



JIET COLLEGE OF ENGINEERING

# CANDELA

*where the mind is without fear...*

B.Tech. (Electronics and Communication Engineering)  
Issue – 17 | December, 2017 | half year news letter



**JIET**

Group of Institutions

[www.jietjodhpur.ac.in](http://www.jietjodhpur.ac.in)

# VISION

To become a globally recognized institution in technical and professional education, and to provide career and research oriented, value based education to serve the society.

# MISSION

**To develop** a holistic educational approach that blends fundamentals and hands-on experience.

**To build** a diverse academic environment that fosters problem solving ability, team spirit, leadership, and commitment towards quality.

**To promote** exchange of ideas, innovation, research and entrepreneurial skills so as to face global challenges.

**To inculcate** ethical values and sense of responsibility towards society.



# Programme Educational Objectives (PEOs)

- **Preparation-** To prepare the students with the knowledge and skills to compete in their fields as well as to succeed in their career and to contribute to the engineering profession.
- **Core-Competence-** To enrich student's intellectual skills to analyze and solve electronic circuits as well as problems using basic fundamentals, synthesis of circuits, design and experimentation.
- **Breadth-** The program is designed to impart education moving from basic electronics and communication system to the advanced fields such as digital signal processing, VLSI and embedded systems, so as to comprehend, analyze, apply and innovate solutions for real life complexities.
- **Professionalism-** To make understand the human values and develop the skills, such as professional ethics, effective oral and written communication and teamwork through industry oriented training programs and projects.
- **Learning Environment-** Engage in the process of lifelong learning through motivation, creation of self learning environment and exposure to emerging fields.

## PROGRAMME OUTCOMES (POs)

- Apply knowledge of Mathematics, Science and Engineering to solve the complex engineering problems in analog and digital electronic systems.
- An ability to design electronic circuits, communication systems, conduct experiments, analyze and process data to report results.
- An ability to design digital, analog and embedded systems to meet the specific requirements.
- An ability to function on multi-disciplinary areas.
- Work as a member of project team to find successful design solutions to the problems related to electronics and communication systems.
- An ability to use modern tools to analyze the performance of communication systems by modeling and simulation.
- An ability to understand and demonstrate professional and ethical responsibilities.
- An ability to communicate effectively in both verbal and written form.
- Confidence to apply engineering in global and societal contexts and develop eco friendly products and solutions with awareness of contemporary issues.
- An ability to clearly understand the value of lifelong learning and self-education.
- An ability to participate and succeed in competitive examinations like CAT, GRE, GATE, IES etc.

# MESSAGE FROM THE HEAD OF THE DEPARTMENT

It is matter of great honor for ELECTRONICS AND COMMUNICATION ENGINEERING branch, JIET COE to bring out another issue (issue no. 17) of "CANDELA", a mirror which reflects the clear picture of all sorts of activities - curricular as well as extra-curricular, undertaken by the department. The wide-spectrum of articles in different sections gives me a sense of pride that our students and teachers possess creative potential and original thinking in ample measures. I would like to congratulate the team that took the responsibility for the arduous task most effectively.



**Prof. Gaur Sanjay B.C.**  
HOD (ECE, JIETCOE)

## MESSAGE FROM THE EDITOR

Dear Readers,  
Welcome to the issue no. 17 of the CANDELA – Half Yearly newsletter. In this issue, we will recount the various activities in which faculty members and students of Electronics and Communication Department were actively involved. In the current issue, apart from departmental reports, the Newsletter highlights the open house 2017. I would like to congratulate my colleagues and students for grand success of the event. I would like to thank HOD, and the faculty members for their everlasting support throughout the creation of this edition. I hope you will enjoy reading this issue.



**Surbhi Bhandari**  
Assistant Professor  
ECE, JIETCOE

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# Orientation Program

An orientation programme was organized by the faculty members of department of ECE, JIETCOE for the Final Year students on 17th July 2017. Students were given lectures regarding the upcoming semester plan and their career. Following Faculty members delivered lectures on given topics:

Prof. Sanjay BC Gaur (Head, Dept. of ECE)	<ul style="list-style-type: none"><li>• Motivational Session</li><li>• Selection of Hardware Project Design</li></ul>
Mr. Ashish Mathur (Dy. Head of ECE)	<ul style="list-style-type: none"><li>• Department Cell information and Students' guidelines for session 2017-18</li><li>• Tutor System</li><li>• Formats of Project Report</li></ul>
Mr. Abhishek Karwa	Training & Placement
MS. Shagun Choudhary	Session of GATE Exam Preparation
Ms. Surbhi Bhandari	Session for PSUs/ Bank PO /Competitive exams



