



# TESLA



**Department of Electrical Engineering**  
**Jaipur Engineering College and Research**  
**Centre**  
**Jaipur, Rajasthan 302022**

# PREFACE

“**TESLA**” is a magazine of Electrical Engineering (EE) Department, JECRC Foundation.

This magazine contains social and technical activities which are conducted in the interval of three months (July, August and September).

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## VISION OF THE INSTITUTE



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

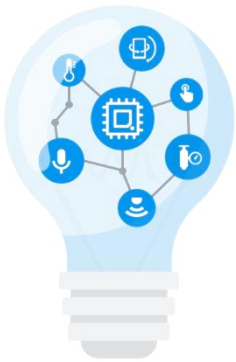
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ENGINEERING IS  
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Focus on  
evaluation of  
learning  
outcomes and  
motive student  
to inculcate  
research aptitude  
by project based  
learning.

## MISSION OF THE INSTITUTE

Identify, based on informed perception of Indian, regional And global needs, the areas of focus and provide platform gain knowledge and solution.

Offer opportunities for interaction between academia and industry.



Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders may emerge in the range of profession.

## PROGRAM OUTCOMES

**Engineering Knowledge:**  
Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems in electrical engineering.

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

**PO3:**

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

**Design/Solution** for complex engineering problem and design system component or processes, that most the specified need with appropriate consideration for the public health and safety and the cultural, social, and environmental considerations in electrical engineering.

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# PROGRAM OUTCOMES



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## PO5:

**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues in electrical engineering.

## PO6:

**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design or experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions in electrical engineering.

## PO7:

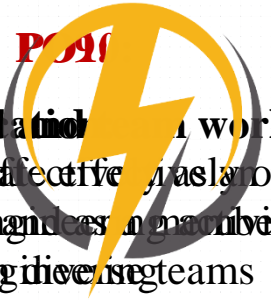
**Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge and need of sustainable development in electrical

## PO8:

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

# PROGRAM OUTCOMES

Page 7



**Individual and team work:**  
 Communicate effectively in a team on  
 complex and diverse engineering projects  
 with the engineering teams  
 and community at large  
 and contribute to the society at  
 large  
 comprehensive  
 effective  
 document  
 engineering

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## PO11:

**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply to own work in electrical engineering.

**Life-long learning:** Recognize the need to have the preparation and ability to engage independent and life-long learning in electrical engineering.



## MESSAGE



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Mr. Arpit Agarwal

Director

JECRC, Jaipur

The JECRC Foundation has been established with a view to provide world class education to our young minds so that they can shoulder their global responsibilities in the years to come.

The JECRC Foundation, now 18 years old, has established itself as one of the leading self-financed colleges in Northern India. This has been primarily due to the large significance that the college plays on the teaching and learning process.

The focused areas at JECRC now, apart from teaching

learning and placement would be research and development, entrepreneurship and outreach. We also strive to help our students in maintaining and spreading the rich Indian culture and lead the world as our country has done in the past.

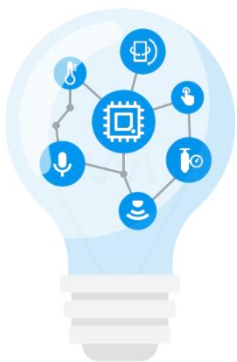
I wish to convey my greetings to all our Alumni and wish each one of them all success in their personal and professional lives.

Best Wishes

Mr. Arpit Agarwal

Director

JECRC, Jaipur

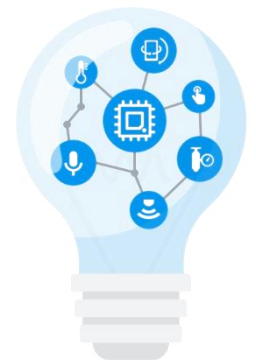


# MESSAGE

Dr V. K. Chandna  
Principal  
JECRC, JAIPUR



A desire can change  
something but is deter  
Life is a set of probl  
problems in their dom  
ideas and scientific k  
become an engineer  
Jaipur Engineering C  
be fruitful and enjoy  
experience you gain  
spend here.



