (Review & Implementation) out of their project in an academic session. Apart from this, every faculty member is required to have a maximum number of publications in reputed Nationals/Internationals journals/Conferences.

- Any innovative and novel ideas from projects are further encouraged for a patent.
- Department provides support to students who are interested in their own startups/ business opportunities. It provides expert/ resource persons and helps in the registration of startups etc.

1.2.1 Publications (Faculty)

1.2.1.1 JOURNALS: -

- **Priyanka Bhardwaj, Manidipa Roy and Sanjay Kumar Singh**, "Gold Coated VO2 Nanogratings Based Plasmonic Switches", Trends Sci. 2022; Vol.19(1), 1721, Jan 2022.
- **Roy, M., Bhardwaj, P., & Singh, S. K.** (2022). Compact Slotted Circularly Polarized Microstrip Patch Antenna with Surface Wave Suppressed Characteristics for WLAN Characteristics. Trends in Sciences, 19(13), 4649. https://doi.org/10.48048/tis.2022.4649.
- **Saini, S. K., Gupta, R.** Artificial intelligence methods for the analysis of electrocardiogram signals for cardiac abnormalities: state-of-the-art and future challenges. ArtifIntell Rev 55, 1519–1565 (2022). https://doi.org/10.1007/s10462-021-09999-7.
- **Mayur Rahul Rati Shukla Devvrat Tyagi, Vikash Yadav**; A New Hybrid Approach for Efficient Emotion Recognition using Deep Learning, International Journal of Electrical and Electronics Research, pp:q18-22, 2022.
- **Namita Tiwari, Mayur Rahul, Rati Shukla, Devvrat Tyagi and Ayushi Prakash**; A New Fail-Stop Group Signature over Elliptic Curves Secure against Computationally Unbounded Adversary, International Journal of Electrical and Electronics Research,pp:q18-22, 2022.

1.2.1.2 CONFERENCE: -

- **Ajay Suri, R.V.S Bhadauria Lokesh Kumar Bansal**, "Survey on methods of face Mask Detection System", 2022 INTERNATIONAL MOBILE AND EMBEDDED TECHNOLOGY CONFERENCE (MECON - 2022).
- **Navneet Sharma**, "Circularly Polarized Antenna for ISM (5.8 GHz), Satellite Communications and UWB Applications", 8th International Conference on Signal Processing and Integrated Networks (SPIN)
- **Arpita Johri, Dr. Varnita Verma**, "An Assessment of Hybrid Renewable Energy Systems using HOMER Pro", International Conference on MODERN APPROACHES IN SCIENCE & TECHNOLOGY (ICMAST2022), GDGU, Gurugram.
- **Rakhi Kumari and Shweta Srivastava**, "Leaky Wave Antenna in Quarter Mode SIW Filter", 2022 International Conference for Advancement in Technology (ICONAT) 21-22 Jan. 2022, Goa, India.
- **Upasana Sharma** et. al, "Non-orthogonal multiple access for 5G Radio Technology", DoSCI-2022 (DOCTORAL SYMPOSIUM ON COMPUTATIONAL INTELLIGENCE), 2022. (Outside ABES).

1.2.1.3 BOOK CHAPTERS: -

- **Priyanka Bhardwaj, Manidipa Roy and Sanjay Kumar Singh**, "Simulation and Design of Mach–Zehnder Interferometer", Micro-Electronics and Telecommunication Engineering, ISBN978-981-16-8720-4.
- **Priyanka Bhardwaj, Manidipa Roy and Sanjay Kumar Singh**, "Atmospheric Turbulence Effects on Bit Error Rate in Lognormal and Negative Exponential Channel in FSO Link", Micro-Electronics and Telecommunication Engineering, Springer Nature, ISBN978-981-16-8720-4
- **Shalabh K. Mishra, Dharmendra K. Upadhyay, Maneesha Gupta,** "Chapter Three - Approximation of fractional-order elements for sinusoidal oscillators", Fractional-Order Design Devices, Circuits, and Systems, Emerging Methodologies and Applications in Modelling, Volume 3,pp. 63-88, ISBN 978-0-323-90090-4, 2022
- **Ashish Gupta, Rajesh Kumar and Devvrat Tyagi,** "Book Chapter-10_Wireless sensor network for IoT based ECG monitoring system using NRF and LabVIEW", Multimodal biometric system: security and applications, CRC Press, Volume 1, pp 125-134, ISBN 978-0-367-68557-7, 2022.

1.2.2 Publications (Student)

1.2.2.1 JOURNALS: -

- Aditya Saxena, Anshuman Singh, Umang Srivastava, Priyanka Bhardwaj, Tania Gupta, "Light Detection and Ranging (LiDAR) using Python", GIS SCIENCE JOURNAL, 2022, vol. 9(5), pp. 1225-1229, DOI:20.18001.GSJ.2022.V9I4.22.39222
- Aditya Saxena, Anshuman Singh, Umang Srivastava, Priyanka Bhardwaj, Tania Gupta, "Light Detection and Ranging (LiDAR) using Python", Compliance Engineering Journal, 2022, vol. 13(5), pp. 108-115, DOI:16.10089.CEJ.2022.V.13I5.285311.3994
- Siddharth Bhati, Siddhant Shukla, Yash Singh, Rohit Kumar Priyanka Bhardwaj, Manish Zadoo, "Enhanced Railway Track Crack Detection System for Indian Railways", GIS SCIENCE JOURNAL, 2022, vol. 9(5), pp. 1561-1568, DOI:20.18001.GSJ.2022.V9I4.22.39259
- Deepak Garg, Rajeev Pandey, Ayush, Garima, Ayush, Ayush, "Automatic Irrigation System Using IoT& PH Sensor", Compliance Engineering Journal, 2022, vol. 13(2), pp. 67-71, DOI:16.10089.CEJ.2022.V13I2.285311.3896
- Ajay Suri , Hritik Sharma . Mamta Karakoti , Rachit Mishra, "SMS based Intelligent Dustbin for Garbage Flooding Protection", GRADIVA REVIEW JOURNAL, 2022, vol. 8(6), pp. 26-30, DOI:10.37897.GRJ.2021.V7I11.21.49877
- Avichal Vashishtha, Ayush Aggarwal, Abhinav Mishra, Ashutosh Mishra, Ajay Suri, Upasana Sharma, "Remote Health Monitoring System", GRADIVA REVIEW JOURNAL, 2022, vol. 8(5), pp. 750-755, http://gradivareview.com/gallery/grj%203382.pdf
- Soumya Kandari, Shivam Chauhan, Sakshi Gusain, Shashank shekhar Mishra, Shilpa Srivastava, "Metamaterial microstrip patch antenna for 5G application: A review", Compliance Engineering Journal, 2022, vol. 13(5), http://ijceng.com/
- Shilpa Srivastava, Abhijeet, Divyaraj Vats, "IoT Based Smart Energy Meter", International Journal of Innovative Research in Technology (IJRT), 2022, vol. 8(8), DOI:16.10089.CEJ.2022.V13I2.285311.3896
- Shilpa Srivastava, Aakansha Singh, Deepankar Mishra, "Smart Street Light", International Journal of Innovative Research in Technology (IJRT), 2022, vol. 8(8), https://ijirt.org/Article?manuscript=153627

