Our Heavenly Patron

Sri.P.K.Das

FIE, FI Mech.E, M.Ae.si., Ae.S(Lond), M.S.Eng.,C.Eng.

FOUNDER CHAIRMAN

From Chairman's Desk

    Education flourishes when multiple minds share their thoughts and actions, propelling society forward. **Jawaharlal College of Engineering and Technology (JCET)** is already distinguished, securing prestigious rankings such as NBA, NAAC A++, and recently being conferred with Autonomous status by the University Grants Commission.

 PUNARNAVAM 2024 will truly add a golden feather to JCET's cap. The college, with its **8** remarkable B.Tech programs, **2** M.Tech programs, and MBA program, offers up-to-date courses tailored to evolving market needs and strives to swiftly address industry skill gaps. The college has been actively promoting both curricular and co-curricular activities. The fostering of the innate qualities of both staff and students is truly commendable, creating a valuable legacy that will be remembered in our college's history. **I sincerely appreciate the thought and hard work of the editorial team for this venture.** The creative minds and earnest efforts revealed on this platform are undeniable. I am confident that **Punarnavam 2024** will be an excellent forum to showcase the collection of the handy works of students, staff, and other stakeholders in the educational journey of JCET.

Date: 22.05.24.   **Adv.Dr.P. Krishnadas**

Pampady,   **Chairman & Managing Trustee**

Thiruvilwamala.

From CEO's Desk

Remembering the saying of Francis Bacon, 'writing makes an exact man', we can say that a magazine makes a campus a complete one. The motto of all NGI is "Moulding True Citizens" and **Punarnavam 2024** of Jawaharlal College of Engineering and Technology is the true evidence of it. Till now JCET achieved many excellencies in its educational journey. For JCET, Punarnavam 2024 will be like a cherry on the cake. I appreciate the creative, critical and the reliable minds behind this venture. The positive and creative energy of both staff and students are unveiled in this magazine with myriad hues and colors. I am happy to see the number of knowledgeable articles, poems, paintings and photographs which reveals the enthusiastic minds of all contributors. I assured the grand success of Punarnavam 2024.

Date: 27-05-2024   **Dr. P.Krishnakumar**

Pampady,   **CEO & Secretary**

Thiruvillwamala.

From Executive Director's Desk

Dear well wishers'

I am delighted to know that, Jawaharlal College of Engineering and Technology (JCET)-Lakkidi campus, Palakkad-Kerala is bringing out its Annual magazine titled "PUNARNAVAM-2024" depicting the achievements, contributions of students and faculty members. It is a storehouse of knowledge, research, innovations, scientific developments, arts, and culture of the students and faculty members. It depicts the overview of road map of the institute past and the future.

All the stake holders viz., students, parents, Alumnus, Employers are interested to know their institutes status. In that direction, the editorial board of JCET has compiled the activities in a befitting way to showcase the hidden talents of the JCET family.

I Congratulate the Editorial Board and all the contributors, who are directly or indirectly responsible in getting the magazine ready with invaluable stuffs.

Wish the Institute, all the success in their endeavour.

Dr. H. N. Nagaraja

Executive Director-NGI

From Advisor's Desk

PUNARNAVAM 2024 seems to be a good collection of articles from students and staff to take forward the message of higher education to the people who are unreached in India. Everyone knows that JCET is located in a rural part of the Country where many still many more people are to be honed for the betterment in life. JCET takes the motto of NGI, "Moulding True Citizens" in every activity and we could see a lot of effort to bring the diverse minds into the articles of this edition of college magazine, **Punarnavam 2024**.

There is no dearth of knowledge and skill in this part of Kerala and a lot many have contributed from here. For example, Lakkidi is known for the literary works of stalwart Kunchan Nambiar and even today his ancestral house attracts tourists. This college magazine reminds me of such a step towards making a stalwart like him in future. We are indeed happy that the Editors work tirelessly to bring out the talents of all, compile them all and edit them fittingly to publish it. I would also bring it a point that there are beautiful locations and spiritual locations adjacent to Lakkidi, namely Bharathapuzha, Thiruvilwamala temple and Ivar Madam speaks volume about the traditions and cultures in this part of the state and country.

