

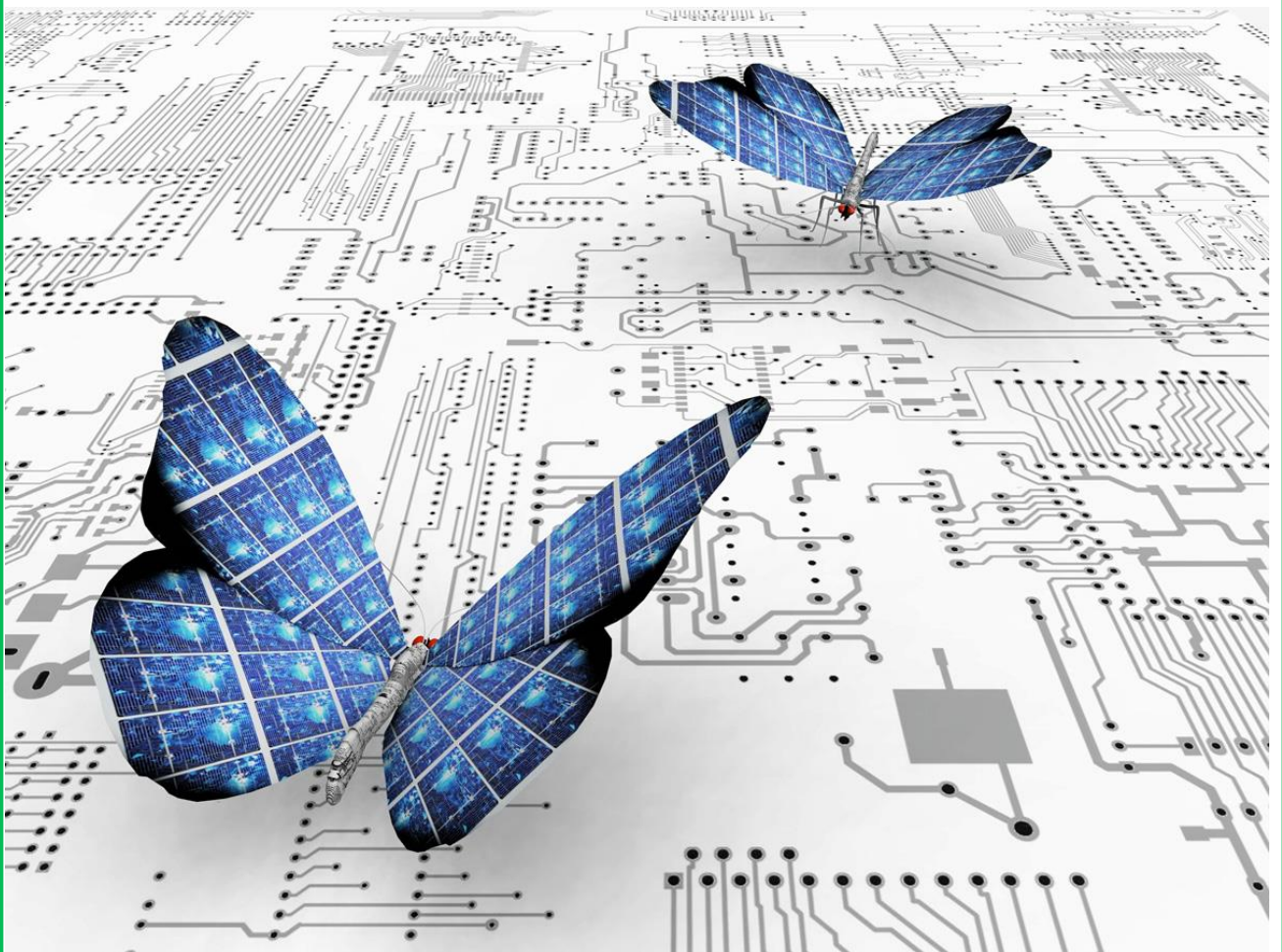


Ujjwalam

Department of Electronics and Communication Engineering

Volume 1, Issue 2

October 2017



Director's Message



We are currently in the era of engineering revolution, spearheaded by recent developments in engineering sciences providing sustainable solutions to various issues in different areas. The Indian engineering programs have a promising future particularly the **Electronics and Communication** sectors are on the threshold of becoming global players by 2020. Fragments of this newsletter will tracks different event and activities that are taking place in the department. I extend my best wishes to all those who contributed to **Ujjwalam** and I am confident that the interaction will be a source of inspiration to the young talent budding in the college, who would be the educationists, technocrats and researchers of tomorrow. They would shoulder the responsibility of bringing in the desired innovations in their fields, leading to the advancement of the country.

