

A
QUARTERLY
ECE NEWSLETTER

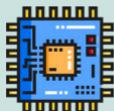
THE **FLIP FLOPS**

JUL - SEP `22

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Department of
Electronics & Communication Engineering



School of Studies in Engineering and Technology
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G)

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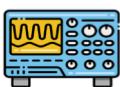
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About

The Flip Flops

The Flip Flops Welcome To The Next Edition Of The Departmental Newsletter "The Flip Flops" As Always, this NEWSLETTER Aim To Provide You With Valuable Information And Updates Regarding The Departmental Activities, Faculty Achievements, Student Achievements, Events, Upcoming Events & much more. "Wisdom is not the product of schooling but a lifelong attempt to acquire it." With that said, this journal also enlightens you with the recent hot topics- Blockchain, 5G and entrepreneurship with other advancements of the industry, find them on the P-09 ;)This Newsletter team presents you with the Volume 1 Issue 2 of this series. Hope you enjoy reading it, as much as we enjoyed writing it. We, The Newsletter Team Worked As A Team With The Motto "You Can Do What I Cannot Do And I Can Do What You Cannot Do, Together We Can Do Great Things" By Helping Each And Every Member Of This Department By Letting Them Know About The Happenings Of Our Department!.

From The Desk of Hon'ble Vice Chancellor

" You have to Endure the Rain if you want The Rainbow."

PREFACE

I am delighted with the efforts of this quarterly journal to acknowledge every happening in the Electronics and Communication Engineering department. I have a keen eye on the department's events and assign them a task of 100% placements with a 1Cr target in the student's mind. I thoroughly loved the ECE department lecture series with the recent Swami Vivekananda event, highlighting the importance of the amalgamation of education and spirituality. I could observe students working hard for their futures and eagerly posing development-related questions intended to serve their interests. You are aware that attempts might occasionally end in failures and that failures are a natural part of life. Keep



My Well Wishes And Good Luck To Upcoming Engineers!

Prof. Alok Kumar Chakrawal
Vice Chancellor
Guru Ghasidas Vishwavidyalaya

I Appreciate The Dean Of Sos(E&T) Ece, Head Of Department, And Faculty Members For Providing Such An Environment For Our Future Engineers. My Heartiest Congratulations To The Team For The Flip-flop. I Wish Them A New Era Of Learning, And Creating!!



From The Desk of Registrar



Prof. Shailendra Kumar
Registrar
Guru Ghasidas Vishwavidyalaya

" Life is not about Finding Yourself; Life is about Creating Yourself "

Message

One of the keys to a better life is understanding the fact that "life is not what you see; it's all about how you see it;" it's about discovering what we are proficient in and learning from our challenges in life to evolve into the person we inspire to be.

Being students in the Engineering and Technology field, every student needs to embrace each problem in life , good or bad and find out the meaning behind it, and allow it to become an opportunity to grow and transform mankind through. As an institution , we are undoubtedly adopting new innovative and creative strategies to guarantee to all around and sustainable development of every student of Guru Ghasidas Vishwavidyalaya.The inventiveness of continuing the publication of 'flip flops', a quarterly newsletter of the department, will undoubtedly contribute to spreading awareness of innovations.

Best wishes to the extraordinary 'flip flops' team for future endeavors

Statement from Dean SoS(E&T) -



As interim dean of SOS(E&T) ECE , i am proud that the Department of Electronics and Communication (ECE) Has released its Newsletter for session july to september , which details the different activities and achievements of our faculty and students . I wish that this would ignite the fires of enthusiasm in students mind and generate fervour for innovative research ideas among the faculty of ECE.

The sole vision of the department is to produce confident technologists with human qualities and Indian ethos . My best wishes to the team of newsletter for continuing to do such excellent work for academia

Message From HOD -

Everyone, in my opinion, must and should abide by the adage since, no matter what line of work they are in, they will inevitably find some aspect of their career or study they dislike, but the key to success and pleasure is to find ways to enjoy it. If I discuss the newsletter, with each passing quarter, my expectations for this publication grow, and I'm thrilled that the entire "The Flip Flops" crew is working hard to meet their objectives in terms of sharing news about every event, every student, faculty's success, or it may be the smallest bit of information. I value the work of the Flipflops teacher coordinator and all the students working for it. This newsletter outlined the development of the ECE department and distributed awareness of all events that should be made known to students to inspire further thought.