JCET enlightens the masses with its growth in terms of number of programmes, number of students and quality enhancement through accreditations such as by National Board of Accreditation (NBA) and by National Assessment and Accreditation Council (NAAC). I congratulate the Editorial members of the College Magazine on bringing out this edition of **Punarnavam 2024**.

Best Wishes.

Dr. K Radhakrishnan

Advisor

NGI Kerala.

From Principal's Desk

College Magazine is the reminiscences of stakeholders to showcase to the external world. **PUNARNAVAM,** the college magazine of JCET has come out with colourful arts, stories, poems, craft works, articles, reports and a few tips. JCET congratulates the editors for the dedicated work and brought out a memoir of all stakeholders through the magazine. We find that there are innovative and creative works from the students and staff about different fields. Education through this medium reaches out many lives.

"Smile" to "Hope", Education to Higher Education, an art of Flower to Fashion, Butterflies to Beauty, Talents of photographs are found in this magazine not to fill the page but to enlighten the masses about the hidden talents. The journey to unfold this with the students and staff has started again. We will not stop until the objectives are met. Hats off to the editors who have worked day and night to bring out this College Magazine. Best Wishes!!!

Dr Gunasekaran N

Principal

JCET, Lakkidi

From Editors' Desk

Without pleasure and peace of mind life become so hard to every person. Everyone needs some relaxation to rejuvenate every day in their life. This relaxation approach varies from person to person. It can be by reading something, writing, drawing, thinking, watching or even taking some photographs. All of us, without doubt, know the facts that we explored many qualities of our life, like artists, writers, singers and even in culinary arts. With immense pleasure and enthusiasm, we proudly present **PUNARNAVAM 2024**, an exposure of inlaid abilities of JCET staffs and students. We assure the readers that you have a great reading experience as it unveils the creative mind, self-expressions and of course inspirations from relaxing from the hectic life. Our words of gratitude to our Chairman and Managing Trustee Adv. Dr. P Krishnadas, CEO & Secretary Dr. P Krishnakumar, Executive Director Dr. H N Nagaraja, Advisor Dr. Radhakrishnan and our Principal Dr. N Gunasekaran Sir for supporting to make it a reality. Our sincere thanks to all contributors and all staffs to co-operate with us and especially our loving students to fulfill this dream work.

Thank you.

Editors' team.

Editors team

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Malavika R (MBA), Ramya (MBA)

CONTENTS

From our Departments…

Dr ASHOKAN CHANKARACHAN
Professor & HoD
Dept of MBA

Management Education in India is poised for a major Transformation

Management education in India has evolved considerably over the past 70 years. The economic liberalization era of 1990s and the consequent rapid economic development witnessed substantial demand for MBA education. This paved the entry of large number of public and private institutions to offer MBA programmes across the country. Thanks to MBA emerging as a preferred (read "glamourous") qualification, it is widely perceived as a panacea to address all business challenges. However, the mushrooming of MBA schools has left their own structural weaknesses around resulting in a plethora of challenges. The current wave of turbulence caused by the twin influences of technology disruption and the pandemic has exposed the weaknesses in our management education and the need for urgent remedial action to address them.

Challenges abound

There is a bouquet of challenges, some isolated while most others inter-connected. These can be broadly classified as skills and knowledge related with an over-arching influence of behavioural aspects. This is emerging out of a combination of shortage of high-quality faculty members and enrolment of poor-quality students in schools that are poorly equipped even otherwise. Teaching profession fails to attract top talent because it is not adequately valued and rewarded in India. This needs to be addressed with some fundamental reforms. Another very critical issue is the academia-industry disconnect. Programme curricula are often not updated and aligned with rapidly evolving industry requirements. Therefore, business graduates produced by a large number of institutes are not 'battle-ready' when they commence their jobs!