Mr. Arpit Agarwal
Director, JECRC

Principal's Message



Jaipur Engineering College and Research Centre (JECRC), Jaipur is recognised as one of the best technical institutes in Rajasthan and is adopting the process of change that demands quality outcome based education. The vision of the institute is to become an institute of excellence in imparting outcome based education, providing platform to students for overall self development that includes ethics, moral values, etc. and develop research aptitude through project base learning. In the process of implementing outcome based education (OBE) the faculty members are measuring the progress and competency of the student as they go through a course in each semester and are being assessed against pre defined package. The campus will soon have a video server where video lectures of all under graduate and post graduate programs delivered from the professors of IIT and IISc would be made available to the students 24x7 through a high speed wifi networking. This will create ample opportunities to learn the subject at their own base on their laptops and smart phones.

All the credit goes to outstanding reputation and dedication of the institute for all these years, under the able guidance of visionary Shree Arpit Agarwal Ji, Director of JECRC. Here at JECRC, Jaipur, we are committed to impart necessary skills and knowledge to our students in best possible manner, in good spirit and in good environment by allowing them to dream big and help them to achieve the same.

Dr. V.K. Chandna,
Principal, JECRC

Mission and Vision of the College

VISION

To become a renowned centre of outcome based learning, and work towards academic, professional, cultural and social enrichment of the lives of individuals and communities.

MISSION

- Focus on evaluation of learning outcomes and motivate students to inculcate research aptitude by project based learning.
- Identify, based on informed perception of Indian, regional and global needs, areas of focus and provide platform to gain knowledge and solutions.
- Offer opportunities for interaction between academia and industry.
- Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions

VISION

To contribute through excellence in scientific and technical education, teaching and research in Electronics and Communication Engineering & to meet the needs of global industry.

MISSION

- To equip the students with a strong foundation of basic sciences and domain knowledge of ECE, so that they are able to creatively apply their knowledge to the solution arising in their career path.
- To induce the habit of life-long learning to enhance overall performance.
- Students are able to communicate their ideas clearly and concisely so that they can work in a team as well as an individual.
- To make students responsive towards the ethical, social, environmental and economic context for the society.

Newsletter ECE, JECRC Foundation, Vol. 1, Issue 2, October 2017



HOD'S Message

The Department of Electronics and Communication Engineering came into existence at the Jaipur Engineering College & Research Center in 2000, by the approval of All India Council for Technical Education (AICTE), to meet the growing requirement of practical design engineers in the country and abroad. The greatest asset of the department is its highly motivated and learned faculty. The available diversity of expertise of the faculty with the support of the other technical staff prepares the students to work in the global multicultural environment. The department not only aims to make our students technically sound and knowledgeable but also to nurture their wisdom and make them a better and responsible human being. The graduates of the Electronics & Communication Stream have been selected by some of the world's leading corporations & as well as by most of the leading Indian counterparts. We hope that we will continue to deliver our best to serve the society and mankind. It is also expected that our students will continue to pass on the skills which they have developed during their stay at this department to the whole of the world for a better society.

- Dr. Lokesh Kumar Bansal

Program Outcomes

PROGRAM OUTCOMES are Graduate Attributes

- **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **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.
- **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.

Program Outcomes

- **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and ECE tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **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.
- **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.
- **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Program Outcomes

▪ **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.

▪ **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.

▪ **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.



**EDITORIAL
BOARD**

FACULTY EDITOR:

Ms. Shivam Upadhyay
shivam.ece@jecrc.ac.in

STUDENT EDITORS:

Charu Upadhyay
Keya Vyas

Editor's Desk



It is with great pleasure that we bring to you the second issue of **Ujjwalam**, the newsletter of ECE Department JECRC Jaipur. The name of our newsletter- **Ujjwalam**- signifies **brightness**, With faculty members that consist of bright minds and students who are keen to leave a mark, our future is in safe hands indeed.

The goal of this newsletter is to update you all with the developments at ECE department (JECRC) Jaipur. The current issue will provide the information about the various initiatives of department which are related to academics, research and innovation, student affairs, alumni and departmental laboratory / workshop. This newsletter besides reporting on the major events will also report on laurels earned by our faculty members, staff and students.

While acknowledging valuable inputs received from the faculty members, staff and students, we also welcome suggestions from them to help us develop the newsletter further.

The Second issue is in your hands.

Happy reading!!

Ms. Shivam Upadhyay

Inside This Issue!!