- Priyanshi, Priyanshi Tyagi, Harshit Saxena, Anshuman Singh, Manidipa Roy, Tania Gupta, “A novel approach to optimize power in solar pane”, Compliance Engineering Journal, 2022, vol. 13(5), pp. 220-225, DOI:16.10089.CEJ.2022.V.13I5.285311.3994
- Abhinav Gulati, Pratik Chaudhary, Nikhil Yadav, Tapan Rajput, Tania Gupta, Shailendra Bisariya, “IOT BASED COVID-19 SAFETY SYSTEM”, Compliance Engineering Journal, 2022, vol. 13(5), pp. 303-309, DOI:16.10089.CEJ.2022.V.13I5.285311.4002
- Kaumudi Tyagi, Janvi Singh, Nimisha Pandey, Isha Patwal, Rajnesh Kumar Singh, “Real-Time Courier Tracking System”, 2022, vol. 13(5), pp. 116-125, DOI:16.10089.CEJ.2022.V.13I5.285311.3980
- Avichal Vashishtha, Ayush Aggarwal, Abhinav Mishra, Ashutosh Mishra, Ajay Suri, Upasana Sharma, “Health Monitoring System for Patient using IOT, GSM and Raspberry pie”, Compliance Engineering Journal, 2022, vol. 13(5), pp. 190-195, DOI:16.10089.CEJ.2022.V.13I5.285311.3990
- Deepak Garg, Shahbaz Alam sir ,Pratik Anand, Mayank Srivastava, and Ajit Singh Thenua., “IOT BASED HOME AUTOMATION USING NODE MCU”, Compliance Engineering Journal, 2022, vol. 13(5), pp. 265-273, DOI:16.10089.CEJ.2022.V.13I5.285311.3998
- Visharad Bhardwaj, shubh KrishanSaxena, Siddhant Tripathi, Vishal Kumar, Raman Kapoor, “Designing and Implementation of UART and ALU on FPGA”, NeuroQantology, 2022, vol. 20(7), pp. 1923-1928, https://www.neuroquantology.com/
- Ajay Suri, Rachit Mishra, Hritik Sharma, Mamta Karakoti, “Waste Management System Using IoT and Machine learning”, GRADIVA REVIEW JOURNAL, 2022, vol. 8(6), pp. 31-38, http://gradivareview.com/
- Manish Zadoo, Priyanshi Saxena, Harshit Arora', Nandini Singh Chaudhary, Mrinal Krishn Singh, “IoT-Based Air Pollution Monitoring System”, International Journal of All Research Education and Scientific Methods (IJARESM), 2022, vol. 10(2), pp. 1442-1446, http://www.ijaresm.com/
- Shalabh Kumar Mishra, Abdullah, Sanskriti, Divya Pandey and Anushka yadav, “A SURVEY ON TRAFFIC SIGN RECOGNITION SYSTEM”, GRADIVA REVIEW JOURNAL, 2022, vol. 8(5), http://gradivareview.com/
- Shalabh Kumar Mishra, Abdullah, Sanskriti, Divya Pandey and Anushka yadav, “TRAFFIC SIGN RECOGNITION SYSTEM USING CNN AND MACHINE LEARNING”, GRADIVA REVIEW JOURNAL, 2022, vol. 8(5), http://gradivareview.com/

1.2.2.2 CONFERENCE: -

- A. Yadav, F. K. Rana, Geentanjali Raj, A. Yadav, A. Sachan and P. Bhardwaj, “Smart Door Locking System Using LoRa Technology”, 2022 10th International Conference on Emerging Trends in Engineering and Technology - Signal and Information Processing (ICETET-SIP-22), Nagpur, India on 29th and 30th April 2022.
- Mudit Saxena, Kunal Gautam, Harsh Gangwar, Nimish Yadav, Kshitij Chaudhary, “Driver's Drowsiness & Alcohol Detection System”, 2nd International Conference on Recent Trends in Engg, Tech & Management (Scopus Indexed - IEEE)- 2022, organized by Christ The King Engineering College, Tamilnadu.
- Mudit Saxena, Kunal Gautam, Harsh Gangwar, Nimish Yadav, Kshitij Chaudhary, “Driver's Drowsiness Detection using Deep Learning”, 10th International Conference on Contemporary Engg& Tech., 2022, organized by Organization of Science & Innovative Engg. & Tech., Chennai.

- Mudit Saxena, Bhumika Sharma, Rishabh Singh, Ritvik Sahu, Shivani Singh, “A trifold Electronic Surviellance system using Image Processing”, 11th International Conference on Contemporary Engg& Tech., 2022, organized by Organization of Science & Innovative Engg. & Tech., Chennai.
- Ishita, kamhaya, Mahima, Shailendra Bisaryia and Khushbu Bansal, “Design & Implementation of 90nm Standard Cell Library”, International Conference on Smart Innovations for Society (ICSIS-2022), May 2022.
- Aditya Sharma, AL Hamd Apeksha Ranjan , Manish Navneet Sharma, “Coaxial Slotted antenna for hyperthermia applications”, 2nd International Conference on “Advancement in Electronics & Communication Engineering (AECE 2022) July 14-15, 2022.
- Puru Tyagi Kaustubhi Bajpai Priyanshu Mudgal Rahul Dwivedi Manish , Navneet Sharma, “Patch antenna for microwave hyperthermia applications”, 3rd International Conference on “Advancement in Electronics & Communication Engineering (AECE 2022) July 14-15, 2022.
- Priyanshi Tyagi, Harshit Saxena, Priyanshi, Anshuman Singh, Dr. Manidipa Roy, Tania Gupta, “Solar Panel Power Optimisation”, International Health Informatics Conference, May 17-May 19, 2022, Cuttack, Odisha.
- Parthikey Singh, Nikhil Kaushik, Rohit Chauhan, Khushbu Bansal, Arpita Johri, “Health record management”, International Conference on Smart Innovations for Society (ICSIS-2022) held on 06-07 May 2022 at Poornima Institute of Engineering & Technology, Jaipur.
- Yashi Srivastava, Tanya singh, Yatharth, Vibhuti Singh, Pallavie Tyagi and Ashish Gupta, “IOT Based home automation system over cloud”, Intelligent systems and Computation (ICISC- 2022), May 2022.
- Prakhar Sharma, Ritik Gupta, Prashant kumar, Pallavie Tyagi and Sanjay Kumar Singh, “Designing of Op Amp on different technology node with Cadence virtuoso tool”, Intelligent systems and Computation(ICISC- 2022), May 2022.
- Abhinav Gulati, Prateek Chaudhary, Nikhil yadav ,Tapan Rajput, Tania Gupta and Shailendra Bisariya, “IOT based covid-19 safety system”, Intelligent systems and Computation(ICISC- 2022), May 2022.
- Shadaj Tiwari, Shivangi Aggarwal, Satyam Kaushik, Saumya Gupta, Himani Garg and Manidipa Roy, “Aerial Surveillance Quadcopter”, International Health Informatics Conference (IHIC-2022), May 2022.
- Himani Garg, “Credit card fraud detection using machine learning”, International Conference on Applied Artificial Intelligence and Computing (ICAAIC-2022), May 2022.

