

Department of Electronics & Communication

eNewsletter

GL BAJAJ GROUP OF INSTITUTIONS
AN INTEGRATED CAMPUS

Learning is a lifelong process. Education is more important affair in our life than learning or being literate. The newsletter is a good way to learn about developments and activities and let others know. I congratulate all the people who have been associated with this publication.

DR. R K Agrawal
Chairman



It is wisely said that change is the only thing that is permanent in life. So be it, for the department as well. Since this is for first time, the E-newsletter is introduced, I congratulate the editorial board, advisory board and the department for the very first step towards online publication. I hope everyone would be benefited with it.

MR. Pankaj Agrawal
Vice-Chairman



As we all know, a newsletter mirrors a college, a department, its vision and mission. It also highlights events, activities and academic process and achievements. I congratulate the department for its first E-newsletter. I do hope that this will encourage many more including students to use it as a platform to express their creativity.

DR. L K Tyagi
Director

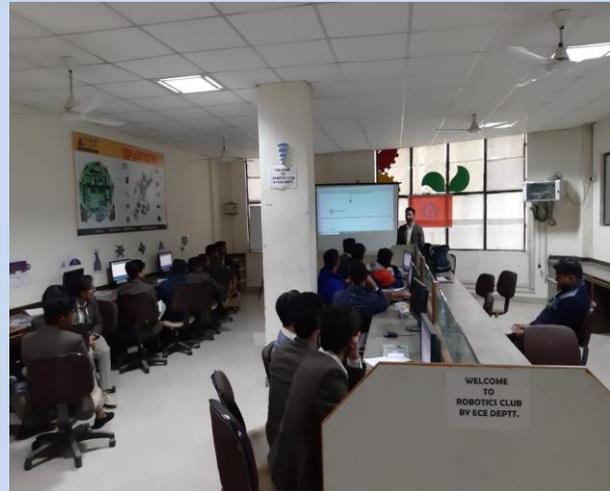


- Departmental Activities –

2 days Workshop on “Advance Robotics”

A 2 days Workshop on “ Advance Robotics” is organized by Electronics & Communication Engineering department to enhance the practical knowledge of the students. .

Mr. Nitin Kumar Sahu(HOD ECE) is the convener and **Mr. Vivek ranjan Mishra (ECE)** is the Faculty coordinator for the program who gave their huge contribution for making this workshop successful. **Abinav Gupta(EC 3rd year)** And **Manish Ranjan(EC 2nd year)** is the students tranner of this workshop. In this interesting workshop the students get aware of **LED Interfacing, LCD interfacing, Ultrasonic Sensor interfacing, Laser Module interfacing, Real Time clock(RTC) interfacing, GSM/GPRS module interface, Fingerprint detection , wireless communication,RF-ID, basic concepts of Robotics, Robot designing etc**



Summer Internship Program on ROBOTICS:

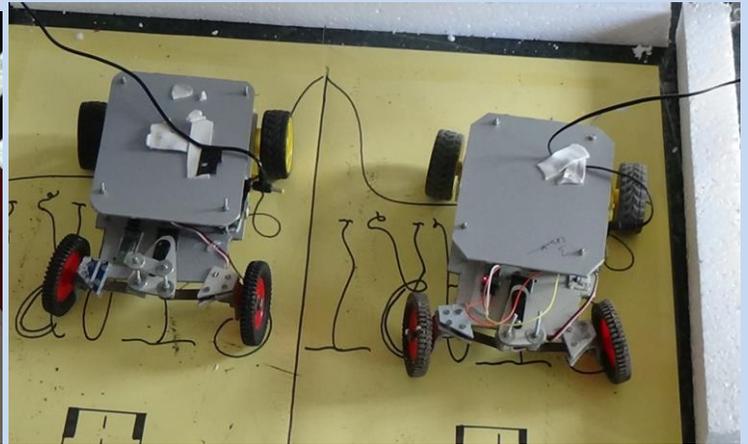
Summer Internship program on “ROBOTICS” is organized By ROBOTICS Club(Electronics & Communication Engineering department) to enhance the practical knowledge of the students in th field of Robotics and Embedded system.

Mr. Nitin Kumar Sahu (HOD ECE) is the convener and **Mr. Vivek ranjan Mishra (ECE)** is the Faculty coordinator for the program who gave their huge contribution for making this workshop successful. Abhinav Gupta(EC 3rd year) and Manish Ranjan (EC 2nd year) is the students trainer of this workshop. In this interesting Summer Training Program the students get aware of **basic concepts of Robotics**.



Robotics Club: Robotisc club is step up by ECE department at 05 Sep 2018. **Mr. Nitin Kumar Sahu(HOD ECE)** is the convener and **Mr. Vivek ranjan Mishra (ECE)** is the Faculty coordinator for the program. Abhinav Gupta(EC 3rd year) , Manish Ranjan(EC 2nd year), Ayush Dubey(EC 2nd year) and Shivam Sharma(EC 2nd year) is the students coordinator of robotics club.