- Introduction to Newsletter
- Training Programs & Work Shops
- Engineering Entrepreneur
- Student Start-Ups
- Student Achievements
- Achievements of Faculty Members
- Training & Placement Cell
- Events
- Faculty Appointments
- Student Articles
- Interesting Facts





□ Introduction to Newsletter

The aim of the newsletter is to keep each member of ECE family of JECRC connected and updated. Notable achievements of our students, alumni and faculty members will be highlighted along with some articles on latest technologies, and campus life. We wish that all who contribute to the growth and achievements of the department get acknowledged. We welcome your inputs for future newsletters and urge you to stay connected with us.

Training Programs & Workshops

Shops

From March 2017, ECE Department has organized the following training programs & workshops.



HUAWEI Training program



TechieNest
Transforming Engineers to Technocrats

The poster for the International Workshop on Open Source Innovations (Technological Convergence) features a geometric background of blue and green triangles. At the top is the JECRC logo and 'JECRC Foundation'. The main text reads 'INTERNATIONAL WORKSHOP ON OPEN SOURCE INNOVATIONS (TECHNOLOGICAL CONVERGENCE)'. Below this, it says 'in association with' followed by the Redhat Academy logo. The date and location are 'October 12, 2017 Auditorium, A Block'. At the bottom, logos for JECRC, JECRC University, and JECRC UDML are displayed.

Foundation Program(FP)5.0



Infosys | Campus Connect

Infosys | Building Tomorrow's Enterprise

International Workshop

On

Open Source Innovations –Technological Convergence by RED HAT ACADEMY”

The ECE department of Jaipur Engineering College and Research Centre organized an International workshop on “**Open Source Innovations – Technological Convergence by RED HAT ACADEMY**” on October 12, 2017, at Auditorium A-Block. The inaugural function was graced by the presence of Chief Guest Mr. Alok Srivastava, Director, Network Nuts-Red Hat Partner; Guest of Honor Dr V. K. Chandna, Principal JECRC, Jaipur.

The program initiated with the welcome speech by Dr Lokesh Kumar Bansal, HoD ECE, who briefed the audiences about the workshop and dignitaries.



Mr. Alok Srivastava (Director, Network Nuts-Red Hat Partner) explained the recent developments in the field of operating system and the excessive use of Linux Red Hat in around 95% of the industries. He innovatively compared the use of Linux and driving his Harley Davidson. He also suggested 5 rules for safer driving and how he uses them while learning Linux. Thereafter Mr. Gulshan Prasad – Technical Consultant, Red Hat address the gathering about, Red Hat the future Technologies. He spoke about the future trends of Red Hat. After remarkable presentation of Mr. Gulshan Prasad, Ms . Menta Simon (Director Operations Network Nuts-Red Hat Partner), spoke about Red Hat Academy and its Certifications programs.



Huawei Company

Informative Seminar presentations were conducted by ECE department on HCIG program, aimed for Engineering students, where participants get trained & certified by Huawei on multiple leading ICT technologies such as Wireless (2G, 3G, LTE), Core network, IP Networking, Cloud Computing with equipment hands on. JECRC, Jaipur has also become Huawei Authorized Network Academy (HANA) centre in association with Indo vision.

Date: 11 August 2017

The session started with a talk by Mr Atul Rajput, general manager at Oracle training and a core team member of Indovision. He asked the students if they knew anything about Huawei and then gave a formal introduction of the company. Then he shared his college experiences with the audience, saying that there is a huge gap between the rote learning at colleges and the industrial requirements.



Thus to bridge this gap, Huawei has taken the initiative of training of engineering students to help them enhance their skills set and expand the horizons of their knowledge. He further explained the core jobs available for electronics students in their company and that doing this course would surely give students a chance to sit for the interviews and placement drives conducted by Huawei.

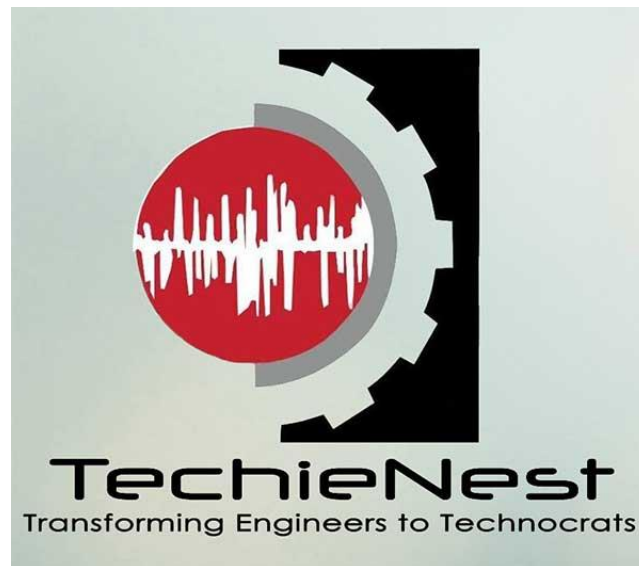
Mr Bhupinder Singh, a trainer at Indovision explained the students the process of mobile communication which was followed by an interactive Q & A session, where students actively participated.