## Expert Lectures (Experts from Within JGI)

- Ms Heena Joshi (Assistant Professor (Sr. Scale), JIET) delivered a lecture on “IMAGE ACQUISITION” for subject, Digital Image Processing on 28 July 17.
- Prof. (Dr.) K R Chaudhary (Director, JIET COE) interacted with VII semester students and motivated them for “Practical Enhancement through Industrial Training”. This session was held on 31 July 17.
- Ms. Eqra Mansoor (Training and Placement Cell, JGI) motivated students of the Final Year regarding training and their placement. She also discussed about the campus drive, importance of campus drive, resume making on 29 July 17.
- An expert lecture was delivered by Prof. (Dr.) K.R. Chowdhary for eligible students on “Data Structure & Alogorithm” on 26 September 2017.
- Prof. Pooja Verma (Head, Dept, of EEE, JIETCOE) delivered the expert lecture on the topic "Physical Layout & Layout Issues" on 07-09-2017.
- An expert lecture was delivered by Prof. Rahul Bhandari for eligible students on “Algorithms” on 29/9/17.
- An expert lecture was delivered by Prof. Jitendra Prajapat for eligible students on “Digiral Logic” on 29/9/17.
- An expert lecture was delivered by Prof. Akansha Mathur for eligible students on “Data Structures” on 29/9/17.
- Ms. Purneshwari Devi (Asst. Professor (Sr. scale) - Dept. of EEE- JIETCOE) delivered an expert lecture on the topic "Stick Diagram and Layout" on 12-10-2017 to the Final Year students.
- Mr. Hemant Jain (Asst Professor (Sr. scale) ECE- JIET) delivered an expert lecture on subject Antenna and Wave Propagation on the topic "Antenna Arrays" on 12-10-2017 to the Final Year students.
- Ms. Purneshwari Varshney delivered an expert lecture on the topic "CMOS Logic Designing and Layout" on 25-10-2017 to the Final Year students.

# MOTIVATIONAL LECTURE

Er. Navneet Agarwal (Director General- JGI) interacted with the eligible students of Day 1 and Day 2 on 13-09-2017 at Jodhpur Convention Centre.

A Data Entrepreneurship Class was conducted after college hours for VII sem students by Mr. Jitendra Prajapati (Asst, Prof, Dept. of EEE, JIETCOE) on 9 August 2017.

## ANTI - RAGGING CEREMONY

Prof. (Dr.) Sandip Mehta (Dean-Engg, JIETCOE) organized an Anti-Ragging Oath Taking Ceremony on 01/08/2017 for all the students. A video lecture was shown to students of all branches on anti-ragging at JCC on 02/08/2017 under the supervision of Prof. (Dr.) Sandip Mehta.

## WORKSHOP

Mr. Suresh Verma, (Network Administration, JIET) delivered an expert lecture during a Workshop on "LCD Projector Repairing and Fault Finding/Demonstration" on 11 October 2017 for faculty, staff members and students of ECE department. He explained about the various components and operation of different sections in the projector.



*An Inter College Practical Training Contest*

### The results are as follows:

Kavita Soni, Rajni, Rupa ( Final Year students) won at the Department level.

Kavita Soni (Final Year) won II prize at college level in the UDYAT competition



**Rajni (I)**



**Kavita Soni (II)**



**Rupa (III)**






**KavitaSoni**



# OPEN HOUSE- 2017

Open house 2017 was celebrated on 14th – 15th September 2017 this semester. The theme decided for ECE department is “emerging trends in smart embedded systems”. All the students participated in this event. A total of 5 working models, 5 non working models and 19 charts were prepared by the students. Winners of the various technical competitions are as follows:

## Chart Competition

<p><b>I: “Evaluation of Embedded System”</b></p>	<p>Pooja Sharma Supriya Pathak (Final Year students)</p>	
<p><b>II: “Bionic Eye”</b></p>	<p>Isha Agarwal Kritigya Champawat (Final Year students)</p>	
<p><b>III: “Mobile Embedded System”</b></p>	<p>Mrinali Mathur Prajot Umat (Final Year students)</p>	

## Non- Working Models

<p><b>I: “Mobile Charger using Coin Insertion”</b></p>	<p>Isha Agarwal Kritigya Champawat (Final Year students)</p>	
<p><b>II: “Library Management System”</b></p>	<p>Mranali Mathur Prajotumat ( Final Year students)</p>	
<p><b>III: “Fake Currency Detection using MATLAB.”</b></p>	<p>Kavita Soni (Final Year students)</p>	

## Working Models

<b>I:</b> “Automatic Soil Irrigation system”	Nisha Bhagchandani Rupa Rajni (Final Year students)	
<b>II:</b> “Face Recognition using Image Processing.”	Pooja Sharma Supriya Pathak (Final Year students)	
<b>III:</b> “RC Quadcopter”	Aditi Dave Heenal Sharma (Final Year students)	



## TEACHERS' DAY CELEBRATION

The Teachers' Day was celebrated by the Final Year students, at ECE seminar Hall on 5 September 2017. A welcome speech was delivered by Kritigya Champawat and Diksha Dangra. Students also recited couplets of Rahim and Kabir ( couplets recited by Final Year students Rupa and Rajani). They also organized quiz competition (GK and Technical knowledge based) for the faculty members. The program was concluded with Thanks giving speech by the Head, ECE.