Consequently, we are experiencing a challenge of the 'quantity versus quality' conundrum. Standards of management programmes differ vastly across institutions. This is acute with lower-rung schools that lack well-trained faculty and required infrastructure. Large recruiters are mainly interested

to hire the best talent for which they prefer top-tier institutions such as the older IIMs and ISB. So, the present system creates a 'dual citizenry' of business managers, which leads to discontent.

Add to these major structural and behavioural problems, the challenge of maintaining the quality of programme delivery. Poor rate of technology adoption and archaic pedagogical tools employed by management institutions, coupled with regulatory constraints, are some of the other problems that continue to affect the development of this sector.

Imminent shift and way forward

Management education in India is all set to be revolutionize thanks to the rapid and drastic changes impacting the various constituents of the business environment. Naturally, industry is demanding managerial talent that is equipped with new-age capabilities and skills. This overhaul is likely to comprehensively reform the design, content, and delivery of management education in the country. We envisage the following dimensions of this impending transformation:

• Fading borders, intensifying competition: The Covid-19 pandemic has accelerated the pace of digitalization of education. Since most programmes are now virtual, geographic boundaries do not matter. Students can enrol in virtual courses offered by universities abroad. Many renowned foreign universities have already established their satellite offices in India. Several others have collaborated with Indian institutions to offer joint degree programmes. This competition is likely to grow, forcing Indian institutions to quickly improve and evolve their programme design and delivery.

• More industry-oriented specialized programmes: Increasingly, recruiters will demand better alignment between b-school curriculum and their job requirements. Super-specialized management qualifications will progressively become more crucial! Hence, industry-specific specialized programmes will increase, for instance in areas such as, insurance and mutual funds, healthcare management, business analytics etc. New programmes and courses will emerge, especially at the interfaces of traditional management functions (viz., behavioural finance and marketing analytics) and that of different industry sectors (namely, fintech, edge computing-based retail management, cloud-based logistics management). Therefore, business schools would have to gear up to meet these industry requirements.

• Programme design to be driven by 'money value of time': There is already a decisive shift towards shorter duration and modular programmes delivering specific capabilities. This is likely to accelerate going forward, as students would like to compress their learning duration. Two-year MBAs will give way to modular 15-month or one-year programmes. Market demand is likely to increase for even

shorter duration programmes that provide super-specialized certifications. The challenge here would be to retain the richness of programme content and quality of delivery, even as duration is squeezed.

• Technovate - Improve or perish: B-schools will be forced to use technology in innovative ways. Adapting to virtual modes of programme delivery, re-skilling of faculty and staff for the digital medium, usage of modern pedagogical tools such as, computer simulations, big data analytics, virtual reality and flipped classrooms will have to be adopted proactively. There will be increasing pressure on B-schools to shape-up or ship-out, both from the recruiters and students! This will be felt across all the rungs. The top-rung schools will be required to benchmark with the best international b-schools. Whereas the large number of middle and lower-rung b-schools will be forced to improve the quality of their infrastructure, content, faculty pool, and engagements with students and recruiters.

• International accreditation: Modern-day b-school graduates are world citizens who look for employment opportunities across the globe. Their acceptance improves if their degree awarding institution holds an internationally accepted accreditation. Therefore, we foresee that Indian b-schools will increasingly strive for international accreditation such as, the AACSB, Equis and EMBA.

This will not only improve their global recognition but also the quality of placements. This will be well-complemented if Indian regulatory bodies allow novel experiments and innovations in management education, such as, international alliances, freedom to launch joint degrees with foreign b-schools, and modular choice for selecting courses across multiple streams/ locations/ institutions.

