# ELECTRONICS ENGINEERING DEPARTMENT

# SOCIETY FOR ELECTRONICS EXPLORATION & DEVELOPMENT

SOCIETY FOR ELECTRONICS
EXPLORATION AND DEVELOPMENT

2018-19

## DEPARTMENTAL MAGAZINE

## AND

## ANNUAL REPORT

## INSTITUTE OF ENGINEEERING AND TECHNOLOGY,  LUCKNOW

## VISION

To produce manpower in the field of Electronics and Communication Engineering, capable to compete with that elsewhere and to make the department a center of excellence in the field of Signal Processing and Microelectronics.

## MISSION

**M1**:     To develop the ability among students and understand concepts of core graduate electronics and communication engineering.

**M2**:     To create center of Excellence to meet global research and development challenges

**M3**:     To build student community with professional and ethical standards in thrust areas so as to meet industry requirements.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

**PEO1**:Graduates of the programme will have an educational experience that inspires them to exhibit leadership and team building skills and have successful careers in their chosen technical or professional domain.

**PEO2**:Graduates of the programme will continue to learn and adapt in a constantly evolving society and contribute to the society in a professional and ethical manner.

**PEO3**: Graduates of the programme will inculcate good technical and  professional  knowledge according to requirements of industries and higher studies.

**PEO4**: To inculcate the spirit of innovation / creativity, independent thinking, risk taking ability, entrepreneurship and attitude to approach challenges with confidence.

## PROGRAM SPECIFIC OBJECTIVES (PSOs)

**PSO1**: **An** ability to understand the concepts of basic Electronics & Communication Engineering and to apply them to various areas like Signal processing, VLSI, Embedded systems, Communication Systems, Digital & Analog Devices, etc.

**PSO2**: **An** ability to solve complex Electronics and Communication Engineering problems, using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.

**PSO3**: **Wisdom** of social and environmental awareness along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an Entrepreneur.

# ELECTRONICS ENGINEERING DEPARTMENT
# IET LUCKNOW

The accordance of electronics with the wonder that human brain is, is what the world reckons as the flagship to future. Electronics, an indispensable part of technical education in the modern scenario still remains a field that has not been discovered to its full potential, and it thus becomes imperative to continuously strive for improvement and up gradation in the curriculum and methodology followed.

The Electronics Engineering Dept. at IET Lucknow was established soon after the institute took roots in 1984 to venture into this diverse field and produce quality engineers through the methods of practical education and rigorous academic training.

Two separate branches namely "Electronics and Communication" and "Electronics and Instrumentation" are run by the department under able faculty members aided with practical simulation laboratories to impart quality education.

The department currently operates under the able leadership of Prof. Subodh Wairya.

# SOCIETY FOR ELECTRONICS EXPLORATION AND DEVELOPMENT

**With the vision in mind to grant education of the highest quality to the students currently studying in the electronics department of Institute of Engineering And Technology, Lucknow, the SEED Society was established. It took roots in the year 2014 and has been nurturing young brains ever since in developing a comprehensive approach towards the learning of robotics and advanced circuitry.**

**The society involves pursuing career-oriented activities and courses that develop an individual to take on the fierce competition of the corporate world.**

# Editorial:

Ideas that stay in the brain, are ideas not worthy. Carrying out remains the real essence of any great thought. Beleiving so, We, hereby present the annual official student-publication of the Electronics Engineering Departmnet of Institute of Engineering and Technology, Lucknow

Each year, our team of editors, designers, photographers, and correspondents, in addition to generating creative content from the student population, work extensively to report on events in and around the college. The final publication reflects and encompasses the diversity inherent to the academic and extra-curricular spaces in EED, – we have in the past, included sections in various on the infrastructure, annual activities reports, message of the convener and Head Of Department alongwith any article/artwork by the student community.

And behind this beautiful culmination of ideas is a team that gave this publication their all, innovative ideas, consistent efforts and all that was asked out of them. I highly acknowledge their support in forming this document as an article of the diligence that the department stands for.

The primary focus of this magazine has been geared at covering events and notable issues within the college, as well as of current events, popular culture, and academics.
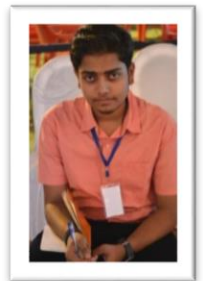
The magazine continues to expand its reach to achieve its vision of being a truly representative student publication. The magazine also covers the students who've been rank holders at examinations of national repute.