## MESSAGE



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Atul Kulshreshtha  
HOD(EE)  
JECRC, Jaipur

Nikola Tesla, the well-known Serbian- American electrical engineer is quoted as saying "Electrical sources has revealed to us the true nature of light has provided us with innumerate appliances and instruments of precision and has thereby vastly added to the exactness of our knowledge". His words portray the immensely wide and dynamically changing and ever developing world of electrical engineering open to electrical engineer. It is a great pleasure to see the October, 2018 issue of EE newsletter “**Tesla 9/19**”. The department has well qualified staff with expertise in Power Systems, Control Systems, Power Electronics and Drives, Electrical Machines and Renewable Energy System assisted by skilled supporting staff. I would like to thank my existing team for their commitment and hard work. The department seeks to combine excellence in education and research. Our department has been conducting hands on workshop/seminar/ training program since its beginning to keep the faculty and students to enhance the knowledge in their domain. Our mission includes a commitment to prepare students for professional and research activities with an ability to learn independently. I wish you all a successful, long-lived, engineering-based career path.

Best Wishes  
Atul Kulshreshtha  
HOD (EE), JECRC



# GUEST LECTURE

Department of Elec  
two Guest Lecture  
students on 27/08/2  
for 3<sup>rd</sup> A section an  
3<sup>rd</sup> B section studen  
and B Section attend

A GOOD  
Mr. Keshav Sand  
TEACHER  
Engineer's Academ  
on Electric Circuit A  
Theorems” to the stu  
DEEPER

Mr. Keshav Sand  
WHICH HEALS  
(Communication an  
IGNORANCE  
LMNIT, Jaipur in 2  
AND AN  
in 2012. Mr. Keshav  
ARTIST WHO  
Eight years of exp  
SUBJECTS.  
INSPIRES

CREATIVITY  
Mr. Vishal Sharma  
activity.





A GOOD  
TEACHER  
IS LIKE  
A CANDLE,  
IT  
CONSUME  
ITSELF TO  
LIGHT THE  
WAY FOR  
OTHERS.



# GUEST LECTURE

The department organized two Guest Lectures for 5<sup>th</sup> Semester students on 5<sup>th</sup> E and 5<sup>th</sup> A students of A and B

Mr. Ajay Singh M. Tech (Electrical Engineering) from A GOOD TEACHERS Engineer's Academy on Control System concept of feedback

Mr. Ajay Singh M. Tech (Electrical Engineering) from Engineering RTU K System) from the same is having more than 10 years of teaching experience

Mr. Vishal Sharma M. Tech (Electrical Engineering) from activity.





TEACHERS  
ENCOURAGE  
MINDS TO  
THINK  
HANDS  
TO CREATE  
AND HEARTS  
TO LOVE



# Swacchta Pakhwada Celebrations

Department of Electrical Engineering has celebrated Swacchta Pakhwada from 1st September 2019 to 15th September 2019. Many activities like talks on water conservation, ground water harvesting, effects of single use plastic on environment, Mahatma Gandhi's vision on hygiene and pledge for Swacchta were conducted in this duration.

On 7th September 2019 a special session was conducted as a part of Swacchta Pakhwada celebrations. Dr. Sandeep Vyas, Dy. HOD ECE Department, JECRC was invited as guest of honor. Dr. Sandeep Vyas enlightened the students with Mahatma Gandhi's vision and also discussed the importance of hygiene.

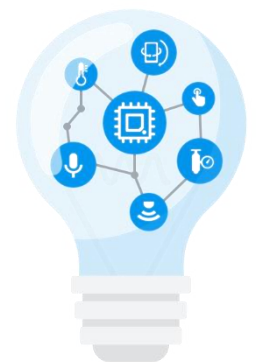
Mr. Atul Kulshrestha, HOD, Electrical Engineering Department shared his views on Swacchta. Later students presented poems and speeches.

Program ended with vote of thanks by Mr. Vishal Sharma, SDO, Electrical Engineering Department, JECRC.

Mr. Vishal Sharma has coordinated this event with the help of following student coordinators.