The success of Indian business schools will depend on how quickly they pre-empt the change and adapt to the evolving requirements. The ones that proactively assess the changing industry needs, collaborate with other institutions, and devise innovative programmes, will emerge as the winners. This transformation will be a welcome change that will benefit the students, recruiters, the institutions, and above all, our nation!

Source: https://www.business-standard.com/article/management/management-education

Dr. SANDEEP C S
H O D
Dept. of ECE

Electronics and Communication Engineering

Electronics and Communication Engineering (ECE) has been the most important branch in the field of Engineering since its inception. While compared with other branches of Engineering, ECE has been used extensively in all disciplines. For example, for the proper working of computer systems, automated types of equipment, modern vehicles, aircraft controllers etc; some electronic systems should be integrated. Therefore, this branch shall be considered as an interdisciplinary one that is necessary to all other disciplines in Engineering.

The field of Electronics and Communication Engineering primarily focuses on the design, development, and implementation of electronic systems, devices, and communication technologies. ECE has made significant contributions to technological advancements across various domains. Notable achievements in this discipline encompass **Telecommunications:** which has revolutionized long-distance communication with the introduction of telephones, mobile phones, satellite communication, Fiber optics, and the Internet; **Digital Electronics**: which paved the way for digital computers, microprocessors, and integrated circuits, serving as the foundation for contemporary computing systems; **Wireless Communication:** technologies like Bluetooth, Wi-Fi, and cellular networks have facilitated wireless data transfer, mobile computing, and the Internet of Things (IoT), enhancing convenience and connectivity; **Consumer Electronics:** including televisions, radios, audio systems, digital cameras, and wearable devices, have become essential components of everyday life, offering entertainment, communication, and productivity tools to users worldwide; **Signal Processing:** techniques like image processing, speech recognition, and data compression have found applications in diverse fields such as medical imaging, surveillance, multimedia systems, and robotics; **Embedded Systems**: which are specialized computing systems integrated into various devices like medical equipment, automotive

systems, and industrial automation, to enhance their functionality and performance; **Radar and Navigation Systems:** utilized in defence, weather monitoring, air traffic control, and navigation applications for precise detection in different environments, ensuring safety and security; **Satellite Communication:** for broadcasting, telecommunication, navigation, and remote sensing, playing a vital role in global communication networks, disaster management, and environmental monitoring; **Optoelectronics:** technologies such as lasers, LEDs, photodiodes, and optical fibers, which find applications in various fields like telecommunications. **Green Technologies**: include energy systems, energy-efficient devices, and environmental monitoring systems that can address environmental challenges and promote sustainable development. From the above, we can understand that the field of Electronics and Communication Engineering has made significant contributions to modern society, enabling advancements in communication, computing, healthcare, transportation, entertainment, and many other areas.

When discussing the future prospects of Electronics and Communication Engineering (ECE), it assists students in tackling the challenges posed by modern communication systems. The integration of technologies like Robotics, Data Science, Artificial Intelligence, Geographic Information systems, Medical Electronics, Satellite communication, Chip Manufacturing and Embedded systems has significantly transformed different industries in the present scenario. ECE equips students with the necessary skills to confront the emerging challenges in the field. The program familiarizes learners with the essential skills needed to design and integrate various software and hardware components. Upon completion of this course, individuals can pursue a promising career in hardware or software industries, including but not limited to Defence, Electronics manufacturing, hardware components manufacturing, space communications, telecommunications, mobile phone development and components testing, optical communications, electronic safety and security systems; and even more. This underscores the fact that graduates of Electronics and Communication Engineering have a prosperous career and a promising future ahead.

Mr. MANOJ M
ASSISTANT PROFESSOR
Dept of Computer Science Engineering

Future of Cyber Security

The future of cybersecurity is like a journey into the digital world, where there are both challenges and new ideas. As we rely more on technology and everything gets connected, it's super important to keep our digital stuff safe. This article talks about what's coming up in cyber security, like new threats and cool technology, and how we can protect ourselves online. In a time when hackers are getting smarter, knowing about cyber security is crucial for everyone, whether you're a person, a business, or a government.