Departmental Activities

ECE Lecture Series 3

On July 18, a unique lecture series called the "ECE Lecture Series" held its third presentation, which was on the subject of "Education According to Swamiji's Ideology." in E-classroom. All attendees were welcomed to the meeting by the session's host, Mr. Yash Gupta and Miss. Srijani Som, third-year ECE students. Professor Nilambari Dave, the event's primary guest and former vice chancellor of Saurashtra University, gave her opinion on the session and the subject. With saplings, the dignitaries then honoured and welcomed one another. After then, Prof. T.V. Arjunan, Dean of SoS(E&T), spoke to the group, and discussed the purpose of this lecture series. Further, Dr. Soma Das, HoD ECE and programme chairman, gave a brief introduction to the event and introduced Swami Sevavratananda Ji, Secretary, Ramakrishna Mission, Bilaspur, as the program's speaker. Then, our speaker Swami Sevavratananda Ji discussed with the students how to easily and precisely connect with Vivekananda Ji's conception of education in order to achieve perfection and manifestation. He also concentrated on the fact that Vivekananda Ji's ideals and the techniques to conform to them are not shared by the contemporary educational system. He also highlighted the issues we are facing. Due to the impact of the West, the literacy problem is difficult to solve. The session was then joined by Prof. Alok Kumar Chakrawal, the Chief Patron of this Lecture Series and the Hon. Vice Chancellor, who spoke about his personal experiences and opinions on the subject. He based his argument on the value of meditation in daily life. He continued by saying that regular meditation would enable someone to regain lost abilities and powers and would enable them to reach heights they had probably never imagined possible. Asst. Prof. ECE and series coordinator Mrs. Praveena Rajput gave a thank-you speech before the programme came to an end. Additionally, there was a setup for the students' refreshments



SWATCHHTA PAKHWADA

1st & 2nd September

In order to honor the values of cleanliness cherished by our beloved Mahatma Gandhi, our revered prime minister launched the Swachh Bharat Abhiyan campaign on October 2, 2014. A commitment ceremony on "Swachhata Pakhwada" for all of the staff and students of the department was held on September 1, 2022, at the department building, in accordance with his vision. On September 2, 2022, in the Institute of Technology building, the ECE department's faculty organized a swachhata campaign. Mrs. Beaulah Nath was the event's coordinator. There were all of the faculty from the ECE department there.



TEACHERS' DAY CELEBRATION

5th September

The ECE students at GGV organized Teachers Day at the E-Classroom in the IT building in honor of the birth anniversary of our first vice president, Dr. Sarvepalli Radhakrishnan. The E-Classroom was populated by both teaching and non-teaching faculty members. A fourth-year student named Rishab Upadhyay and a third-year student named Srijani Som together magnificently hosted the event. Greetings and well wishes for the teachers were given at the start of the programme. Faculty members shared their college-related experiences and tales as part of the programme, which helped to build a friendly atmosphere among the students and inspired ECE students to organize several cultural activities. Faculty and non-teaching employees received gifts as a mark of gratitude, and refreshments were served as well.



- A National event held by the department of ECE from
- 5th of the September month to the 9 th of the same month, which has been funded by NITTTR chandigarh.



ARTICLES

A Little Step Towards Innovation

- By Mr. Jitendra Bhardwaj (Asst. Prof.)

The word "Innovation" is not unfamiliar to us, in fact last two decades are having highest number of innovative technologies and major transformations , and it is growing exponentially especially in IT, communication, health and manufacturing sectors. Current state of the art in Artificial Intelligent (AI) based solution are very far from think-ability and innovation is higher order thinking .Therefore innovation and creative thinking are key properties of human mind, which makes human race unique and separates from bots and other species.