2. OUTBOX ACTIVITIES

2.1 EMPLOYABILITY ENHANCEMENT CELL (EEC)

The purpose of EEC is to minimize the gap between academia and industry. Provide training & guidance to students on the various aspects of building a career in the domain of ECE. Assist the students in exploring new opportunities & new technologies. Guide them in developing skills & job search strategies required to achieve their career objectives. Organize various types & levels of in-house training programs & extension programs to achieve the goals. Help the students to get placed in the core companies.

Step1: - Employability Enhancement Cell (EEC) has been formulated in the Dept. with the following objectives:

- To segregate the students, domain wise depending upon their skills and interest.
- To provide training and guidance to students on the various aspects of building successful a career by meeting the demand of the industries.
- To assist them in exploring new opportunities and new technologies.
- Guide the students in developing skills and job search strategies required to achieve their career objectives.
- To organize various types and levels of in-house training programs and extension programs to achieve the goals.

Step2: - Employability Enhancement Cell (EEC) follows the following procedure to fulfill the above objectives.

- The students get promoted to the Second Year of ECE.
- The EEC gives a presentation to introduce the objectives and procedure of EEC.
- The students fill up an EEC data form in which they write about their interests and the skill set acquired (if any).
- It is followed by counseling and interview session of students by HOD and EEC Members.
- As per their interest, the students are segregated into IT Domain & EC Domain.
- After the required training is completely up to the 3rd year, the students are allocated major projects depending upon their selected domain and it is mandatory for them to do at least one publication.

A. IT Domain: -

1. After the segregation, the students under “IT Domain” are trained in different fields (Ex- C, C++, Python etc.) during the Second year.
2. Students are promoted to Third Year and again counseling session is conducted by HOD and EEC Member to ask whether the students want to pursue the same field or want to change.
3. If the students continue to the “IT domain”, they are trained in Advance Languages (Ex- JAVA, AI, ML etc.) during the third year.
4. At the end of 3rd year, the students are required to develop a project based on acquired skills.
5. Following are the target companies like TCS, Infosys, Wipro, Capgemini, Cognizant, IBM etc. for the IT domain.

B. EC Domain: -

If the student falls under “EC Domain”, then they are further classified into the following subdomains:

1. Microelectronics Domain (SOC based software field)
2. Devices Domain
3. Communication Domain
4. Applications Domain (Embedded and IoT)
5. Sales & Service Domain
6. Operation & Maintenance Domain
7. Public sector and higher education Domain

2.2 GUEST LECTURE

- Dr. Manisha Bharti [Head- ECE , Electronics And Communication Department of NIT, Delhi] delivered a lecture to all faculty and students on "Advances in Optical Communication Systems" on 19th May, 2022
- Prof. Manoj Kumar Meshram [Head- ECE, Electronics And Communication Department of IIT BHU] delivered a lecture to all faculty and students on "Recent Advances in Planar Antennas" on 27th May 2022.
- Dr. Bharat Gupta [Associate Professor, Electronics And Communication Department of NIT Patna] delivered a lecture to all faculty and students on "Trends in Communication from 1G to 5G and its beyond: An overview" on 10th June 2022.
- Dr. Maheshkumar H. Kolekar [Associate Professor, Electrical Engineering Department of IIT Patna] delivered a lecture to all faculty and students on "Deep Learning and Its applications" on 16th June 2022.

2.3 WORKSHOPs

- Workshop on "Machine Learning" on 2nd May 2022.
- Workshop on "Outcome Based Education (OBE) on the topic Evaluation Procedure for NBA Criteria 3-10" on 14th April 2022.
- Workshop on "Outcome Based Education (OBE) on the topic Attainment Calculations using Ion CUDOS" on 9th April 2022.
- Workshop on "Outcome Based Education (OBE) on the topic Overview, Importance & Relevance to OBE" on 2nd April 2022.

Workshop on Machine Learning

2.4 FUNDING

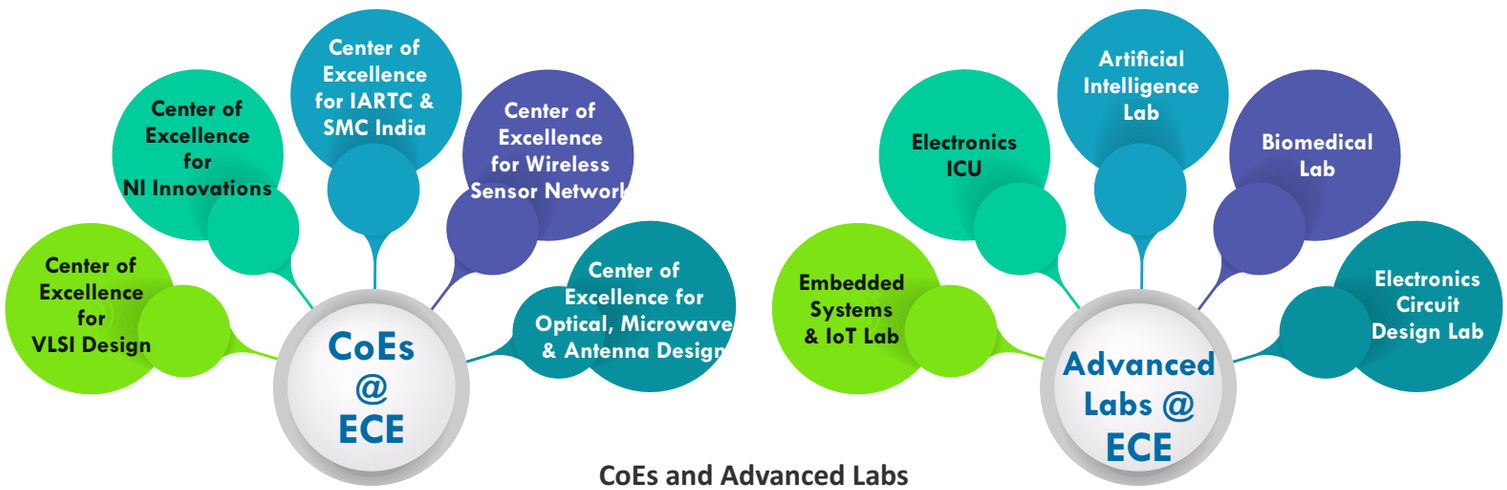
The purpose of the funding cell is to fetch projects from Industries, MSME, DST, AKTU and Government-funded projects. With the help of funding, different curriculum labs are modernized like communication lab, VLSI lab etc. and new advanced labs are developed like WSN, Wireless sensor network, RF and Microwave etc.