Lastly, students gave their respective feedbacks. The response from students was overwhelming, a lot of students showed a keen interest in being part of the HCIP training program.

In the end, Head of department Dr. Lokesh Bansal signed the MOU.



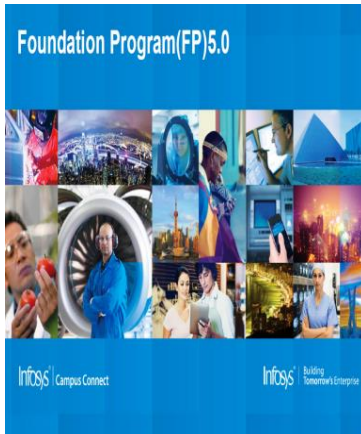
Workshop on Spybot



Spy Robotic Workshop was organised in our college on 19th August 2017 in B-Block. It was organised by **Tetchiest Pvt. Ltd.** The workshop was taken by Mr Saurabh. He is an expert in Embedded Systems and Robotics. In this workshop, students learned about embedded programming, motor interfacing and Bluetooth technology. Many projects like an autonomous robot were made, Bluetooth controlled a robot through PC and Android mobile. Students enjoyed and learnt a lot. At last, Mr Saurabh inspired them, with his motivational thoughts.

INFOSYS CAMPUS CONNECT

Foundation Program 5.0



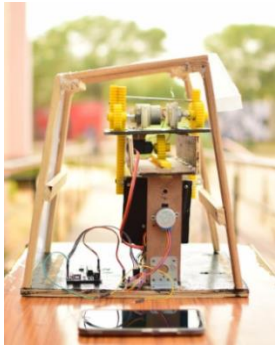
Program SPOC
Mr. Devesh Gupta

An **INFOSYS CAMPUS CONNECT Foundation Program 5.0** was designed for 6th-semester students. We are glad to share that around **110 students participated** in this Certification module from **Electronics and Communication Engineering**.

This program is designed by the E&R department of Infosys primarily to train and prepare fresh engineering graduates, who on completion of their degree, will be prepared to join the company and take up challenging real-time customer projects. This program supports extensive use of online video tutorials enabling learning on the go.

Also, it is integrated with interactive quizzes and assignments from the real world for reinforced learning and self-assessment. Projects associated with every course module helps in fostering industry orientation of students. This short-term module will be consisting of five modules, namely, Programming Fundamentals, Database Fundamentals, Python Database Integration, OOPs using Python & Advanced Database Concepts. According to the current time requirements, learning contents are delivered as web pages which can be easily run from Google Chrome Browser and will be shared with students through their registered e-mail ids. In a nutshell, this program provides 145 hours of self-learning with assessment through 315 interactive quizzes along with 128 real-world assignments and 5 projects.

Engineering Entrepreneur



"When education sees its course, a dream opens its eyes"

The department has come up with their initiative to support and nurture the budding entrepreneurs of the college. The vision of this is to build an environment where students instead of being job seekers become job creators. In continuation of leading a glorious journey, our students namely **HARSHIL JAIN**, **MANAV SHARMA** and **KUSHAGRA SINGH** have been shortlisted for National Start-Up Fest 2017, which was organized by All India Council for Technical Education (AICTE) in collaboration with Vijnana Bharati (VIBHA) and partnering with other government agencies such as DBT, DST, DIPP, AIM - NITI Aayog, NRDC, FITT-IIT Delhi etc. under aegis of India International Science Festival (IISF 2017), a joint mega event of Ministry of Science and Technology and Ministry of Earth Sciences was held on October 13th – 16th 2017 at Chennai. Their idea has been selected from 1.7 lacs entries among the top 29 startup ideas of India.

The students were present their company INVENTOCRATES (a life product company)'s product namely 'DIVYA-AANG' at National Level under the mentorship of Mr. Sidharth Chaturvedy. Divya -Aang is an aid to a visually impaired person, it will help them to write in normal alphabets without using Braille Script. The product was basically a prototype working model and will be further researched after funding. The team member Harshil Jain and Manav Sharma are technical head of the company having a profound knowledge in the field of Embedded System, VLSI, VHDL, Arduino™ and Raspberry PI™.