1. Akshita Gaur (IIIrd Year)
2. Ayushi Gupta (IIIrd Year)
3. Harshit Thakuriya (IIIrd Year)
4. Harsh Wardhan Chaudhary (IIIrd Year)
5. Rishabh Jain (IIIrd Year)

A  
CLEAN  
PLACE  
IS  
A  
SAFE  
PLACE







CLEANLINESS  
MAY  
BE  
DEFEND TO  
BE THE  
EMBLEM OF  
PURITY OF  
MIND



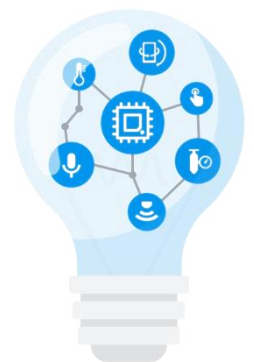
Mr. Atul Kulshrestha Giving Homage to Mahatma Gandhi



Dr. Sandeep Vyas enlightening students for  
Mahatma Gandhi's Vision



CLEANING  
AND  
ORGANIZING  
IS A  
PRACTICE  
NOT  
A  
PROJECT



Mr. Atul Kulshrestha (from left), Dr. Sandeep Vyas, Prerak Bharadwaj And Vishal Sharma taking oath



CLEANLINESS  
WILL BE  
NATIONWIDE,  
BUT FIRST  
YOU  
START  
FROM YOUR  
SIDE



All Students taking oath.



# ENGINEER'S DAY Celebrations

Department of Electrical Engineering has celebrated Engineer's Day on 15th September 2019 in the memory of Bharat Ratna Sir Mokshagundam Visvesvaraya. A session was conducted on at 11.30 am on this occasion and activities like technical quiz, speeches on smart cities, rain water harvesting, and role of young engineers in nation building were organized on this occasion.

Mr. Atul Kulshrestha HOD, Electrical Engineering enlightened the students with inspirational life of Bharat Ratna Sir Mokshagundam Visvesvaraya. He also discussed the role and of young engineers in national building.

Vidhi Sharma, student second year Electrical Engineering delivered a speech on smart cities, rain water harvesting, and role of young engineers in Nation Building. A technical quiz was organized by Rakshit Purohit, student second year Electrical Engineering in the end.

Program ended with vote of thanks by Mr. Vishal Sharma, SDO Electrical Engineering Department, JECRC, Jaipur.

Mr. Vishal Sharma has coordinated this event with the help of following student coordinators..

Rajesh Kumar (Second year EE)

Rakshit Purohit (Second year EE)

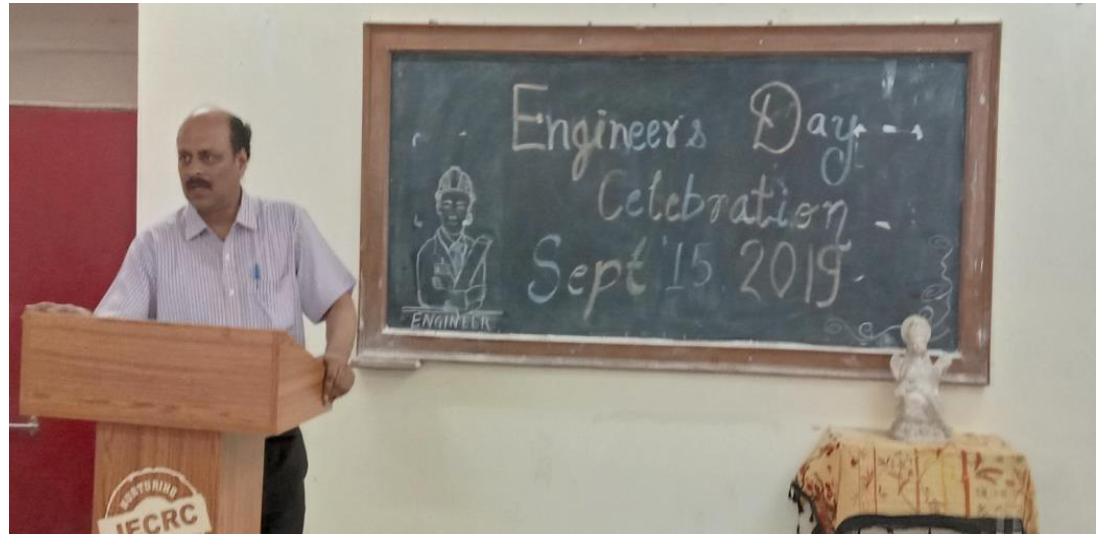
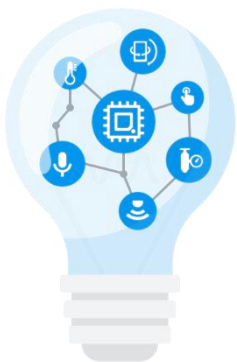
Rohit Kumar Meena (Second year EE)