Innovative thinking is not only for innovators, start-ups and researchers, it is one of the most high priority skill set employers are looking for , especially in current scenario, even large stable companies and organizations will not able to survive, if they are not innovating or adopting changes in the market due to disruptive technologies or products. Kodak and many more examples are there. On the other hand many new companies got huge success in short span of time like GoPro, Paytm, Flipkart, many smart phone companies etc .

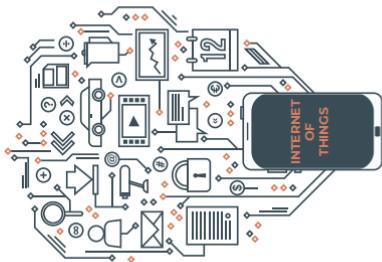
Endless description, articles, courses and blogs one can explore over the inter net on importance and need of innovation and creativity, but we need to think and work on lack of poor innovation and creativity in India, as we hardly find any indigenously developed products and technologies. Now let's talk about the solution and we need to work on it like any other skill required to practice in order to master it,I agree doing innovation and creative thinking is not an easy task and day by day it is becoming increasingly difficult, I do not have perfect methodology but certainly we can develop the culture of innovation together, and take our little steps towards innovation. Development of new products or processes are vast topic and very difficult to brief in one page, So based on popular strategies and my past practices in new technology development, we will discuss the best strategies in details in upcoming articles. Broadly we can categories innovation process in seven stages (1)Idea Generation (2)Research (3)Planning (4)Prototyping (5)Testing (6)Product Development (7)Commercialization. First three are also known as conception, next three are implementation and last as marketing. In the Innovation cycle, first step is idea generation. A talk on Idea generation is shared at <https://www.youtube.com/watch?v=eoypeA6Mxd0>

I recommend our students to work on hobby projects in group in their field of interest in your first year of UG program (to get started), and in second year of your B. Tech you should work under supervision of faculty or mentor (to learn the basics of desired field) and in third year target to research lab or company of your interest and try to get internship there. Keep exploring and focus on learning instead of earning at initial years of career.



IOT

- Internet of Things



On a rush day at work, you may feel tired and desire a hot water bath to relieve stress and cool your room upon reaching home. These things seem impossible, but are they possible? There is no doubt in my mind that the answer is yes.

All these actions are possible by the Actuators; those can be accessible by remote control. This technology can be accessed worldwide. The above things can only be possible by the new technology called "IoT," i.e., the Internet of Things.

It is "The network of physical objects that contain embedded technology to communicate and interact with their internal states or the external environment."



Kanchi Venkata Mahith

(Final Year)

Components or Architecture of IoT:

- IoT device: Using sensors that can be wired or wireless to gather information from multiple sources.
- IoT gateway: Integrate multiple IoT devices and collect data from them.
- Network: Network is the bridging element that connects an array of IoT gateways to the cloud platform by traditional TCP/IP network.
- Cloud: A platform that connects to the internet and analyses the data.
- Applications: Synthesised data for the end user to derive meaningful insights.

Applications of IoT:

The advancements in the IoT made the technology can be applied in numerous applications like Smart homes (Home Automation), Industrial IoT, Smart-Cities, Connected Cars, Healthcare, Supply chains, Agriculture, Defence, Smart grid, Retail, etc.

Future scope of IoT:

Despite its rapid growth, the Internet of Things is still in its infancy. Adding IoT to a career path has opened up a world of possibilities beyond what we could have imagined. IoT applications are increasing interest, which is good news for us all. More people will be connected to the Internet of Things throughout the world as a result of IoT. The world will turn out to be a much-enhanced place to live. There will be exponential growth in the number of IoT-connected devices ranging from parking spaces to houses, refrigerators, etc. The "Internet of things" is bringing ever more things into the digital mode daily, which would, in the near future, turn into IoT, a multi-trillion industry. Technical experts predict that in the next 5-10 years, the world will see a big boom for IoT.

India's >76,000-cr's Master Plan For Semiconductor Industry



- Future of Semiconductor Industry in India
- By Vikas Jonwal (Pre-Final year Student)

In furtherance of the vision of Aatmanirbhar Bharat and positioning India as the global hub for Electronic System Design and Manufacturing, the Union Cabinet chaired by Hon'ble Prime Minister Shri Narendra Modi has approved the comprehensive program for the development of sustainable semiconductor and display ecosystem in the country.