Recently Applied Projects

PROPOSALS SUBMITTED IN 2021-22 (Jan-June)					
Date	**Title**	**Funding Agency**	**Amount (INR)**	**PI**	**Co-PI**
9.5.22	Recent Trends in Optical, Networking, Antenna and Microwave with hands-on NS3, Netlist, HFSS, VNA and PCB Prototype Machine	ATAL FDP	3,00,000	Prof.(Dr.) Priyanka Bhardwaj	-
22.04.22	DCR for BIPV and BAPV	SERB SUPRA	28,00,000	Prof. (Dr.) Sanjay Kr Singh	Prof.(Dr.) Priyanka Bhardwaj

3. DEPARTMENT ACHIEVEMENTS

- The Department has developed five state-of-art Centre of Excellence (CoEs) with funding assistance from Government Agencies to provide industrial exposure to our students. Our COEs are Corporate Training Centers for renowned Electronics industries like Truechip, Elbrus Labs, Optimum Viking Satcom Pvt. Ltd. System Infra Solutions, AEAB Automation Pvt Ltd.
- CoEs also give our students the opportunity to develop their research skills.
- The Department has also developed five Advanced Labs along with nine curriculum labs to promote Research & Development activities as well as knowledge transfer of the latest technology.
- All the labs are associated with industries. Two beyond-the-curriculum experiments are developed as per the inputs from the associated industry.
- The Department of ECE has developed an Industrial Collaboration Cell (ICC) with the primary purpose of ICC/ IARC is to bridge the gap between Industry and Academia.
- Keeping in view Industry 4.0 requirements, under this initiative, the department has signed several MoUs, fetched live consultancy projects and seek valuable inputs from industries to improve the quality of placement and technical skills of students for their 360-degree nurturing under the flagship of the ECE department.
- The Department has 14 MoUs with industries of repute and many more in the pipeline.



CoEs and Advanced Labs

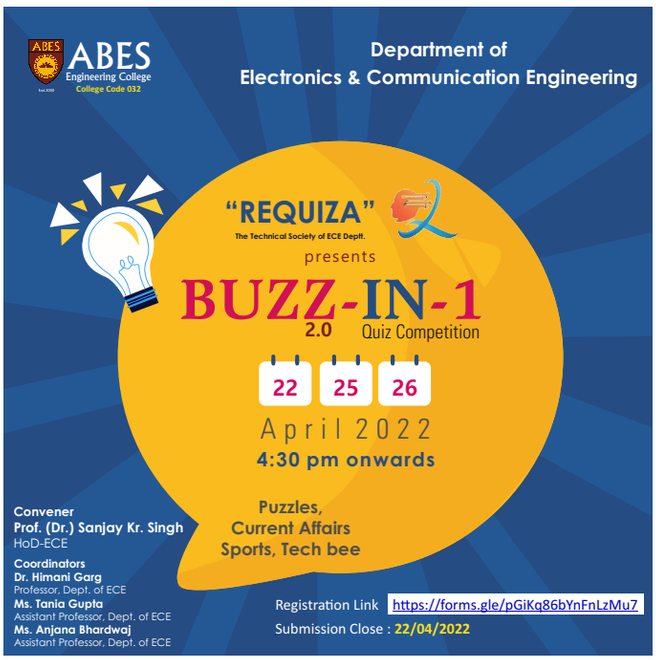
- With a vision of strengthening our ties with international organizations, forums and institutions under the International Collaboration Cell, the Department of Electronics and Communication Engineering has successfully started the International Student Chapter with Optical Society of America (presently Optica) “ABESEC OSA” and Oakland University. The Student Chapters with IEEE - The Microwave Theory and Techniques Society and IEEE – Women in Engineering is active.

- Department of Electronics and Communication Engineering crossed a mile stone in 100% placement.
- Consultancy Project on “Testing of novel hexagon shaped micro trip antenna” was completed under the CoE-Optical, Antenna and Microwave Engineering on 17th February 2022.
- Department of Electronics and Communication Engineering, ABES Engineering College has started IEEE Microwave Theory and Techniques Society (MTT-S) Student Chapter.

REQUIZA CLUB

- Requiza, The Technical Society at the Department of Electronics & Communication Engineering in collaboration with Unacademy is organizing a Webinar on “Career opportunities after Engineering”on 25th January 2022.
- Requiza- The Technical Society of the Department of Electronics & Communication Engineering organized “Buzz-In-1 2.0”, a Quiz Competition on the 22nd, 25th, and 26th of April 2022.
- Requiza, The Technical Society of the Department of Electronics & Communication Engineering organized a quiz contest “PREPQUIZ” on IoT and Python. The quiz is open to all students of ABESEC.

Webinar on Carrer Opportunities after Engineering



DEPARTMENTAL ACHIEVEMENTS

14 MOU's with Industry

5 Advanced Labs

Patents 37

11 Industrial Consultancy Projects

124 Faculty Publications

Student Publications 87

Government Funded Projects 5

5 Centre of Excellence

- Third Year Student AYUSH KUMAR qualified for GOOGLE SUMMER OF CODE (GSoC), 2022 with Fossology Organization with a stipend of $ 3000.

4.3 PAPER PUBLICATION ACHIEVERS:-

- Final Year Students ANSHIKA AGRAWAL, ADRIKA GUPTA, ANJALI PAL and ANIRUDH JOSHI received the Best Paper Award in an international Conference on Advancement in Electronics & Communication Engineering (AECE-2022).