The purpose of robotics club is to provide the real time knowledge of Electronics, Sensor, embedded system and Mechatronics. This club will provide the workshops, value added program and summer internship in recent technologies related to Robotics. Robotics club largely benefits the student community and supports innovation happening within the campus. Robotics is an interdisciplinary branch of engineering and science that includes mechanical engineering, electronic engineering, information engineering, computer science, and others. Robotics deals with the design, construction, operation and use of robots, as well as computer systems for their control, sensory feedback, and information processing.



- Placement -

Following ECE students (Batch 2019) got placed in following companies:

- | | |
|---------------------|--------------------|
| 1. Amit Kumar | Capgemini, Jaro |
| 2. Ashish Prajapati | TCS |
| 3. Nandani | Cognizant, Maintec |
| 4. Ragav Goyal | Capgemini, TCS |
| 5. Richa Gupta | BOSCH |
| 6. Shikha Varshney | TCS |

- Student Achievements -

State Level Robo Race :

This event was organized by AKTU, at IET; Lucknow to promote the technical skills within the students of different nearby colleges. Following team participated in the event.

1. Abhinav Gupta – Team Leader
2. Ayush Dubey
3. Manish Ranjan
4. Shivam Sharma





AKTU Zonal Level, Aligarh:

This event was organized by AKTU, at AECET, Aligarh. The following group of 4 Students participated in Robo Race event and secured I position among all colleges of Agra zone.

1. Abhinav Gupta – Team Leader
2. Ayush Dubey
3. Manish Ranjan
4. Shivam Sharma



JECRC University Fest

JU-Rhythm fest was organized by JECRC University, Jaipur. The following group of 4 Students participated in AMPHIBOT (Robo-Race under water) event and secured IV position. A workshop on IOT was conducted to make students aware of advanced technologies. Our students achieved V position in that test.

1. Manish Ranjan
2. Sumit Kr Singh
3. Ravi kr Singh
4. Sujeet Yadav



SRMS,CET Technical Fest

TECHVYOM fest was organized by SRMS, CET, Bareilly. The following teams participated in Robo-Race, Wild-Socker, Line –Follower , Maze-Solver, Electromania, Technical-Poster events.

Team-I

1. Manish Ranjan
2. Sumit Kr Singh
3. Ravi kr Singh
4. Sujeet Yadav
5. Anand Kumar

Team-II

- a. Abhinav Gupta
- b. Shivam Sharma
- c. Ayush Dubey
- d. Athrav Mishra



General Trends in - Electronics and Communication Engineering -

5G

The next (5th) generation wireless network addresses the evolution beyond mobile internet to massive IoT (Internet of Things) from 2019/2020 onwards. Fifth-generation wireless (5G) is the latest iteration of cellular technology, engineered to greatly increase the speed and responsiveness of wireless networks.



For example, “low latency” is what provides real-time interactivity for services using the cloud: this is a key to the success of self-driving cars for example. Also, low power consumption is what will allow connected objects to operate for months or years without the need for human assistance. Unlike current IoT services that make performance trade-offs to get the best from current wireless technologies (3G, 4G, WiFi, Bluetooth, Zigbee, etc...), 5G networks will be designed to bring the level of performance needed for massive IoT. It will enable a perceived fully ubiquitous connected world.

What's the main difference between 5G and the previous mobile generations?

- 5G networks expand broadband wireless services beyond mobile internet to IoT and critical communications segments.
- 4.5G (LTE advanced) networks doubled data speeds from 4G.
- 4G networks brought all-IP services (Voice and Data), a fast broadband internet experience, with unified networks architectures and protocols.
- 3.5G networks brought a true ubiquitous mobile internet experience, unleashing the success of mobile apps eco-systems.
- 3G networks brought a better mobile internet experience but with limited success to unleash massive data services adoption.
- 2.5G and 2.75G networks brought a slight improvement to data services, respectively with GPRS and EDGE.
- 2G networks brought digital cellular voice services and basic data services (SMS, Internet WAP browsing) – as well as roaming services across networks.
- 1G networks brought mobility to analog voice services.

5G technology is driven by 8 specification requirements

- Up to 10Gbps data rate - > 10 to 100x improvement over 4G and 4.5G networks
- 1-millisecond latency
- 1000x bandwidth per unit area

- Up to 100x number of connected devices per unit area (compared with 4G LTE)
- 99.999% availability
- 100% coverage
- 90% reduction in network energy usage
- Up to 10-year battery life for low power IoT devices.

Reasons why 5G is the future

As the successor to 4G, 5G is set to completely transform the way we do business. Bringing enormous data capacity, rapid speeds, and incredibly low latency, 5G marks a huge step up from its predecessor.

Not only does 5G promise to boost efficiency and unleash the potential of automation, but it will also enable us to explore developing technologies such as virtual reality (VR) and augmented reality (AR).

5th generation technology is designed to provide incredible and remarkable data capabilities, unhindered call volumes, and immeasurable data broadcast within the latest mobile operating system. Hence, it is more intelligent technology, which will interconnect the entire world without limits. Likewise, our world would have universal and uninterrupted access to information, communication, and entertainment that will open a new dimension to our lives and will change our life style meaningfully.