By offering a globally competitive incentive package to businesses engaged in the production of semiconductors, displays, and other electronic components as well as design, the programme will usher in a new era in electronics manufacturing. This will open the door for India to assume the lead in terms of technology and economic independence in these crucial strategic areas.

Current Scenario of Semiconductor Industry in India

The Union government's Semicon India Programme, set up to build the semiconductor and display ecosystem in the country, has generated large scale interest among companies with proposals of more than ₹1.53 lakh crore received in the first round which closed on 15 February 2022

Five proposals for semiconductor and display fabs have been received with total investment nearing \$20.5 billion or ₹153,750 crore, According to MeitY.

Semiconductors in India are likely to fulfil the country's need for semiconductors & display fabs. In 2020, the Indian semiconductor market size was \$15 billion (approx) and is expected to reach \$63 billion by 2026 with a CAGR of 27.2%.

There are 966 Semiconductor Companies in India in which the top companies are NXP Semiconductors, Faststream Technologies, Samsung Semiconductors,

Future of Semiconductor Industry in India

The Indian government has decided to clear the semiconductor incentive scheme by devoting INR 76,000 crore to bypass the problems with the semiconductors shortage. According to this new policy, the Indian government has decided to help witness the construction of 20+ semiconductor components manufacturing, design, and display units over the period of the next 6 years.

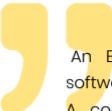
India's own semiconductor consumption is anticipated to reach \$80 billion by 2026 and \$110 billion by 2030. This requires a domestic ecosystem that can sustain supply without the need to depend on volatile global supply chains.

According to the Indian semiconductor association, the market size of the semiconductor industry grew by a CAGR of 29.4% from 2015 - 2020.

Vedanta Ltd and Taiwan's Foxconn signed an agreement on Tuesday with Gujarat, to set up a \$20 billion semiconductor project. The ₹1.54 lakh crore investment by Vedanta and Foxconn will be used to set up India's first semiconductor production plant, a display fab unit, and a semiconductor assembling and testing unit.

India's Tata Group enters semiconductor market with \$90bn investment over next 5 years and will begin producing semiconductors in the country within a few years, a move that the chairman of the group's main company said will make the South Asian country a key part of global chip supply chains.

EMBEDDED SYSTEMS



An Embedded system is a combination of software and hardware to perform a specific task. A controller is built into an application that continuously monitors the process variables and makes sure that the process variable does not deviate from the main task. In case of deviation or violation, it will produce a counteract signal to bring the process variable into the main event. It is the amalgamation of all the technology in the world such as Software Programming, Digital Electronics, Mobile Computing etc.



Amulya Priya
(2nd Year)

EMBEDDED CONTROL SYSTEMS

The embedded system is very powerful, fast, and small size in nature so that it can easily fix other systems and perform their task. The embedded system can be categorized as a computer system, but they do not perform the operations performed by computer systems. The embedded systems can be used in mobile phones, medical devices, or any other manufacturing equipment. Various operations and functions can be performed by embedded systems and used to control smaller parts of a larger system. The embedded system is generally a combination of software and hardware system and other components parts so that a particular operation can be executed.

FUTURE OF EMBEDDED SYSTEMS:

As embedded systems is a mix of programming systems for both software and hardware, it is the part of computer and electronics. The future of embedded systems lies in the advancing all the communication. With growth and advancements in the field of electronics, wireless communications, networking, cognitive and affective computing and robotics, devices around you communicate in more ways than you ever imagined. Those times are not very distant when every object around us will have a small processor/sensor embedded within itself, invisible to us but still communicating with all other devices around, making our lives more connected and accessible than ever before

FACULTY ACHIEVEMENTS



Publications



Faculty	Topic
Mr. DEEPAK KUMAR RATHORE	ICIC: A Dual Mode Intracluster and Inter-cluster Energy Minimization Approach For Multihop WSN