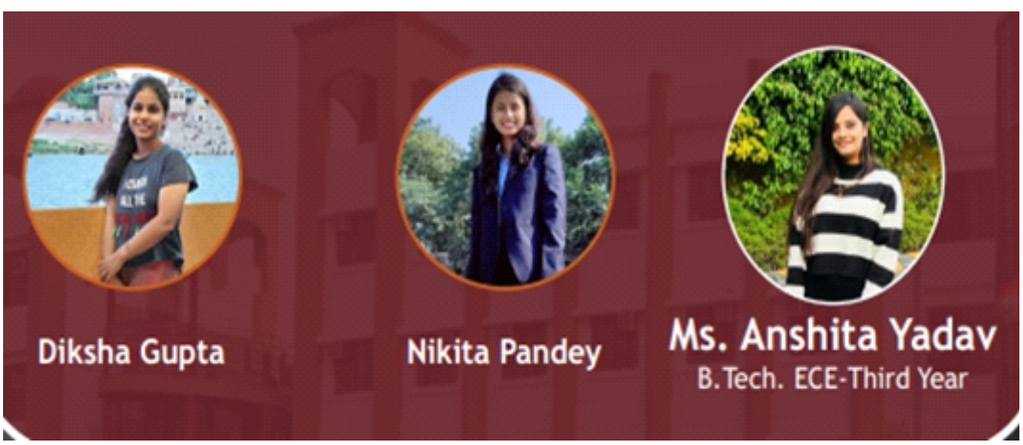
4. STUDENT ACHIEVEMENTS

4.1 ACADEMIC ACHIEVERS: -

- Final year student, **PRATIBHA SINGH** (Session 2021 – 2022), secured **1st rank** having **8.96 YGPA** in B-Tech (ECE) at the college level.
- Final year student, **MAHARANA PRATAP SINGH** (Session 2021 – 2022), secured **2nd rank** having **8.92 YGPA** in B-Tech (ECE) at the college level.
- Final year student, **SHIVANI SINGH** (Session 2021 – 2022), secured **3rd rank** having **8.821 YGPA** in B-Tech (ECE) at the college level.
- Third year student, **DEVANSHI CHAUHAN** (Session 2021 – 2022), secured **1st rank** having **8.82 YGPA** in B-Tech (ECE) at the college level.
- Third year student, **SAKSHI GUPTA** (Session 2021 – 2022), secured **2nd rank** having **8.61 YGPA** in B-Tech (ECE) at the college level.
- Third year student, **SHIVANKI SRIVASTAVA** (Session 2021 – 2022), secured **3rd rank** having **8.44 YGPA** in B-Tech (ECE) at the college level.
- Second year student, **NAVEEN TRIPATHI** (Session 2021 – 2022), secured **1st rank** having **8.51 YGPA** in B-Tech (ECE) at the college level.
- Second year student, **VIDUSHI GUPTA** (Session 2021 – 2022), secured **2nd rank** having **8.42 YGPA** in B-Tech (ECE) at the college level.
- Second year student, **VANSHIKA JAIN** (Session 2021 – 2022), secured **3rd rank** having **8.30 YGPA** in B-Tech (ECE) at the college level.

4.2 PLACEMENT/INTERNSHIP : -

- Final Year Students NIKITA PANDEY and DIKSHA GUPTA and Third Year Student ANSHITA YADAV got selected in internship program with SYNOPSYS with a stipend of 40k per month.



5. FACULTY ACHIEVEMENTS

5.1 NATIONAL/ INTERNATIONAL RECOGNITION:-

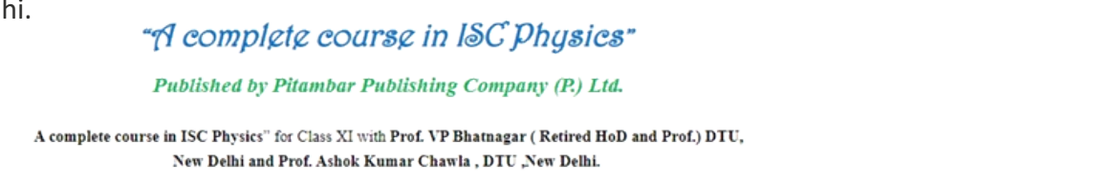
- **Prof. (Dr.) Priyanka Bhardwaj** is nominated and selected as **investigator member** of **International Project approved under Ministry of Education, Kingdom of Saudi Arabia, King Khalid University, Deanship of Scientific Research.** This is the first International Project under Ministry of Education with our faculty member as a part of the project proposal and investigator and ABESEC. Total grant sanctioned for project is **150000 Saudi Riyal (Rs. 3102740.44)** and duration is 12 months
- **Prof. (Dr.) Priyanka Bhardwaj** of ECE department as inventor in collaboration with members from Indian Institute of Technology (IIT) , Delhi and Chairman, Defence Research and Development Organization (DRDO). **Title: Broadband Optical Modulators. Patent application number: 202011031939**

5.2 CERTIFICATIONS :-

- **Dr. Raman Kapoor**: Completed 12 Weeks Certification course on **Digital Electronics Circuits** (NPTEL) on May 2022.

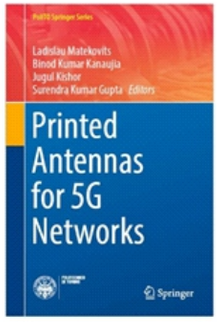
5.3 BOOK AUTHOR/EDITED:-

- **Prof. (Dr) Priyanka Bhardwaj** has got her 5th book published with ABES Affiliation **"A complete course in ISC Physics"** for Class XI with Prof. VP Bhatnagar (Retired HoD and Prof.) DTU, New Delhi and Prof. Ashok Kumar Chawla, DTU, New Delhi.



- **Prof. (Dr.) Priyanka Bhardwaj** had edited three book which are approved and accepted by G.D Goenka group of schools throughout Country. Title: **"Learning Mathematics- The Fun way (Vol 3, 4 and 5)"** ISBN No: 978-81209-0364-1 (vol 3) ISBN No: 978-81209-0649-7 (vol 4) ISBN No: 978-81209-0648-9 (vol 5)

- **Dr. Jugul Kishor** has published his second book on **Springer Link** under the lead editors Prof. Ladislau Matekovits, Politecnico di Torino, Torino, Italy and Prof. Binod Kumar Kanaujia, Director, National Institute of Technology, Jalandhar. Title: **Printed Antennas for 5G Networks** . Book ISBN: 978-3-030-87605-0



5.4 FDPS & WORKSHOPS ATTENDED OUTSIDE ABES:-

- **Ms. Khusbhu Bansal:** Attended 1week FDP on **CONTEMPORARY TECHNIQUES IN ELECTRONICS AND COMMUNICATIONS ENGINEERING** at **Shree Rama Engineering College, Tirupathi, India**, from 20th to 25th June 2022.