Top Cyber Security Trends in 2023

1. Artificial intelligence (AI)

One of the big things in the future of cyber security is using artificial intelligence (AI) and machine learning (ML) tech. These smart algorithms can look at lots of data and find patterns or strange things that might mean there's a cyber-threat. This helps organizations find and stop cyber-attacks fast, so they don't do too much damage.

AI-powered cyber security can also do boring tasks automatically, so people can focus on harder stuff. Plus, AI and ML can predict future cyber threats by looking at past data and trends. This means organizations can get ready for possible attacks and stop them from happening. It's like having a digital security guard that's super smart!

2. Blockchain Technology

Another thing we'll see more of in the future of cybersecurity is blockchain technology. Blockchain is like a super secure way to store and move information because it's not controlled by one central authority. This makes it really tough for cyber bad guys to mess with it. That's why blockchain is getting more popular, especially in industries like finance, healthcare, and government, where keeping

data safe is super important and any breaches can cause big problems. It's like having an extra-strong vault for your digital stuff.

3. Internet of Things (IoT)

The Internet of Things (IoT) is also going to be a big deal in the future of cybersecurity. IoT means lots of everyday things are connected to the internet, like smart thermostats or security cameras. But the problem is, that many of these IoT things don't have good security, and hackers can easily mess with them. So, organizations will have to step up their security game to defend against cyber threats related to IoT. This might mean updating the software on IoT devices or getting new ones that are super secure and even using things like two-factor authentication (2FA) for extra protection. It's like making sure your digital gadgets have strong locks on them.

4. Collaboration Between Organizations

A big thing in cybersecurity is organizations working together more. In the past, they kept quiet about cyber threats because they didn't want others to know their weaknesses. But now, they see that cyber threats are too tricky to handle alone. So, they're teaming up and sharing info to stay safe. This means they're telling each other about threats they've seen, sharing tips on what works, and even joining forces for cyber protection. It's like having a bunch of friends who look out for each other in the digital world.

5. Security Model

Cyber security is super important for a country's safety, and governments are doing a lot to keep their important stuff safe from cyber-attacks. They're using something called 'zero trust' security, where they're very careful about who can see important information and they watch it all the time. This makes it really hard for bad people to get in and do harm.

Governments are also spending money on research and new stuff to stay ahead of cyber threats. They might create new secret codes or use super powerful computers to break tricky codes that the bad guys use. It's like having digital superheroes to protect the country.

6. Quantum Computing

The future of cyber security is closely connected to quantum computing because quantum computers could change how we protect and use data. Right now, most of the ways we keep information safe in cyber security rely on the fact that some math problems are really hard for regular computers to

solve. But quantum computers are super good at solving these problems quickly, which could make the old ways of keeping data safe not work so well.

So, on one hand, quantum computers could be used to break the ways we currently keep data safe, which is a big problem for cyber security. On the other hand, they could also help us make new and super secure ways to protect information, which would be great for keeping important stuff safe. It's like a double-edged sword in the digital world.

Quantum computing could help cyber security in a big way. One thing it could do is create special computer instructions, called algorithms, to find and stop cyber-attacks. These algorithms could look at lots of data and see if there are any weird patterns that might mean there's a cyber threat. This would help organizations find and stop attacks faster. Plus, these algorithms could also predict future cyber threats by looking at past data and trends, so organizations could get ready for them and stop them from happening. It's like having a super-smart digital detective on the case!

FAQ- What is The Future of Cyber security

Q1. Is there any future for cyber security?

Ans. Quantum computing is a new kind of technology that has the potential to make cyber security much better. These quantum computers work in a super special way, using the weird rules of quantum physics to do math way faster and better than regular computers. It's like having a supercharged computer for cyber security tasks.

Q2. What is the future of cyber security in 2030?