Expert talk/Guest lecture/- Conference chair

Faculty	Topic
Mr. SUMIT KUMAR GUPTA Mr. CHANDAN TAMRAKAR Dr. NIKITA KASHYAP	AICTE Recognized Faculty Development Programme On Cyber Threats And Security Measures
Mr. CHANDAN TAMRAKAR Mr. SUMIT KUMAR GUPTA	AICTE Recognized Faculty Development Programme On Nanosensors & Device
Mrs. ANITA KHANNA DR. NIKITA KASHYAP Mrs. PRAVEENA RAJPUT Mrs. PRAGATI PATHARIA DR. NIPUN KUMAR MISHRA Mr. JITENDRA BHARDWAJ Mrs. BEAULAH NATH	FDP On Outcome based curriculum design
Mrs. ANITA KHANNA	FDP On Energy Harvesting & storage Material & Device
DR. PANKAJ KUMAR SRIVASTAVA	3rd online / offline mega international conference on " Innovation In Applied Sciences and Humanities"
DR. NIKITA KASHYAP	Improved stability and efficiency of organic tandem solar cells with low-less Interconnecting layers
Mr.DEEPAK KUMAR RATHORE	ICIC: A Dual Mode Intracluster and Inter-cluster Energy Minimization Approach For Multihop WSN



STUDENTS ACHIEVEMENTS



PLACEMENTS

37

Students attended the placement drive by Hexaware Technologies on 2nd August 2022, and 2 were selected.

35

Students attended the placement drive by Gemini Solutions on 3rd August 2022, and 2 were selected.

Student	Position	Package	Company
RISHABH UPADHYAY (FINAL YEAR)	Graduate Engineer Trainee	4LPA	 HEXaware
KOLLU SHYAM PRABHATH BHUSHAN VERMA (FINAL YEAR)	Graduate Engineer Trainee	4LPA	 HEXaware

Other Achievements

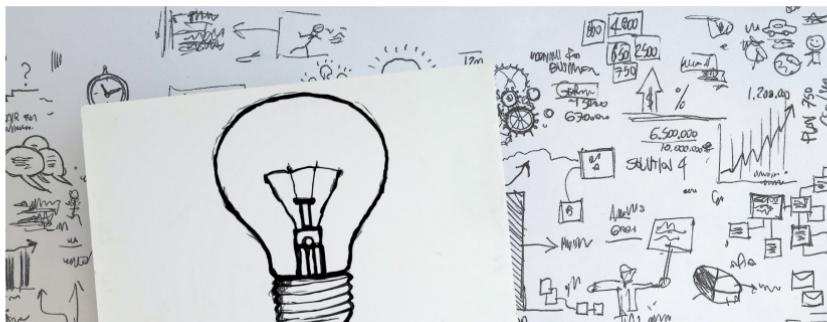


AMRIT RAJ & RISHABH UPADHYAY Both From Final Year
Got Selected for the Gender Champions for the College



INTERNSHIPS

Student	Position
GIRIRAJ GAUTAM (FINAL YEAR)	Intern at CSIR-NEERI
A M SURYA (2nd YEAR)	Content Strategist at IbyD Technologies Pvt. Ltd and Mak Creative Studios. Software Developer Trainee at Presear Softwares Pvt. Ltd
MADHURI KOONA (2nd YEAR)	Software Developer Trainee at Presear Softwares Pvt. Ltd
PREETY KUMARI (2nd YEAR)	Software Developer Trainee at Presear Softwares Pvt. Ltd
OM PRAKASH KUMAR (2nd YEAR)	Software Developer Trainee at Presear Softwares Pvt. Ltd
ASHISH KANT (2nd YEAR)	Trainee at Logical Loops. inc



UNTIL THE NEXT TIME

Thank you for your patience while we have been working on the next edition of the Electronics and Communication Engineering Newsletter. We have finally finished it and we are happy to send it to you. The acknowledgement note that I would like to include in the next edition of the Newsletter is attached. I will also like to include a few wishes for the future in the next edition.

- Silicon club
- IEEE
- IETE
- Industrial visit phase 3
- ECE lecture Series 4

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2nd Year