SCIENTIST  
DREAM  
ABOUT  
GREAT  
THINGS  
ENGINEERS  
DO  
THEM





ENGINEERING  
IS THE  
CLOSEST  
THING  
TO MAGIC  
THAT  
EXIST IN THE  
WORLD



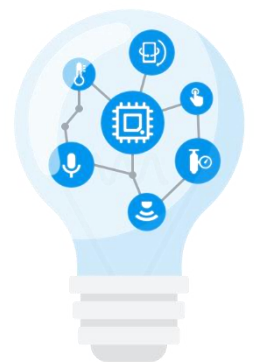
Mr. Atul Kulshrestha Addressing Students and Faculties



Teachers and Students paying attention to the student's hard work

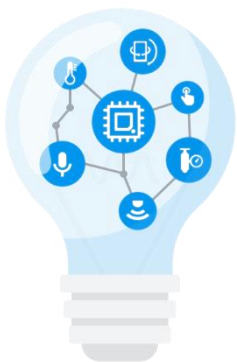


ENGINEERS  
ARE PERSONS  
WHO  
DISCOVER  
WORLD  
BY THEIR  
PEN  
AND BRAIN





USE THE  
IMAGINATION  
NOT TO  
ESCAPE  
REALITY  
BUT TO  
CREATE  
IT



## WORKSHOP ON INDUSTRIAL AUTOMATION

On 16 September, 2019 the department of Electrical Engineering, JECRC has conducted a one day hand on workshop by M/s Seldom India, Jaipur for second year electrical engineering students in BLG-13 from 11:30 AM to 1:15PM.

The head of Electrical Engineering department Mr. Atul Kulshrestha started the workshop with the introduction of M/s SELDOM India as a leading partner in the field of Industrial Automation Technology and collaboration with RTU, Kota. Mr. Kartavaya Jain (Managing Director, SELDOM India, Jaipur) told the students about various applications of industrial automation in today's manufacturing organizations and day to day life around the world.

Mr. Ajay Soni (senior instructor and faculty, SELDOM India, Jaipur) enlightened the students on various accepts of basic components of automation contactor, push button, relay, sensors and drives. He elaborated the basic diagram with the help of chalk & Duster in the first session.

In second session Mr. Anil Sharma (Engineer, SELDOM India, Jaipur) conducted a practical Hands-on session where automation components, push buttons, sensors and drives were demonstrated. The students were allowed to connect the wires with the hardware.

Dr. Prerak Bhardwaj( Dy HoD-EE), Mr. Shailendra Shrivatava(AP-EE), Ms. Nupur Yadav(AP-EE), Mr. Ashok Singh Choundawat(AP-EE) and Mr. Rahul Kumar Malee(AP-EE) were also attended the session.

Session ended with vote of thanks by Mr. Vishal Sharma (SDO, EE, JECRC).

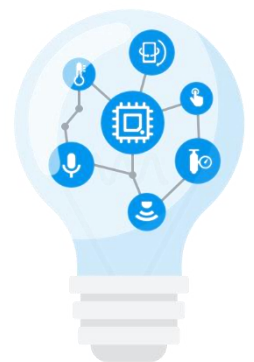
This event was coordinated by Mr. Vishal Sharma, SDO EE Department and Mr. Sunil Sharma Faculty EE Department



HARD WORK  
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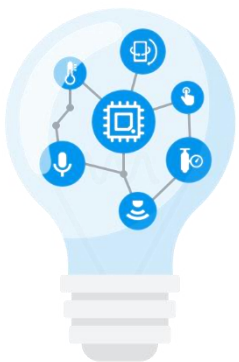
Mr. Anil Sharma addressing industrial automation using  
PLC and SCADA







WHAT YOU  
ARE AFRAID  
TO DO IS A  
CLEAR  
INDICATOR OF  
THE NEXT  
THING YOU  
NEED TO DO



Mr. Ajay Soni describing about the PLC automation panel



Mr. Anil Sharma interacting with the students

# Placements

Company Name	
Accenture GET DATE : 12 AND 13 AUGUST 2019	
EDITING IS KIND OF SOLITARY JOB.	
Capgemini GET Date : 18 & 19 August 2019	
TCS GET Date : 7 & 10 August 2019	
Pinacle Infotech GET Date : 27 August 2019	



EVERY  
GREAT  
DESIGN  
BEGINS  
WITH AN  
EVEN  
BETTER  
STORY.