Team member Kushagra Singh is Marketing and Designing Head of the company. Mr. Sidharth Chaturvedy is the mentor of the company, having an experience of 17 years in the field of Embedded System, MATLAB, VHDL, and VLSI. The students are working on many other LIFE-AID products.



Student Start-Ups



At ECE department we encourage the students to not just be job seekers but to become job creators. Since the establishment of DST sanctioned Entrepreneurship Development Cell various training sessions have been organized to provide students with the knowledge of how to set up a business. Attributed to these efforts a number of students are now running their start-ups.

❖“VE-GUIDE” is a newly started start-up which conducts exam trips for examinees.

❖“Wheelie Repairs system” which provides door to door garage services and immediate breakdown assistance in Sitapura, Pratap Nagar & Malviya Nagar area of Jaipur is a couple of such start-ups.

❖“OKTAVO*~_BOOKS AT YOUR DOOR STEP_” It provides online purchasing of books. This was started by Akanksha Singhal, Arpit Agrawal.

□ Achievements of Faculty Members

Recent Publications

Veni madhav Sharma has presented a paper entitled "Proposed Novel Design of Silica PCF to Minimizing the Dispersion Using OptiFDTD" in IEEE International Conference on Recent Advances and Innovations in Engineering (ICRAIE-2016), December 23-25, 2016, Jaipur, India.

Shivam Upadhyay has published paper entitled " Photonic Crystal based biosensor for the detection of cancer cell by using FDTD method" in IEEE International Conference on Computing, Communication and Networking Technologies, ICCCNT 2017, during 3-5July2017.



FDPs

❖ Bhoopesh Kr. Kumawat attended an academy training program on “Technical Report Writing and Authorizing of Research Manuscripts with LaTeX” organized by Electronics & ICT Academy MNIT, Jaipur during 14/04/17 to 16/04/17.

❖ Dr. Lokesh Bansal attended an academy training program on “Advanced Optimization Techniques (AOT-2017) ” organized by Electronics & ICT Academy MNIT, Jaipur during 06/10/17 to 15/10/17.

❖ Ashish Sharma attended an academy training program on “Advanced Optimization Techniques (AOT-2017) ” organized by Electronics & ICT Academy MNIT, Jaipur during 06/10/17 to 15/10/17.

FDP on “Effective Mentoring Skills”

Date: 11 – 13 July 2017

This program imparted knowledge of all the components of the training which included Resume Writing, GD Skills, Power Writing, CBT Portal Management, Mentoring Skills, Personal Interviews (Technical & HR), Quantitative, Verbal and Logical Reasoning sections.

The aim was to develop such skills in the students through mentoring and making them outstanding brand ambassadors of the foundation and better employable engineers. The following faculty members attended this FDP:

Mr. Ashish Sharma

Mr. Vikas Sharma

Mr. Anil Jain

Ms. Preeti Barot

Mr. Ankur Gangwar

Mr. Rajesh Bathija

Mr. Naresh Kumar

Ms. Shivam Upadhyay

Mr. Devesh Gupta

Mr. Ashok Kumar

Mr. S. S. Manakatala

Ms. Neha Singh

Congratulations

❖ Dr. Lokesh Bansal has received appreciation letter from the college, for their service and dedication as a Head of the department.

❖ Mr. Ashutosh Sharma was invited to attend and express their views on Microsoft Digital India event which is organized at Jaipur on 11th April 2017.

❖ Mr. Ashish Sharma has received appreciation letter from the college, for their service and dedication as a Training and Placement Officer (TPO- ECE department).

❖ Ms. Shivam Upadhyay has honored by the best faculty award in the Electronics and Communication department.

❖ Mr. Siddharth Chaturvedi is upgraded as Head of Incubation and Outreach cell of JECRC Foundation Jaipur.



□ Student Achievements

Xananoids

In this race of just coming first and not grasping any knowledge, Xananoids took its initial step in inculcating the knowledge among the students of the first year with the basic of robotics. The seminar took place in three sessions. It was great to see such overwhelming enthusiasm of the young buds. We wish that this zeal and curiosity learn more and more stays forever. The members of the Xananoids club go to various technical fests in a different event. Recently the team took part in plinth tech fest of LNMIIT in the transporter and stood second in it. The team consist of Mithlesh (ECE) Rishabh (ECE) Harish (Mech) Gaurav (Mech) Jitendra (Mech) and Shubham (CSE).