This document from the students, for the students with its timely release is the result of the undying hardwork and dedication that the crew possesses.

The team hopes to build on this ethos just as much during the upcoming academic years.

Ayush Krishna
Electronics & Instrumentation

# Coordinator's Report:

Ankuran was especially organised to publicly announce the launch of  Society for Electronics Exploration and Development (SEED) of the Electronics Dept. at Institute of Engineering and Technology, Lucknow. Having such a society was always a dream mainly because of lifting our spirits high and  more so because I always wanted to do something for the upcoming juniors. Always wished to provide them a platform open for discussions, workshops and contests that'd go a long way in shaping their lives. This is one of the few registered societies at the institute and has seen remarkable growth since its official inception.

But I can't let this close without thanking some important people who have helped in making this dream come true and all those people who made the event a success.

First of all, I would like to thank the College Administration and concerned authorities for providing with the much-necessary permissions and date slots for the event.

I would then like to thank the organisers and the planners who not only planned and organised this event, but also executed everything with so much of passion and zeal. These people of the team owe majority of the success of this event.
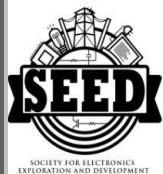
I also can't let the participants who performed during the days of Ankuran, go without receiving accolades from me, or the whole coordinating team. I'd also like to thank the visiting audience of esteemed faculty members for their watchful appreciation and essential criticism of the event. Media persons from certain newspapers are to duly be acknowledged for their coverage of the event.

I wish for the best of all newly admitted students and believe that they should never fall short of opportunities to learn and grow and that SEED shall function to the best of its capabilities.

Jyotsna Sharma
Electronics and Communication

# EXECUTIVE COMMITTEE (SEED)

| Sr.No. | Name | Branch | Post |
|---|---|---|---|
| 1. | AYUSH KRISHNA | E.I. | Co-ordinator |
| 2. | JYOTSNA SHARMA | E.C. | Co-ordinator |
| 3. | PRANAV SRIVASTAVA | E.C. | Dy. Coordinator |
| 4. | HARSH JAIN | E.C. | Dy. Coordinator |
| 5. | SHREYA GUPTA | E.I. | Dy. Coordinator |
| 6. | SHRUTI JOSHI | E.C. | Dy. Coordinator |
| 7. | AMIT PRAJAPATI | E.I. | Member |
| 8. | ANANYA JAISWAL | E.I. | Member |
| 9. | HARSHDEEP SINGH | E.C. | Member |
| 10. | VIGHNESH SINGH | E.I. | Member |
| 11. | SHIVENDU SINGH | E.C. | Member |
| 12. | HARSHIT BAJAJ | E.I. | Member |
| 13. | RAM MAHESH | E.C. | Member |
| 14. | NEELESH MITTAL | E.I | Treasurer |

# WORKING COMMITTEE (ANKURAN 2018)

| Sr.No. | Name | Post |
|---|---|---|
| 1. | Ayush Krishna | Co-ordinator |
| 2. | Jyotsna Sharma | Co-ordinator |
| 3. | Pranav Srivastava | Dy. Coordinator |
| 4. | Harsh Jain | Dy. Coordinator |
| 5. | Shreya Gupta | Dy. Coordinator |
| 6. | Shruti Joshi | Dy. Coordinator |
| 7. | Neelesh Mittal | Treasurer |
| 8. | Amit Prajapati | Technical Events |
| 9. | Ananya Jaiswal | Technical Events |
| 10. | Harshdeep Singh | Technical Events |
| 11. | Vighnesh Singh | Technical Events |
| 12. | Shubham Kumar Singh | Informals Events |
| 13. | Nitin Saini | Informals Events |
| 14. | Deepak Raj | Overall Events |
| 15. | Shivendu Singh | Informals Events |
| 16. | Harshit Bajaj | Overall Events |
| 17. | Malay Shukla | Overall Events |
| 18. | Ritwik Singh | Overall Events |
| 19. | Abhishek Singh | Overall Events |

# ANNUAL REPORT (2018-19)

*Intelligence is not just knowledge it's imagination. We innovate, we simplify, we create magic in our design!!*
*You will surely find a place in the tech army.*
*Until then. Be witty,Be wise...*

## INTRODUCTORY SESSION (PALLAV)

**5th October 2018**

The day was to welcome the fresh batch of students enrolled in the EC & EI branches for which a customary Saraswati Puja was conducted followed by the introductory session of the freshmen to their seniors, faculty members and other staff members of the environment. It went on as an interactive fun-filled session where students were encouraged to showcase their talents and overcome their fears.
Students were also explained about their curriculum for their college years and what prospects Electronics Engineering holds in the time to come.