# Celebration of IEEE Day & One day seminar on “IOT Using Raspberry PI & Arduino”

## Program Schedule

TIME	EVENT
10:00-10:15 AM	Guest arrival, Formal meeting with Principal Sir in Board Room
10:15-10:20 AM	Start of Inaugural Ceremony in C-Block Seminar Hall
10:20-10:25 AM	Lamp Lighting Ceremony
10:25-10:35 AM	Welcome Speech by <i>Dr. Sandeep Vyas</i> (Associate professor ECE, JECRC & Sr. Member IEEE).
10:35-10:36 AM	Floral Welcome of <i>Chief Guest, Mr. Sanjay Singh</i> (Vice - Chair IEEE Young Professional, Delhi Section) by <i>Mr. Atul Kulshreshtha</i> (HOD EE).
10:36-10:37 AM	Floral Welcome of <i>Mr. Piyush Gautam</i> (HOD IT) by <i>Mr. Gajendra Sharma</i> (Associate professor CS, JECRC).
10:37-10:50 AM	Motivation Speech by <i>Chief Guest, Mr. Sanjay Singh</i>
10:50-10:52 AM	Souvenirs by the <i>Dr. Sandeep Vyas</i> to <i>Chief Guest</i> .
10:52-11:00 AM	Token of Thanks by <i>HOD EE</i> (Mr. Atul Kulshreshtha, HOD EE)
11:00-11:30 AM	Tea Break
11:30AM-2:30 PM	Seminar started on “IOT Using Raspberry PI & Arduino”.
2:30-3:00 PM	A quiz on IOT
3:00-3:29 PM	Distribution of certificates and prizes to participants and winners.
3:29-3:30 PM	Group Photograph



With full enthusiasm, the department of Electrical Engineering and Electronics & Communication Engineering (JECRC) in the association of **IEEE Rajasthan Subsection** celebrated "**IEEE Day**" on 30<sup>th</sup> September 2019 and organized a One day seminar on "**IOT Using Raspberry PI & Arduino**". The ceremony was inaugurated by Chief Guest **Mr. Sanjay Singh** (Vice - Chair IEEE Young Professional, Delhi Section) and Guest of Honor Mr. Piyush Gautam (HOD IT, JECRC) in the presence of Dr. Sandeep Vyas (Associate professor ECE, JECRC & Sr. Member IEEE), Mr. Atul Kulshreshtha (HOD EE, Member IEEE), Mr. Gajendra Sharma (Associate professor CS, JECRC), Mr. Ashok Singh Chundawat (Assistant professor EE, JECRC).

**Dr. Sandeep Vyas** welcomed all the respected dignitaries and highlighted the IEEE Day aspect. The eminent dignitaries inaugurated the forum by lighting the auspicious lamp. The inauguration ceremony began with a welcome address by Dr. Vyas. In the brief speech, Dr. Vyas pointed to the periphery and the possibility of IEEE in building the future of JECRC students.

After lighting the lamp, guests were welcomed with flowers. The Chief Guest Mr. Sanjay Singh (Vice President IEEE Young Professional, Delhi Section) was welcomed by Mr. Atul Kulshreshtha (HOD EE) and Mr. Piyush Gautam (HOD IT) was welcomed by Mr. Gajendra Sharma (Associate Professor CS, JECRC).