Ans. Cyber security is getting better and easier to use. By 2030, all the money spent on security tech from both the government and companies should make things a lot safer. Instead of trying to protect everything like a fortress, cyber security will be more about dealing with problems as they happen and getting back on track quickly. It's like having a good backup plan for when things go wrong.

Q3. Is cyber security an IT career?

Ans. Cyber security is part of IT security. IT pros use tech to handle information, and IT security is about keeping all kinds of data safe, both physical and digital. Cyber security is a special part of IT security that focuses specifically on protecting digital data from online threats. It's like IT security is the big umbrella, and cyber security is the smaller part underneath it.

DAYANA K
ASSISTANT PROFESSOR
Dept of B S & H

The Enriching Role of the Department of Basic Science and Humanities in Engineering

The Department of Basic Science and Humanities (BS&H) holds a pivotal yet often overlooked role in the development of well-rounded and influential engineers. While engineering studies focus on the technical aspects of problem-solving, BS&H serves as a vital cornerstone, furnishing engineers with essential foundations and supplementary abilities that enable them to thrive in their profession and make significant contributions to society. Through courses covering subjects such as physics, chemistry, and mathematics, BS&H furnishes engineers with fundamental knowledge and analytical prowess, which are fundamental to engineering disciplines. Additionally, BS&H cultivates their communication skills through written, verbal, and presentation exercises, enabling them to effectively engage with diverse audiences. Moreover, BS&H provides engineers with the necessary communication skills and cultural awareness to bridge gaps and garner support for their projects.

Mathematics transcends being merely a subject for engineers; it stands as their primary tool, language, and framework for problem-solving. It holds a foundational and essential position in engineering across diverse fields. Mathematics functions as the fundamental language of engineering, equipping engineers with the requisite tools and methodologies to comprehend, assess, design, and enhance a broad spectrum of systems and operations. The absence of mathematics would impede numerous technological breakthroughs that are integral to our modern existence.

The significance of physics in engineering is paramount and all-encompassing, akin to mathematics. It establishes the groundwork for comprehending the natural world and its governing laws, crucial for the conception, evaluation, and construction of diverse engineering systems. Physics goes beyond being a mere prerequisite for engineers; it serves as their indispensable perspective for interpreting the world and the driving influence behind their innovations. Whether in the towering skyscrapers or the intricate microchips within our devices, the influence of physics is unmistakable in every facet of engineering.

The significance of chemistry in engineering is deep and diverse, reaching beyond the domain of chemical engineering. It serves as the link between theoretical principles and real-world applications, exerting a critical influence on numerous facets of engineering. Chemistry furnishes engineers with

essential comprehension and resources required to devise and enhance a broad array of engineering systems and procedures. Whether it involves the creation of novel materials, the formulation of chemical processes, or the resolution of environmental issues, chemistry stands as a pivotal force in propelling technological advancement and fostering innovation within engineering.

In the realm of engineering, the domain of Life Skills assumes a pivotal role that extends beyond mere technical expertise. While mastering technical abilities remains crucial for engineers, Life Skills provide them with personal and interpersonal proficiencies that are equally vital for success in both their professional endeavours and personal lives. Life Skills foster critical thinking, enabling engineers to approach challenges from diverse perspectives, analyse information proficiently, and make well-founded decisions. They transcend mere "soft skills," serving as indispensable competencies that complement technical know-how and empower engineers to thrive in their careers, collaborate effectively, make significant contributions, and lead fulfilling lives. Moreover, Life Skills instil a sense of social responsibility, prompting engineers to contemplate the ethical and societal ramifications of their work and devise solutions that benefit the community.