Sports

Sports is more than the toy department of our culture. It's often the source of excellent documentary work. In point: "More than a Game", which is destined to be known as "the LeBron James movie" but truth is a whole lot more. It shows how the powerful bond that James formed with his teammates in high school and earlier sustained him and transformed everyone's life. Documentary shows his struggle to reach what he is now. Qualities that are developed in sports groom you to be a fine personality in real life. Teamwork, dedication, focus, quick decision making ability helps a lot to fight real life problems.

The ECE students are often considered as geek but here that's not the myth. They actively participate and volunteer in every activity held in college. Students actively participate in sports too. They have represented the college in various inter-college sports meet and brought laurels to college.

Basketball- Shahid Ansari, Parth Mathur

Badminton- Yash kumar, satwik Sharma, pranshul Singh

Cricket- Prajjwal Joshi, Aman Khandelwal

Table Tennis- Vipul

□ Training & Placement



The goal of the Training & Placement Cell of the ECE Department is to provide employment opportunities and world class training to students in leading organizations/Industry. The Training & Placement Cell further provides ample opportunities to the students to develop their personality by conducting programs regularly on communication skills and other soft skills. This Cell makes the students Industry-friendly and Industry ready candidates. Under the guidance of **Mr. Siddharth Chaturvedi**, a hard working team arranges training for students in Industries for two to four weeks at the end of the session.

TRAINING &
PLACEMENT

Congratulation To Accenture Placed Students

Accenture 2018 Placed:

- AARUSHI SINGH
- AISHWARYA SHARMA
- HARSH JHA
- KANIKA SAINI
- KANISHKA KUKREJA
- MANSI SHARMA
- MEHAK PANDITA
- MONIKA GWALANI
- PRACHI KHANDELWAL
- SALONI SHARMA
- SAURABH AGRAWAL
- SURABHI SONI
- SURBHI SHRIVASTAVA



Congratulation To All Placed Students

- ADITYA GAUTAM (Matrix)
- GARVIT CHUGH (Matrix)
- OSCEAN RAINA (Matrix)
- ROHIT VERMA (Matrix)
- ARCHANA VISWANATH (Artech)
- SIMRAN BHATIA (Artech)




Congratulation To Microsoft Student Partner

Mr. Utkarsh Goyal, Student of third year, has been selected as Microsoft Student Partner 2017-18. He has cleared all rounds of rigorous selection process. We congratulate him on behalf of entire ECE department.



Events

From March 2017 , ECE Department was organized the following events. These events with captivating prizes witnessed an equally enthusiastic participation.



SWACHHTA PAKHWADA
CLEANLINESS FORTNIGHTS
A new leap towards "Swachh Bharat" for the Ministries or the NDA Government will conduct cleanliness drives and other initiatives every fortnight.

SWACHH BHARAT ABHIYAAN
EK KADAM SWACHHATA KI ORE

JAIPUR ENGINEERING COLLEGE & RESEARCH CENTRE
DEPARTMENT OF ELECTRONICS AND COMMUNICATION
Organizing
"Cleanest Hostel Room" Contest

Inauguration Venue: BH-2
Date: 13th September 2017
Time: 03:00PM-05:00PM



J Techtrix 2017
The Project Expo
5th & 6th April, 2017

Lots of exciting prizes to be won

Students of all branches and years are invited to showcase their projects

Submit your entries before 28th of march

Participation fee Rs 300/- per team (4 members)

Contact:
Dr. R.K Mangal
9251039860
9414456940
hod.phy@jecrc.ac.in

JECRC UNIVERSITY
JECRC UDML
JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE



SMART INDIA HACKATHON '17

Cleanest Hostel Room Contest



Objective:

To aware students and faculty members about the “Swacchta Pakhwada”. Swachh Bharat: Swacchta Pakhwada is the national campaign driving ‘Clean India: Clean College’. Swacchta Pakhwada is an occasion to pledge the support of the higher educational institution for spreading the message of cleanliness not only among the students but also in the surrounding areas.

Target:

Boys hostel-1, Boys hostel-2, Girls hostel and Faculty members of ECE departments.

Summary:

Cleanliness is one of the most important and necessary aspects of a healthy society. The “Swacchta Pakhwada”, as directed by AICTE, is being celebrated in JECRC Foundation, from 1st to 15th September, 2017, under which the "Cleanest Hostel Room" Contest, activity has been conducted by the ECE department on behalf of JECRC Foundation. On this day, a "Cleanest Hostel Room" Contest was organized which was inaugurated by Vice Chairman Shri M.L. Sharma, in the presence of Senior Advisor Shri O.P. Jain, Chief Warden Mr. P.K. Gupta, Coordinator “SOCH” Group Shri Ranjeet Pandey,

Head of Electronics and Communication Department Dr. Lokesh Bansal, Activity Coordinators Ms. Shivam Upadhyay, Mr. Devesh Gupta and faculty members of Electronics and Communication Engineering Department (Organizer of the Clean Hostel Room Contest).

