



BITS AND BYTES

Deptt. of Electronics & Communication Engineering



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Editorial Desk

Greetings Dear Readers,

Welcome to the next edition of "Bits and Bytes," Volume-3, Issue-1, where we embark on a journey to celebrate the vibrant spirit of our **Electronics and Communication Engineering (ECE)** department. As we delve into the intricacies of modern technology, we are reminded of our fundamental objective – to nurture and foster passionate engineers who will not only shape the future but also make a profound impact on the world.

We express our heartfelt gratitude to the esteemed Principal sir, **Dr. Manpreet Singh Gujral** for unwaveringly supporting our pursuit of excellence. We extend our sincere appreciation to the Head of the Department, **Dr. Davinder Singh Saini** for their relentless efforts in steering our academic ship towards greatness. Their dedication and guidance have inspired both faculty and students to reach new heights in their respective fields. A special mention goes out to all the brilliant students who have contributed their insightful articles and unwavering efforts to make this newsletter a repository of knowledge and inspiration.

Within the pages of this edition, you will discover a rich tapestry of events that have shaped our department's journey. Faculty Development Programs (FDPs) have sharpened our faculty's expertise, which will expand our students' horizons. Our relentless pursuit of knowledge knows no bounds. We also take pride in our students' achievements, as they continue to win accolades. This edition of the newsletter also embraces the global tech news that acts as a window into the rapidly evolving world of technology. As we continue our journey, let us remember that the true essence of engineering lies in our commitment to making a difference in the lives of others.

Happy reading and wishing you a future filled with boundless opportunities!

Warm Regards

Dr. Shilpa Jindal

Editor Departmental e-Newsletter

FDPs/Workshops/Events Organised:

- Dr. Dinesh Sharma Coordinated One Week Short Term Course on "Implementation of IoT using Arduino and R-Pi" organized collaboratively by the Department of Electrical Engineering at NITTTR and the Department of Electronics and Communication Engineering at CCET (Degree Wing). The course took place from the 21st to the 25th of August, 2023. It was attended by many faculty members from CCET, and from other states as well.



- An Orientation Program was held on August 31, 2023, for 1st year as well as 2nd LEET students. The event was a huge success and students were introduced to various academic, co-curricular, and extracurricular activities of the college



Faculty Achievements

Dr Irfan Ahmad Khan was awarded the National Award for Excellence in Education-2023 from AMP, Association, Mumbai, India (via an offline/online event) held at Bangalore on September 5th, 2023.

Student Achievements

2020-24 Batch (Present 4th Year)

Ruman Sidhu (CO20550) of ECE 4th Year, got her book 'The Mist' published on Amazon Kindle, a popular e-reader device designed for people who love reading books, magazines, and other written content.

2021-25 Batch (Present 3rd Year)

Harshita Maheshwari (CO21535) of ECE 3rd Year, participated in the Level 1.1: E-Commerce & Tech Quiz of the Flipkart GRiD 5.0-Software Development Track organised by Flipkart.

Harshita Maheshwari (CO21535) of ECE 3rd Year participated in the 2nd National Article Writing Competition conducted by Legal Vidhiya.

Artificial Intelligence: The future of the mankind

-ARJUN GULERIA (LCO21586) 3rd Year

Humans are achieving new possibilities in the technology sector and one of these possibilities is known as artificial intelligence (A.I) which has the capabilities to completely revolutionise and change the living lifestyle of humans.

Artificial intelligence is here to stay and it has capabilities to dominate the different sectors of the world. After the launch of chatGPT the world is not the same anymore it is a stepping stone for the endless possibilities which can be achieved with the help of artificial intelligence. Different fields like healthcare industries, education, military and advertising etc. can be completely changed and can be pushed to their maximum efficiency with the help of artificial intelligence.

India has now become the most populated country of the world and with such huge population we need an efficient and effective healthcare sector which can be achieved with the application of artificial intelligence. A.I can simply diagnose diseases by analysing the symptoms and medical history of the patient and recommend appropriate treatment and prescription.

A.I has the capabilities of revolutionising the traditional teaching methods of the education system, it can provide quick and reliable solutions with better understanding to the student's problems and with a good interface it can also keep track of students' progress which will help them to analyse their progress.

We humans sometime make decisions which are emotionally oriented and here artificial intelligence has an upper hand where it can make decisions which do not involve any human emotions and because of this artificial intelligence can be very helpful in the battlefield where it can stimulate and run complicated algorithm under immense pressure effortlessly.

However, A.I. will raise some distress over time, A.I has an ability to replace humans because of its self-learning and self-making decisions. These self-making decisions by A.I. will also take over plenty of jobs and will also develop difficulties understanding why and how A.I. is making these decisions for the people who are directly working with this technology. But for now, humans have a lot to discover about artificial intelligence and how it can make our day-to-day lives easy.

Laptop Import Ban in India: Opportunity or Disaster?

-SANTOSH KUMAR(CO22541) 2nd Year

India's unexpected decision to ban the import of laptops and tablets appears to be the result of bureaucratic desperation instead of a well-thought-out industrial policy. Postponing implementation until November, a day later, further strengthens the impression that New Delhi is improvising as it goes.

Following a government declaration on August 3, companies would now need an import license in order to bring goods into the nation, including computers. This is evidence that earlier incentives meant to boost domestic production were ineffective. For example, a 169 billion rupee (\$2 billion) proposal to give money back to computer equipment manufacturers does not seem to be generating the same levels of interest as an earlier strategy targeted at smartphone manufacturers.