## ENGINEERS' DAY



A Declamation Competition was organized for the ECE students on the occasion of Engineers' Day on 15 Sept. 2017 at ECE seminar Hall. Four students: Ms. Kavita Soni, Kratigya Singh Champawat, Diksha Dangra and Isha Agarwal (Final Year) participated in the event. Prof. (Dr.) Sandeep Mehta and Prof. (Dr.) Chetna Gomber were the judges of the event



# UNIVERSITY RESULTS

VI Sem ( III Year, batch 2019)



**Kavita Soni**  
80.10%



**Supriya Pathak**  
79.60%



**Rajni Kumari**  
77.80%



## FACULTY ACCOMPLISHMENTS

- Prof. Sanjay B. C. Gaur ( Head , Dept. of ECE, JIETCOE) has been appointed the Reviewer of International Journal of Research and Publication, South-end-on-Sea Essex, SS1 2DE, UK.
- Mr. Ashish Mathur (Dy. Head and Associate Prof., Dept. of ECE, JIETCOE) attended a five day Short Term Training Programme on “5G at MNIT Jaipur (28 August -1 September 2017).
- A paper on “Speaker Identification Biometric Access Control using Hybrid Features" co-authored by Prof. Sanjay Gaur ( Head, Dept. of ECE- JIETCOE) and Mr Avnish Bora ( Assoc. Prof. Dept. of ECE- JIET) has been published in the International Journal of Computer Sciences and Engineering (IJCSE).
- An expert lecture was delivered by Prof. Abhishek Karwa for eligible students of VII sem CSE branch on “DIGITAL LOGIC” On 29/9/17.





**Tech. Highway Solutions**



**Nisha Bhagchandani**

**Cape Gemini**



**Rajni Kumari**



**Pooja Sharma**

**Appeal Group  
&  
First Home Finance Company**



**Kritigya Singh Champawat**

**1. Explain what is embedded system in a computer system?**

An embedded system is a computer system that is part of a larger system or machine. It is a system with a dedicated function within a larger electrical or mechanical system.

**2. Mention what are the essential components of embedded system?**

Essential components of embedded system includes

- Hardware
- Processor
- Memory
- Timers
- I/O circuits
- System application specific circuits
- Software
- It ensures the availability of System Memory
- It checks the Processor Speed availability
- The need to limit power lost when running the system continuously
- Real Time Operating System
- It runs a process as per scheduling and do the switching from one process to another

**3. Why embedded system is useful?**

With embedded system, it is possible to replace dozens or even more of hardware logic gates, input buffers, timing circuits, output drivers, etc. with a relatively cheap microprocessor.

**4. Explain what are real-time embedded systems?**

Real-time embedded systems are computer systems that monitor, respond or control an external environment. This environment is connected to the computer system through actuators, sensors, and other input-output interfaces.

**5. What is the need for an infinite loop in Embedded systems?**

Infinite Loops are those program constructs where in there is no break statement so as to get out of the loop, it just keeps looping over the statements within the block defined.

**6. How does combination of functions reduce memory requirements in embedded systems?**

The amount of code that has to be dealt with is reduced thus easing the overhead and redundancy is eliminated in case if there is anything common among the functions.

**7. A vast majority of High Performance Embedded systems today use RISC architecture why?**

According to the instruction sets used, computers are normally classified into RISC and CISC. RISC stands for 'Reduced Instruction Set Computing'. The design philosophy of RISC architecture is such that only one instruction is performed on each machine cycle thus taking very less time and speeding up when compared to their CISC counterparts.

**8. What is the need for DMAC in ES?**

Direct memory access is mainly used to overcome the disadvantages of interrupt and program controlled I/O.

**9. How are macros different from inline functions?**

Macros are normally used whenever a set of instructions/tasks have to be repeatedly performed. They are small programs to carryout some predefined actions.

**10. Why is java mostly used in embedded systems?**

Java was mainly designed and conceptualised for code that can work on different platforms without any hassles and also for being secure enough so as to not harm or corrupt other modules of code.

Work

Team



PATRON

Prof. (Dr.) K.R. Chowdhary  
(Director, JIETCOE)



CHIEF EDITOR

Ms. Chitra Chablani  
(I Year - Applied Sciences)



FACULTY COORDINATOR

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Er. Sejal Parihar



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Mr. Anil Chandora  
(Admin)



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