Inaugural Function: At Boys Hostel -2



In this drive, the campus hostels i.e. Girls hostel, Boys hostel-1 and Boys hostel-2 of Jaipur Engineering and Research Center were participated. There are three panels of judges one for the each hostel. Parameters for judging to be finalized on the basis of:

- Cleaning of room
- Posters/ Messages displayed in the room

- Arrangement of things
- Useful/Waste materials in the room
- Overall room appearance

On the basis of above parameters, marks were given to each team (room wise) by the judges. The team who secured the highest score was declared as a winning team. Shri M. L. Sharma, vice chairman JECRC started the drive by visiting the rooms of boys hostel- 2.

Dignitaries and Judges during Contest:



Outcomes:

- Students were made aware about the importance of Cleanliness as it is one of the most important and necessary aspects of a healthy society.
- Students knew about the benefits of clean surroundings, clean campus and clean hostels during this event.
- To develop such kind of skills in students that are necessary to produce a healthy and clean hostel environment.

Winners of Contest:

- **Girls Hostel (GH), Room No: 303**
Anjali Agarwal (ECE), Astha Choudhary (ECE), Savita Mansharamani(IT), Kanika Agrawal(IT)
- **Boys Hostel (BH-1), Room No: 51**
Aniruddh Sharma (CS), Anupam Khera (CS)
- **Boys Hostel (BH-2), Room No: 412**

Orientation Day

18th Induction Session



It was a historic moment for JECRC, as we welcomed the Chairman AICTE, Dr. **Anil Sahasrabudhe** and Director AICTE, Dr. **Manpreet Singh Manna** for Induction Ceremony of JECRC Batch 2017-21. More than 1500 people attended this event . On this occasion, meritorious students were felicitated for their achievements . Next, our distinguished alumni shared their struggles and experiences with us. **Akshay Jain** from ECE department (2004 batch), currently the vice-president of Citibank India, received distinguished alumni award. We congratulate him for his achievement.

Smart India Hackathon-2017



**SMART INDIA
HACKATHON '17**

The government of India organized Smart India Hackathon-2017, under the Ministry of Human Resource Development (MHRD) in association with AICTE. Around 50 teams from all over the India participated in the College campus. They came to Jaipur on March 30-31, 2017 and stayed on the college campus till April 3, 2017. In addition to this, several officials from the Government of India also visited the campus for this activity during these days.

This activity started with an Inaugural ceremony at 7:30 AM on Saturday April 1, 2017, in the Auditorium Block-A.

J-Techtrix: A Technical Project/Model Exhibition

J-Techtrix was organized for B. Tech students of all years on April 08, 2017 during 9:00 AM to 4:00 PM. The objective of this exhibition was 'The project-based learning' (beyond the syllabus). It provided a platform to the students to learn various experimental as well as theoretical aspects of various physical phenomena of science and technology. Prof. V. K. Chandna, Principal & Prof. Mukta Bihari, Director HR of JECRC inaugurated this exhibition on April 08, 2017 at 10:15 AM. Vice Chairman, Principal, Sr. Advisors, Program coordinators/HOD's of various departments and faculty members were present at the inaugural function. For this exhibition, 131 projects were selected by an internal screening committee, which was submitted by 567 students of our college.





This exhibition was visited by most of the students and faculties of our college. Projects were evaluated by esteemed external judges (Dr. B K Sharma, Professor & HOD ME, Poornima Group of institutions, Jaipur, Dr Surendra Yadav, Professor CSE, Maharshi Arvind College of Engineering and Research Centre, Ambabari Jaipur, Dr Pushpendra Singh HOD EE, The JK Lakshmi pat University-Jaipur, Dr Lokesh Bansal, HOD ECE, JECRC, Sh. Yogendra Sharma, Prof. Civil Engg. JECRC). Winners were declared as first, second and third position holder in the first year and in every branch of engineering at JECRC. In the evening, the prizes were given by Principal, Dean-I Year, Dean-II Shift, Convener J-Techtrix 2017, HOD's of various departments and senior faculties of the college.

Prof. R. K. Mangal

(Convener, J- Techtrix 2017 & HOD-Physics)

□ Faculty Appointments

❖ Ms. Geetika Mathur



Assistant Professor

PhD (Pursuing, Antenna), M.Tech.(Digital Communication),
B.Tech.(Electronics & Comm. Engg.)

Research Interests : Antenna and Wave Propagation.