6. PLACEMENT

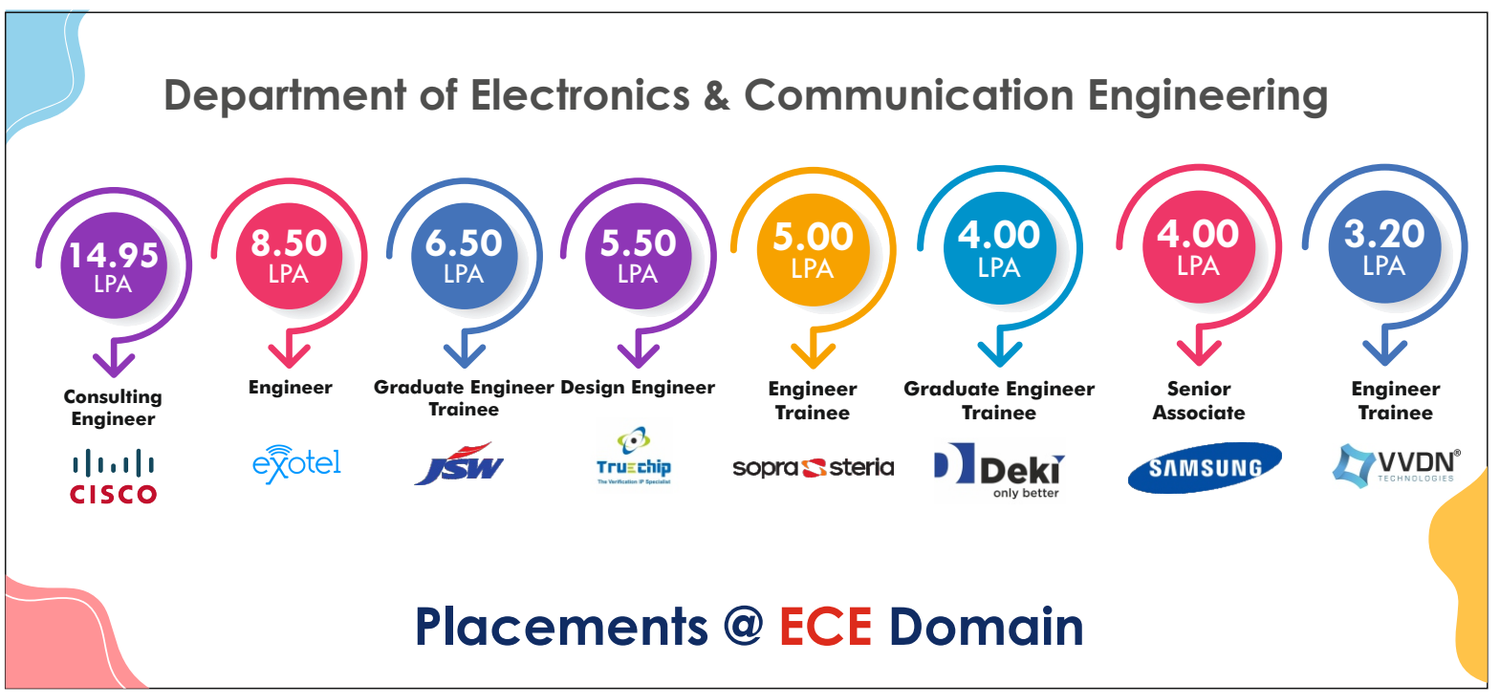
B.Tech. (ECE), 2018-2022

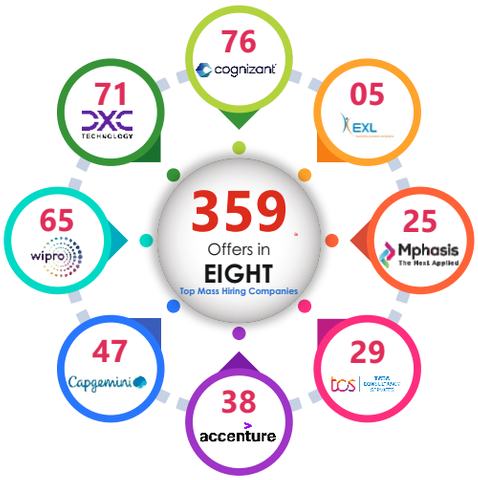
The Initiatives are taken by the Department to improve Placement Statistics are:

- Students are being encouraged as well as monitored by their respective mentors to submit their resumes on the “Career” options on the website of core companies of the ECE domain.
- Final year students are being encouraged to create a LinkedIn account so that they may connect to the people of their domain.
- Motivate the students about Recruiters and educate them about the work culture, domain and skill set required for such type of company.
- Preparing, updating, and regularly tracking of students with the help of Placement Tracker, formulated and devised in the department to keep the students on track of placement and getting reviews and feedback about every drive.
- Arranging Mentor-Mentee sessions for final year students to improve the resumes and overcome their technical, verbal and communication skills.
- Arrangement of company-specific technical and aptitude training for shortlisted students in association with SEEP and CBSE.
- Interaction of pre-final year students with already placed students for motivation and briefing.

DEPARTMENT PLACEMENT INITIATIVE

- The Department's target is to have 100% placement but due to some reasons there remain some unplaced students. To cover this unplaced student gap, the dept. has initiated on its own to place the unplaced students through its own linkages. This step will help the unplaced students to get the Placement.