After floral welcome, Mr. Sanjay Singh (Vice President IEEE Young Professional, Delhi Section) addressed about the IEEE Professionalism to the students and how it plays an important role in the professionalism of an

HARD WORK  
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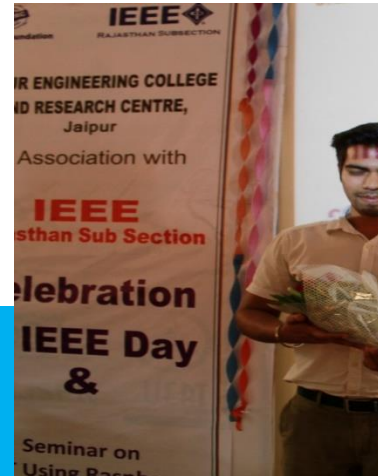
On this occasion, Mr. Singh shared his own experiences with the students. Mr. Singh spoke about the importance of IEEE and how IEEE can be influential to the students in knowing about various advancements in technical fields. He also spoke about some other good perks of IEEE.

On this occasion, Chief Guest Mr. Sanjay Singh was given a token of remembrance by Dr. Sandeep Vyas.

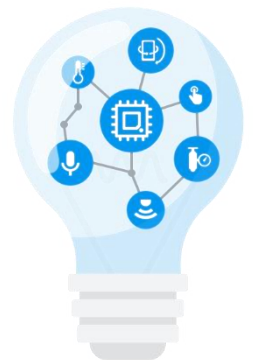
### Lamp-lighting by the dignitaries



**Welcome address by Dr. Sandeep Vyas (Associate professor ECE, JECRC & Sr. Member IEEE)**



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## Floral Welcome of Guests



## Speech by Chief Guest



**Vote of thanks by Mr. Atul Kulshrestha (HOD EE)**







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The inaugural session was followed by a one-day seminar on "*IoT using Raspberry PI and Arduino*". The main aim of organizing the seminar was to give the awareness and knowledge of "Arduino-Raspberry PI" to our institute students because Arduino and Raspberry Pi are general purpose micro-controller systems, Raspberry Pi being a more sophisticated one serving almost all functionalities of a computer. These systems allow you to learn IOT and electronic devices design concepts, learning curve for these systems is very rapid and there is a lot of industry acceptability. The one day seminar held on 30<sup>th</sup> September, 2019 from 11:30AM to 2:30 PM at Seminar Hall, C-Block, JECRC. The seminar was attended by 120 students, ten faculty and staff members also attended the seminar.

Speakers of the seminar was *Mr. Sanjay Singh* (Vice-Chair IEEE Young Professional, Delhi Section), who had given the theoretical as well as practical hands-on about the Arduino and Raspberry PI. Mr. Singh had demonstrated the practical part of both micro-controller and explained the Arduino –Uno with its uses, scope, basic hardware, analog sensors, digital sensors, other sensors, units, pin-modes, pulse with modulation and programming with Arduino.

At the end of the seminar, a quiz competition was held and certificates and prizes were distributed to participants and winners.

The seminar was conducted successfully and all participants took active part in all the sessions of the seminar.

The coordination of this seminar was *Dr. Sandeep Vyas* and *Mr. Atul Kulshrestha* did it.



### LEARNING OUTCOMES..

- Knowledge and understanding of fundamental IOT paradigms, architectures, possibilities and challenges, both with respect to software and hardware.
- Learn the basics of Internet of Things and its applications.
- What “the Internet of Things” means and how it relates to Cloud computing concepts.
- How open platforms allow you to store your sensor data in the Cloud.
- The basic usage of the Arduino environment for creating your own embedded projects at low cost.
- How to connect your Arduino to your Android phone.

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### Vote of thanks by Mr. Atul Kulshrestha (HOD EE)





WHAT YOU ARE AFRAID TO DO IS A CLEAR INDICATOR OF THE NEXT THING YOU NEED TO DO



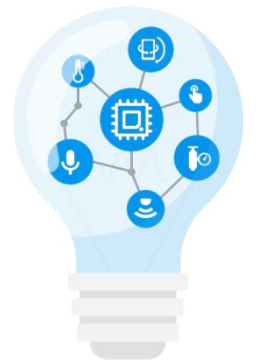
## Distribution of Prizes and Certificates



**HARD WORK**

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## INDUSTRIAL EXHIBITION VISIT

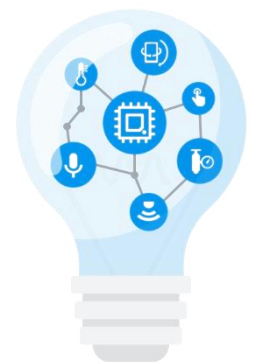
On 20-08-2019 Rajasthan Renewable Energy Corporation limited (Government of Rajasthan Undertaking) celebrated Rajiv Gandhi Akshay Urja Diwas at Birla Auditorium. As part of celebrations a technical seminar on renewable energy was organized at 10.00 am to 1.30 pm. The Honorable Chief Minister of Rajasthan was the chief guest of that session, apart from that several technical and non technical talks and exhibitions were organized.