The government's decision to launch the second iteration of its production-linked incentive program last year may have served as the impetus for this unexpected restriction and concession. It was introduced in 2020 as part of Prime Minister Narendra Modi's initiatives to promote higher production of items such as chemicals, textiles, white goods, and autos by providing cash back to businesses based on how much their income increased. One benefit of this strategy is that the government only pays for successful outcomes; if local output and investment do not expand, no money is given out.

The smartphone industry benefited greatly; companies were given a starting incentive of 6% of net additional sales, and 410 billion rupees were set aside for the industry over a five-year period. At least 32 candidates were accepted, and local manufacturing kept growing, increasing 27% to 3.5 billion rupees in the most recent fiscal year.

This program's second iteration aims to replicate that success on computers. India imported \$10 billion worth of computing devices during the previous fiscal year, the majority of which came from China. The nation's industrial policy now centers on two overlapping objectives: increasing domestic economic activity and employment while lowering dependency on its biggest military and trading adversary. Every smartphone, laptop, or desktop computer produced in India deals China a double blow.

1. India will break ground on its first semiconductor assembly plant next month and begin producing the country's first domestically manufactured microchips by the end of Dec'24. Tech News from Financial Times, July 5'23.



2. Organic electronics can make a decisive contribution to decarbonisation and, at the same time, help to cut the consumption of rare and valuable raw materials. Tech News from Science Daily, July 7'23.

3. IoT is set to push 5G connections into the billions. Tech News from Tech Radar Pro, July 12'23.

4. Elon Musk, CEO of Tesla and SpaceX, and owner of Twitter, on Wednesday announced the debut of a new artificial intelligence company, xAI, with the goal to "understand the true nature of the universe. Tech News from CNBC, July 12'23.



5. In hopes of improving the survival rate for breast cancer patients, researchers designed a wearable ultrasound device that could allow women to detect tumours when they are still in early stages. Tech News from CNBC, July 26'23.

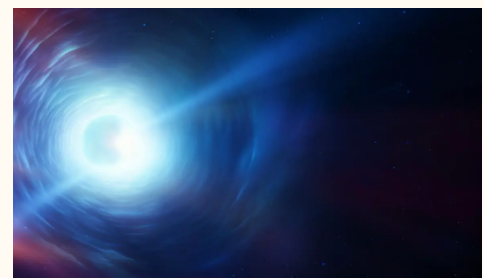
6. AWS announces generative A.I. tool to save doctors time on paperwork. Tech News from CNBC, July 26'23.

7. Engineering team uses diamond micro-particles to create high security anti-counterfeit labels. Tech News from Science Daily, July 26'23.



8. Google announced a new artificial intelligence model on Friday that can help it train robots to understand tasks like throwing out trash. Tech News from CNBC, July 28'23.

9. MacBooks and iMacs could get one of the iPhone's best features - Face ID. Tech News from Tech Radar, August 16 '23



10. Pulsar Mysteries Unveiled: Unprecedented "Dwarf" Pulses Discovered With FAST Telescope. Tech News from SciTechDaily, August 17'23.

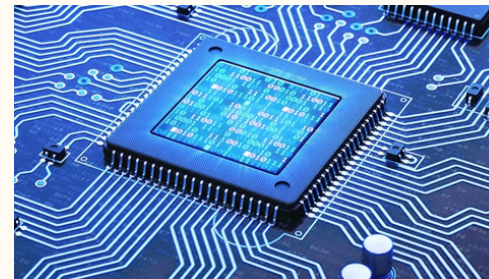
Global Tech News

1. Chandrayaan-3 was launched from Satish Dhawan Space Centre on 14 July 2023. The spacecraft entered lunar orbit on 5 August, and the lander touched down in the lunar south polar region on 23 August at 12:32 UTC, making India the fourth country to successfully land on the Moon, and the first to do so near the lunar south pole.



2. Charkha to Chips: India organized a three-day conference on semiconductors in Gandhinagar, Gujarat from 28 to 30 July 2023. The three-day Semicon India 2023 was held in Gujarat's Gandhinagar.

3. RISC V- Semiconductor tech to give India's seat at the table, challenge global domination. India's adoption of RISC-V semiconductor technology is positioning the nation as a formidable contender in the global tech arena. Tech News from Times of India, August 7, 2023.



4. Govt to launch first indigenous chipsets by 2023-24, IIT-Madras and the Centre for Development of Advance Computing (CDAC) have developed two microprocessors named Shakti (32-bit) and Vega (64-bit), respectively, using Open Source Architecture under the Microprocessor Development Programme of MeitY. Tech News from The Hindu, August 9, 2023.

5. US curbs AI chip exports from Nvidia and AMD to some Middle East countries. Tech News from Indian Express, August 31, 2023.

6. A new AI algorithm can detect cancer in medical images with greater accuracy than human doctors. Tech News from MIT Tech Review, September 10, 2023.

7. Self-driving car company Waymo launches commercial robotaxi service in Phoenix, Arizona. Tech News from BBC News, September 15, 2023.



8. Google AI unveils a new language model that can generate code. Tech News from Financial Times, September 20, 2023.

9. Samsung announces new chip that could power next-generation AI devices. Tech News from The Verge, September 25, 2023.

10. Google AI announces new partnership with Pfizer to develop AI-powered drugs. Tech News from The New York Times, September 29, 2023.

Chandigarh College of Engg. & Tech.



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