# TEACHER'S DAY CELEBRATION 2018

Students of the department prepared a lively program to pay their respect to their teachers and all staff members on 5th September, for the Teachers Day Celebration. A beautiful invitation and arrangement was done by the students . Under the SEED Society, such events are regularly organised to maintain the camaraderie between students, academic and non-academic staff.

# CONVERGENCE 2018

Students of the Electronics Engg. Dept. continue bringing laurels to their mentors. As a testimony of the same, Jyotsna Sharma of 3rd year, ECE coordinated IET's annual alumni meet CONVERGENCE'18 with Aditya Verma, another student of 3rd year, EC playing the role of General Secretary for the festival. Under their able leadership, the institute witnessed the best till date version of the festival. Alongside this, the going-to-be Electronics Engineers participate whole-heartedly in all college activities and vie for being the best.

# ANKURAN

## INCUBATING CREATION
## SUSTAINING FUTURE

## 2018

The annual technical festival of Institute of Engineering and Technology's Electronics Engineering Department titled "*Ankuran*" is a celebration of the scientific understanding of students, managerial capabilities of the coordinators and a much needed change from the routine coursework.



Electronics and Communication Engineering Department Fest Ankuran'18 under Society of Electronics Exploration Department (SEED) experienced an extravaganza of robot events along with fun events that went on whole daylong on the dates 17-18 November, 2018.A 3-day technical event saw the young fresh minds vying with one another to get the upper edge with their self-designed and self-constructed bots in the events that took ground in the days of Ankuran. Focusing majorly on the robotics front, Ankuran had 3 major robotics events, for both manual and autonomous bots.

With the help and support of our respected faculty menbers the fest went on smoothly and faculties as well joined us in various events like Robo Race and RoboWar.

The fest had following technical events with more than 20 teams participating:

ROBORACE: Students made their own bots and competed against each other in crossing paths laid with obstacles in least time. The arena was prepared by 2-3 year students.

ROBOSUMO: The students tested the robustness of their bots in the sumo ground designed for bots.

ROBO SOCCER: A modified version of football where two robots made one team and defended their goal while shooting the ball into the other goal!



The fest as well had various activities like ramp walk cum talent showcase chance, find y - a game to improve social connections, mini cricket, cup and ball. All this was accompanied by music and enthusiastic students to help prepare arena, decorate the department and participated in the event.The manual ones fighting to prove themselves the stronger and faster ones, while the autonomous ones working primarily on sensors and aiming precision. The RoboSoccer Matcheswere the major highlight and grabbed the loudest cheer as teams of two played the attacker and defender to score the maximum goals.After completion of the competition rounds, the winning junior team got a chance to contest against their mentors as well and to everyone's surprise, emerged winners as well.

Not just robotics, Ankuran is remembered as a celebration of events of other confines as well, wherein, the informals ones are-LAN Gaming,Poker ,Develish Dart, Robo Messenger,DC Marvel Quiz.And others, of the technical sort, namely-Code Rush, Decode The Code, Aptitude Test, Photography Contest,Electronic Circuit Design, Tech-Paper Presentation.

To elevate the level of understanding students possess, upon various significant topics of the current scenario, Tech Talks were conducted by knowledgeable individuals, excelling in the field.

Thus, the three days of Ankuran went as an affair of absolute delight for all newly admitted students, giving them a detailed understanding of the operations and conduct Electronics Engineering Department alongwith its senior faculty members. There was a soul to it. A soul that was vibrant, contagious and exuberant.

# SMART INDIA HACKATHON 2019

The smart India Hackathon 2019 (www.sih.gov.in) Software edition took place in 48 nodal centers across the country. A total of 1100 teams participated from all parts of the country out of which 5 teams were from Institute of Engineering and Technology Lucknow. The teams took in their hands the task to solve various industrial problem statements.