Two Senior faculty members Mr. Vishal Sharma and Mr. Ram Singh with more than fifty students of second year IIIrd Semester Electrical Engineering attended the above mention activities. Students were enlightened with concepts of renewable energy, sustainable energy, smart cities and home automation etc in exhibitions and interactive sessions with industry experts and government officials.





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EDITING IS  
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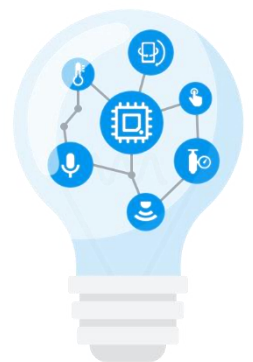
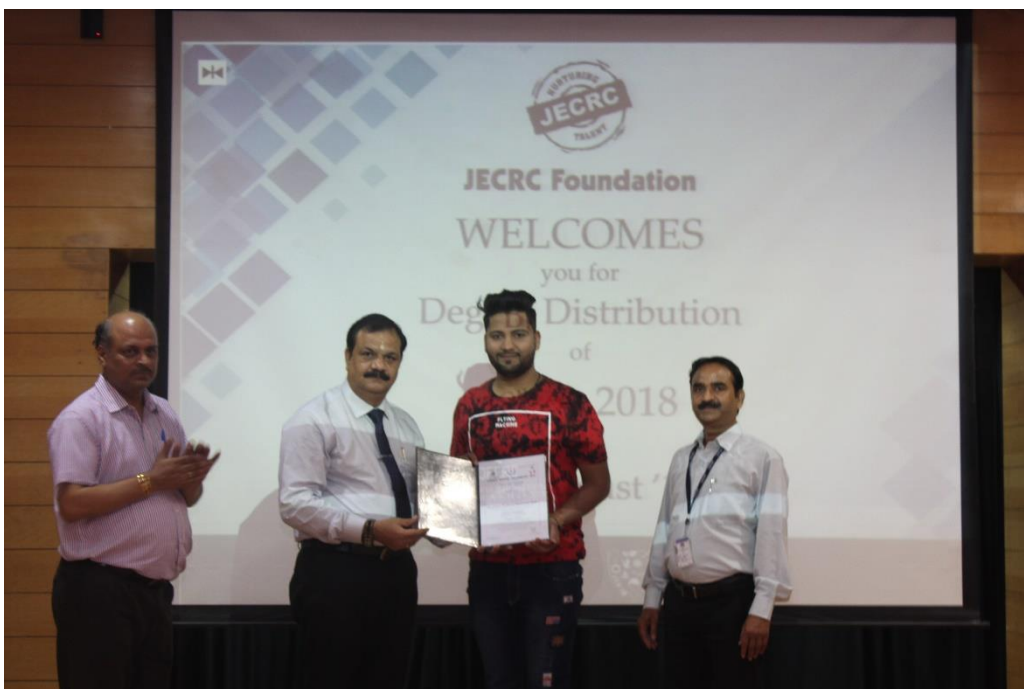


# RTU DEGREE DISTRIBUTION DAY





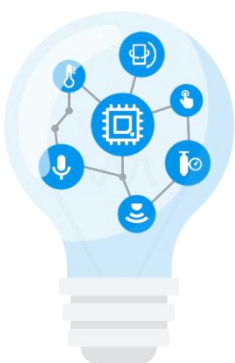
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# EDITORIAL

Teacher Coordinator



Sonali Chadha

Assistant Professor, EE Department, JECRC

Student Coordinator's



Milind Kumar

Student, (2<sup>nd</sup> Year)



Bhupesh Goyal

Student, (2<sup>nd</sup> Year)