❖ Ms. Aapurva Kaul



Assistant Professor

M.Tech(VLSI Design), B.Tech.(Electronics & Comm.
Engg.)

Research Interests : VHDL and Verilog HDL

❖ **Ms . Shweta Sharda**



Assistant Professor

M.Tech.(Digital Communication), PGDIT, B.E.(Electronics & Comm. Engg.)

Research Interests : Analog and Digital Communication, Optical Communication, VHDL, Microprocessor

❖ **Ms. Yogita Taluja**



Assistant Professor

M.Tech(VLSI Design), B.Tech.(Electronics & Comm. Engg.)

Research Interests : Nano Science and Fabrication of semiconductor

❖ **Ms. Kriti Manish Sharda**



Assistant Professor

M.Tech (VLSI Design), B.E.(Electronics & Comm. Engg.)

Research Interests : Digital Electronics , Advance Digital Logic Design, Microprocessor and Microcontroller.

❖ **Ms. Yazusha Sharma**



Assistant Professor

M.Tech.(Digital Communication), BE (Electronics & Comm. Engg.)

Research Interests : Wireless Communication
Optical Fiber Communication.

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❖ **Mr. Mohit Kumar**



Assistant Professor

M.Tech.(Electronics & Communication),

B.Tech.(Electronics & Comm. Engg.)

Research Interests : Wireless Communication

Analog & Digital Electronics.

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□ Student Article

AUTOMATION AND DEVICE CONTROL OVER THE AIR

-----By **Jacob Mahto** , EC-3rd Semester , JECRC-----

Ever wondered , how to control any electronic device , gadget , doors, windows , etc. over the internet with a tap or voice ? If yes , then ESP8266 is for you . It's a small wifi module that can be integrated to a microcontroller or used independently. It can be hunted for just few bucks , but opens a whole new world of possibilities for you. It can be used to transform everything with its low cost and high features. You can host your own webpages , trigger event , and perform tons of operations using single module.

The present electronic industry is seeing a rapid transformation from 5V to 3.3V as its standard. ESP8266 too works on 3.3 volt , it is an extremely voltage sensitive device, therefore supplying more than 3.3V will burn out its circuitry. So , interfacing these devices with micro-controller is a big issue. Moreover due its Chinese denomination , proper documentation is also the need of hour. Even the 3.3V supply on the Arduino boards fails to feed it due to lack of current supply.

Actually , ESP8266 can draw up to 200mA of current whereas maximum current in arduino is limited to 50mA for 3.3V supply and to 400mA for 5V supply. This problem can be solved by using AMS1117 with proper capacitors to prevent fluctuations. ESP8266 comes preloaded with AT command set , however to perform operations more easily , it should be flashed with Arduino environment . To do so , following link should be pasted to arduino extra boards preferences.

<https://maker.ifttt.com/trigger/{event}/with/key/cmMvbCBFUd4AmcgjqEMkCB>

Interface is developed between microcontroller and ESP8266 over the Serial. Using voltage divider , voltage from microcontroller's TX pin can be reduced to 3.3V making grounds of both common.

To connect to any IOT(internet of things) channel, the web request format is as following :

```
client.print(String("POST ") + url + " HTTP/1.1\r\n" + "Host: " + host + "\r\n" + "Connection: close\r\n\r\n");
```

Here the variable `<url>` is the trigger containing https://<iot_channel_handler>/trigger/{event}/with/key/<set_key>

Writing a `client.stop()` command is advisable.

To pass values , the web request can be succeeded by `"?value1=<value1>&value2=<value2>"`

There are many other languages to code ESP8266 among which Lua and Miropython prevail. The module is rising its standard up from hobbyist world to Industrial and commercial world too. Hopes this article will get you started to the amazing world of Internet of things.

-----INTENTIONAL END-----.



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The era of electronics started with the discovery of transistors and now has become an integral part of our lives. Some recent discoveries in the world of electronics are as follows:

- ❖ Turning heat energy into a viable fuel using a multilayer, multi-component composite material.
- ❖ High tech electronics made from autumn leaves.
- ❖ Highly tuneable 2-D material called polysulfide which opens up a new avenue to applications.
- ❖ Novel 3-D printed high performance polymer that could be used in space, developed



Science Updates

- ❖ Researchers validates UV light's used in improving semiconductors.
- ❖ Logic circuits with diamond based transistors.
- ❖ A semiconductor that can beat the heat using collective rattling effect while preserving high electrical conductivity.
- ❖ Advancing knowledge towards more effective electronics through the discovery of a new semi metal.
- ❖ Integrated quantum optical circuits soon a reality.
- ❖ Energy storage solutions by combining polymers and Nano sheets.

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To be continued....