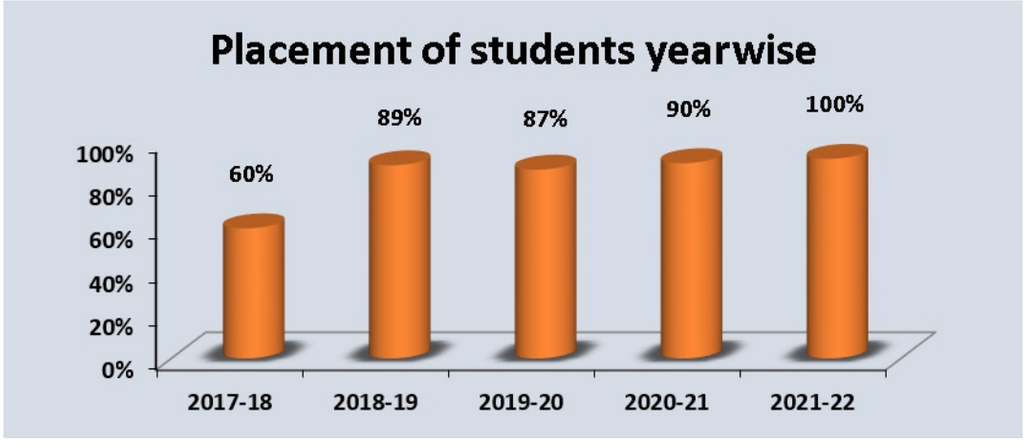


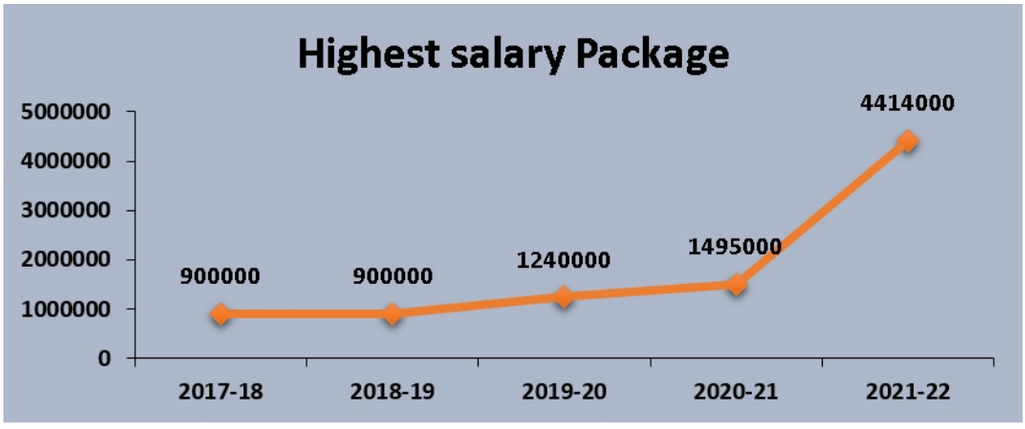


Major Selections ECE @ 2022

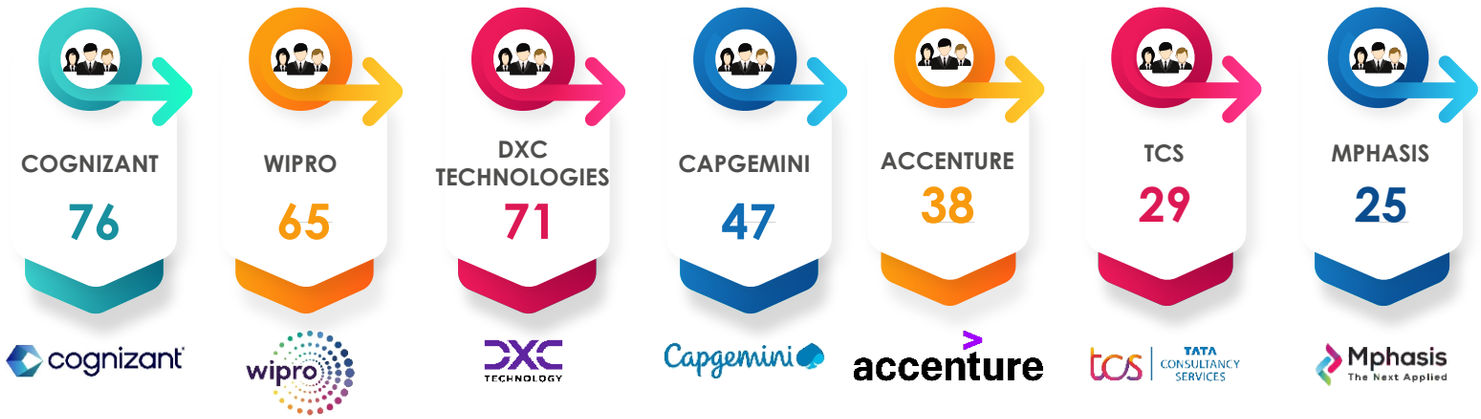
Major Selections ECE @ 2021

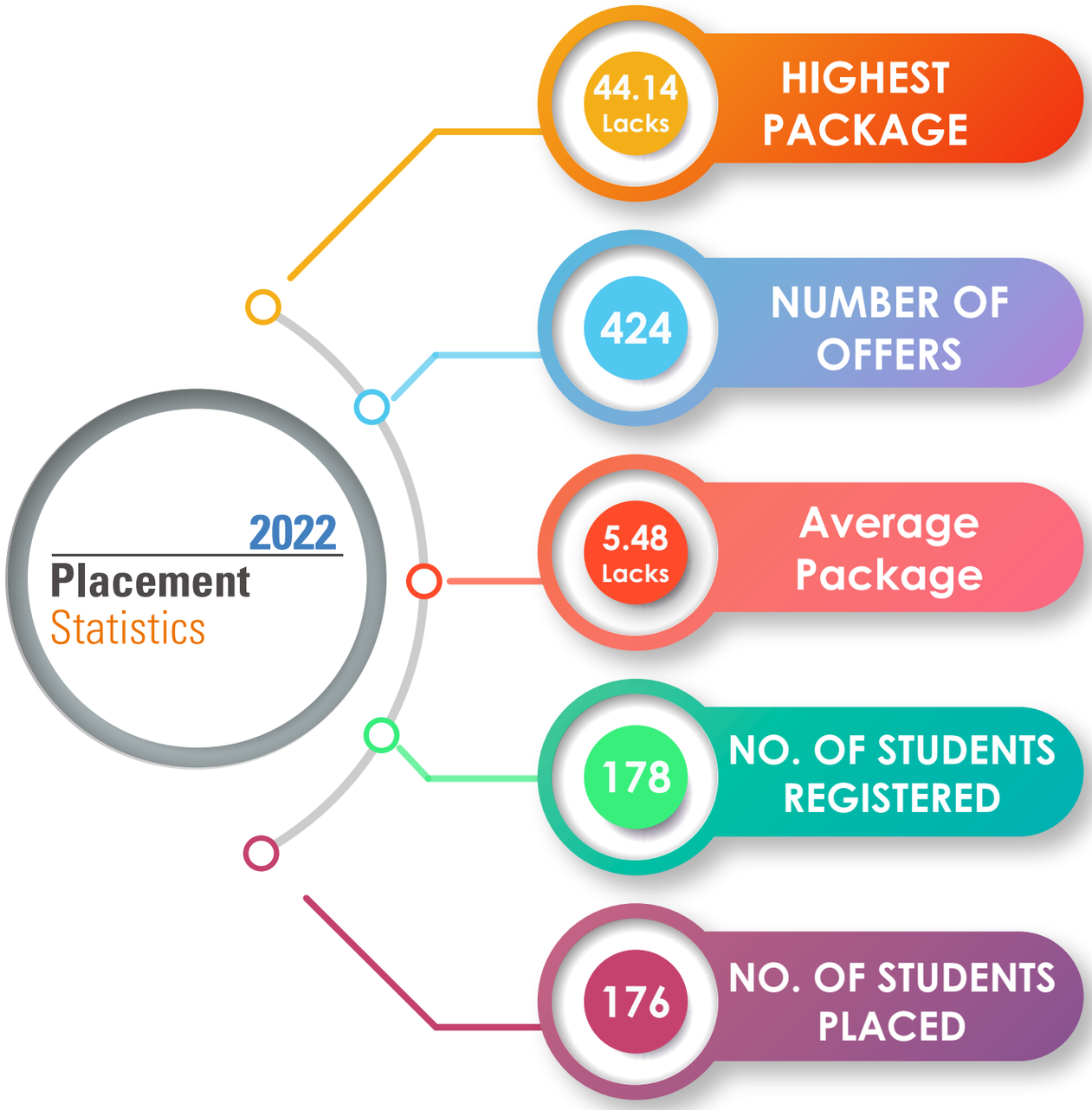
Major Selections ECE @ 2020





Recruiters @ ECE 2022





7. TESTIMONIALS OF PLACED STUDENT

Harshit Arora

Placed In: BYJU's & Umbrella InfocarePvt. Ltd.

I feel very delihted and honored to be a part of NCR's Top engineering college, ABES Engineering College has given me a tub full of opportunities to explore and learn new things. The faculty members and DCs were also very supportive and always motivates us. I feel very happy that besides being in these global pandemic times, our college still managed to welcome numerous placements offers on the premises. Also the efforts made by CCPD and the Employability Enhancement Cell are markable, they conducted individual mock interviews and guided us about our weak areas which helped us in our overall development and helped me in gaining confidence for facing the interviews. They have been giving their 100% attention and putting their best efforts into each student so that they should get at least an offer in their hands. I'm also very happy to have been placed in 2 companies with good placement offers. I'll miss my EC-B and would highly recommend others to join ABES-EC to nourish their future.

Kunal Gautam

Placed In: - BYJU's, DXC Technology, Cognizant Technology Solutions India Pvt. Ltd, Wipro Ltd.

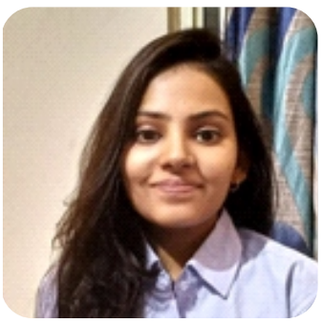
My experience at ABES Engineering College is great and memorable. The mentors helped me to enhance my academic and interpersonal skills. Despite being from the Electronics and Communication branch, I got opportunities to exhibit my talent in the IT sector.

I am very thankful to my Head of Department, Faculty Members, Mentors and Placement Coordinators for their support. I am also grateful to the CCPD department for providing a platform to enhance my skills and an opportunity to showcase them. It was they who guided me at every step of my placement journey by providing me with the appropriate resources, time, and preparation strategy.

Further, the entire departmental placement coordinators and placement tracker faculty leave no stone unturned to shape one's future and they helped me to get placed in companies like BYJUS, COGNIZANT, WIPRO, and DXC in the 7th semester.