Team IET from Electronics and Communication Engineering Department developed an android application for Indian languages to sign language conversion and help bridge the gap between deaf and dumb community and us. The app is multilingual and can convert more than 10 Indian languages to sign language.

The teams trained an open NLP model in Hindi, integrated it with the android application and secured first position in their nodal center Manipal Institute of Technology.

Team IET members from Electronics and Communication Engineering Department: **Harsh Jain, Shruti Joshi ,Jyotsna Sharma, Shivendu Yadav, Nitin Siani, Paras Gupta**



Winner of final round of Smart India Hackathon conducted by Govt. Of India in the initial phases of 2019. Multiple teams participated in the final round o the competition with one team of third year students standing out and emerging victorious at the national level.

# E-YANTRA ROBOTICS COMPETITION (IIT BOMBAY)

eYantra is a Robotics outreach project that emerged out of the Embedded Systems course at the Department of Computer Science & Engineering at IIT Bombay. Twenty teams from Electronics Engineering Department,IET Lucknow participated in e-Yantra 2019 competition . Out of which, Seven teams got the chance to enter second round .Two teams of Electronics Dept. third year students were selected for the final round of E yantra Robotics Competition at Indian Institute of Technology, Bombay.

## Finalists of EYRC 2018

Team ID : 141
Theme assigned: Hungry Bird

| Name | Branch & Year | Email ID | Phone No. |
|------|---------------|----------|-----------|
| Shruti Joshi | ECE -3rd | shruti03.joshi@gmail.com | +91-8853970397 |
| Jyotsna Sharma | ECE -3rd | viyotsnasharma@gmail.com | +91-9891739560 |
| Shivendu Singh Yadav | ECE -3rd | shivendu80@gmail.com | +91-7706866855 |
| Akshal Garg | CSE -3rd | akshalgarg2013@gmail.com | +91-8130434263 |

Team ID : 532
Theme assigned: Mocking Bot

| Name | Branch & Year | Email ID | Phone No. |
|------|---------------|----------|-----------|
| Shreya Gupta | EI -3rd | shreyagupta272@gmail.com | +91- 8004920364 |
| Pragya Vyas | CSE -3rd | pragya125vyas@gmail.com | +91- 7078382232 |
| Ram Mahesh | ECE -3rd | 1605231035@ietlucknow.ac.in | +91- 9770018168 |
| Abhishek Kumar | ECE -3rd | abhishek3485@gmail.com | +91- 9129726321 |



eyantra

# WORKSHOPS

**20th January 2019- 5th March 2019**

Students here at the Electronics Department, are not only imparted academic knowledge, but also virtues of selflessness, sharing and support. Owing to which, the third and second year students conducted a 45-days workshop for the first year students, sharing their practical approach, experience and adeptness in much relevant topics such as-

- Manual Robot
- Autonomous Robot
- Embedded Systems
- RC Plane (AeroModelling)
- Robot Operating System
- Internet Of Things
- Artificial Intelligence

This led to the students building self-designed, self-constructed robots for various technical contests on both intra and inter-college levels

# COMPETITIVE EXAMS/ACHIEVEMENTS

Apart from providing an all-round development of the individuals, the department also provides enough resources, time and liberty to the students to prepare rigorously for national level competitive examinations. To mention, we had huge success in Graduate Aptitude Test Engineering(GATE)'19 with rankholders under the top 100 performers all over the country. Namely-

- **AIR-3 Vineet Goswami**
- **AIR-7 Shweta Yadav**
- **AIR-11 Shubham**
- **AIR-62 Dev Balliyan**
- **AIR-67 Prabal Singh Tomar**
- **AIR-82 Kriti Verma**
- **AIR-113 Shretika Jain**

There also have been splendid performances in the Common Admission Test (CAT)'16 to get into the top B-Schools of the country.

# DEPARTMENT'S PLAN ON FUTURE PROJECTS AND COMPETITIONS

## PLAN OF ACTION

1. Better Exposure for students to learn and explore robotics

2. Competitive environment

3. To organise workshops in IET for technical exposure.

4. Participating and organising world level competitions.

## COMPETITIONS

1. E- Yantra – IIT Bombay
2. 2. ROBOTRYST – IIT Delhi
3. 3. Techkriti – IIT Kanpur
4. 4. ROBOCON - Vietnam
5. WORLD ROBOT OLYMPIAD Thailand
6. Smart India- Hackathon