Sanskriti Srivastava

Placed in Capgemini India, DXC Technology, Cognizant Technology Solutions India Pvt. Ltd., Accenture



I gained a lot of experience from my college which was great and memorable for me. Our 'Training and Placement cell' was very enthusiastic and interactive with us throughout my overall journey of placement. They used to help us in every domain i.e. in technical as well as soft skills with general content which focuses directly on our placement. And with the help of the mentors and the members of CCPD, I was able to get through this.

I would like to thank the CCPD team for helping me to crack companies like Capgemini, Accenture, Cognizant and DXC Technology.

Angel Yadav

It was really a great opportunity of studying at one of the renowned colleges i.e. ABES Engineering College. I am happy to be part of this college, it helped me a lot in learning and grooming. It provides opportunities in building the professional as well as personal skills of students. The ECE department of ABES Engineering College really does appreciable hard work and efforts in providing technical as well as non-technical knowledge. The students are open to getting various opportunities in the field of their career with good placements in software and Core Companies as well. I am very thankful to share my 4-year learning experience at my college and surely, and I'll recommend many of my juniors to be part of it.

Akshit Yadav

I will be working in Cognizant Technologies and the internship is going to start soon. Four years of B. Tech are memorable as I learned almost everything in this phase. The consistent efforts which I put in daily genuinely gave me results as I didn't find much difficulty while solving the tests. I am thankful to everyone including the placement cell of ABES and the ECE department whose efforts for my growth and learning were undoubtedly relevant. It was a good journey throughout my semesters in this college. Though we had our courses online it didn't feel like online as our teachers were always connected with us and I could feel myself in college being at home. Once again, I would like to thank this college for the successful journey of BTech.

Samyak Jain

I would like to take the opportunity to share my great experience with ABES Engineering college, I had a great collection of memory to cherish for my lifetime. It was full of fun while learning and grooming. It gave me an opportunity to meet a better version of myself. I am thankful to all the faculties, seniors, mentors and the entire ECE department for providing us with quality education. I am also grateful to CCPD cell for organizing placements in this pandemic and helping me to get placed in two different MNCs i.e. HCL Technologies & Wipro Pvt Ltd. and many more to come. ABES helped me to envision my goals for life. N number of clubs are here to join in order to enhance our skill set. ABES gives to endless opportunities to learn and grow even in your area of interest. If you want to make a career in the ECE department, I will highly recommend you join ABES Engineering College.

Shadaj Tiwari

Placed at Accenture India Pvt Ltd as an Associate Application Developer, Capgemini India Pvt Ltd as a Software Engineer & DXC Technologies Ltd

At present, I am working at Accenture India Pvt Ltd as an Associate Application Developer. It was truly a great experience for me while studying at ABES Engineering college. The faculty always encouraged me in achieving my goals. Despite being involved in many other activities like the Music Society of College, I was still able to score good marks in my academics and got placed in renowned companies and all this happened due to the support of faculty members. I am thankful to all the faculties, my mentors, the entire ECE Department & CCPD cell for helping me at each step of my four years of journey at ABES Engineering College.

8. ALUMNI CONNECT

PRARTHANA VAISH

I strongly believe that there exists determination and moral support to achieve anything in life. The former part is within ourselves and for the latter there are people who provide us with utmost help for which I would like to thank my mentors at ABESEC. My life at ABES made me stronger and took me a step ahead for being an independent individual. I am so grateful to all the Faculty Members of ECE department & dignitaries for being so supportive and bringing out the best in me.

CISCO Ideathon 2020 | 14.95LPA | Consulting Engineer
Capgemini | 3.80 | Analyst

ISHIKA KHANNA

I was never under a misapprehension that my accomplishments were mine alone. Nothing could be further from the truth. I have been encouraged, sustained, inspired, and tolerated, by the greatest group of teachers I ever had.
I have nothing but gratitude towards all the help and support that has been provided to me by the teachers and the department over the years.

Ultragenic Research and Technologies | 8.00LPA | Trainee
Eshopbox Ecommerce | 6.00LPA | JAVA developer
Cognizant | 4.50LPA | GenC
IBM India | 4.25LPA | Associate System Engineer

ADITI DHAR

I am fortunate enough to be a part of a college where you feel like you are in a home away from home. The efforts by entire faculty of ECE department along with the guidance of our HOD sir has made it possible to achieve whatever I have achieved. The amount of efforts they have undergone in regularly maintaining placement tracker, project tracker, training tracker has helped each student to have a focused attention in detail. The guidance and support level of our department's placement coordinator also has been beyond words. They have played an important role in order to make me achieve whatever I wanted to.

Ultragenic Research and Technologies |8.00LPA | Trainee
Truechip Solutions|5.50LPA | Design Engineer
Cognizant | 4.50LPA | GenC
DXC Technology |3.60 | Associate Software Developer

ANJALI SETHI

It was a privilege to be a part of ABESEC family. My four years at the ABES campus have been a wonderful experience with memories for a lifetime.

I am thankful to all the faculty members, mentors and entire placement cell for their constant support and guidance throughout the span of four years. From academic knowledge to grooming and training each individual for the placement season, the ABESEC family did not leave any stone unturned in shaping one's future.

CISCO Ideathon 2020 | 14.95LPA | Consulting Engineer
Cognizant | 4.50LPA | GenC
Capgemini | 3.80 | Analyst
DXC Technology |3.60 | Associate Software Developer

Star Achievers

Sakshi Gusain

amazon | PACKAGE OF ₹44.14 LAKHS PER ANNUM

Shivam Chauhan

PACKAGE OF ₹44.14 LAKHS PER ANNUM amazon | PACKAGE OF ₹ 6.75 LAKHS PER ANNUM Cognizant

Soumya Kandhari

Walmart | PACKAGE OF ₹20.00 LAKHS PER ANNUM

Yashi Srivastava

PACKAGE OF ₹20.00 LAKHS PER ANNUM Walmart | PACKAGE OF ₹19.34 LAKHS PER ANNUM Lowe's | PACKAGE OF ₹14.95 LAKHS PER ANNUM CISCO

Sanskriti Srivastava

PACKAGE OF ₹ 7.50 LAKHS PER ANNUM Capgemini | PACKAGE OF ₹ 6.50 LAKHS PER ANNUM accenture

TEAM MEMBERS

Chief Patron
Sh. Neeraj Goel
President, ABESEC

Patrons

Sh. Sachin Goel
Vice President, ABESEC

Prof. (Dr.) Sanjay Kumar Singh
Director (Officiating) & HOD-ECE

Editor & Compiler
Ms. Ranjeeta Yadav
Asst. Prof., ECE Dept.

Reviewer
Ms. Tania Gupta
Ms. Rakhi Kumari
Ms. Geetanjali Raj

Student Co-ordinators
Ms. Devanshi Chauhan
Ms. Vritti Mehrotra
Ms. Geetika Bajpai
Ms. Paridhi Pandey
Ms. Shivyana Joshi
Ms. Sneha Poddar

ABES Engineering College
19th Km Stone, NH-09, Ghaziabad - 201009 (UP)
Phone:0120 713 5112 Fax: 01207135115 Mob: 9999889341
Email: info@abes.ac.in | www.abes.ac.in