Effective communication is a vital component of engineering practice across various dimensions of the profession. Engineering endeavours typically involve teams comprising professionals from diverse backgrounds such as engineers, scientists, technicians, and others. Proficient communication is indispensable for coordinating tasks, sharing crucial information, and resolving potential conflicts within these multidisciplinary teams. Engineers frequently engage with clients, stakeholders, and end-users throughout the project lifecycle. Here, professional communication skills prove essential for comprehending client needs, clarifying expectations, and providing regular updates on project advancements. Establishing robust relationships through effective communication can result in client satisfaction, repeat business, and referrals. Moreover, clear and concise communication ensures that all team members are aligned with project objectives and timelines. Professional communication stands as a cornerstone of engineering practice, facilitating collaboration, information dissemination, problem-solving, decision-making, and ethical conduct. Engineers endowed with strong communication proficiencies are better equipped to excel in their roles, foster positive relationships with both clients and colleagues, and contribute significantly to the successful execution of engineering projects.

In summary, the Department of Basic Science and Humanities serves a crucial function in moulding aspiring engineers into more than just technically skilled practitioners. It also cultivates them as holistic, ethical, and socially responsible individuals capable of making meaningful contributions to society.

MANOJ M
ASSISTANT PROFESSOR
Dept of Computer Science Engineering

What is the Future of Computer Science?

In a word, the future of computer science is promising.

In a few more words, the future of computer science is promising, but with challenges to overcome.

A computer science degree used to mean a six-figure salary and guaranteed career prospects. AI is looming, and no-code is more popular than ever.

The future of computer science as a degree choice.

If you're a soon-to-be computer science student, your main question is: what's the future for CS students? Is CS still worth doing as a degree?

In my humble opinion, yes. A computer science education is no longer just a gateway to a computer science job. Just like knowing how to balance a budget, computer science is slowly becoming an integral part of the world around us.

Is it necessary to know how algorithms work?

Sometimes! but even if you aren't writing algorithms for a living, it's still massively helpful, and I wouldn't be surprised if it became necessary in the future. A computer science degree teaches you other things worth knowing: the hardware behind computers, and an understanding of a wide variety of coding languages and their methodologies. Every company will have some kind of tech core in the future. Getting a CS degree will be useful in any field.

Now, computer science is still a tough degree. But its future is as solid as ever. With only a 5% unemployment rate and the 4th highest median starting salary, it's still a great choice for anyone who leans toward math and analytics.

The main thing worth noting is that while a computer science degree is a solid bet for the future, it's no longer the only path to the future. As async computer science boot camps become more comprehensive and degrees become more expensive, there may reach a point at which it's best to

learn computer science by yourself without relying on a university degree. After all, over 30% of computer scientists today don't even have a Bachelor's degree.

The future of computer science as a career

Whether or not you decide to clinch a computer science degree, you probably want to be sure about computer science's future as a career. Frankly, each and every field experiences a job uncertainty. Computer science careers aren't immune. However, even with freezes and layoffs and potential AI replacements, there are still 700,000 open computer science jobs. As of August 2023, only 5% of high school students study computer science every year. In other words, the high demand and low supply of computer scientists is still a problem for companies worldwide. Computer scientists are not immune to career troubles, but they're a heck of a lot more resilient to employment market wobbles and misfires than most other professionals.

Plus, the ongoing demand means that your computer science salary in the future is likely to be high. Today, computer science has a reputation for being a well-paid career. In the future, computer scientists are projected to have the second-highest pay rise in any subject group (5.2%), surpassed only by mathematicians (5.4%).

The future of computer science as a field

All of the daily activities are fuelled by computer science.

Computer science currently dictates the world around us. Supply chains, content algorithms, and even job application systems are designed, built, and refined by computer scientists. Computer science isn't just our future, it's our present.

Computer science becomes more important as the economy and every facet of our lives become more dependent on tech. In the future, as machine learning, deep learning, neural networks, and natural language processing become more sophisticated, I'd expect computer science to establish an ever-firmer foothold on our reality.

As a field, I expect new technology - new languages, frameworks, or even more advanced concepts like AI - to be explored and developed in computer science. This relentless pace of technological advances, more than anything else, means that computer science as a field will be relevant for many years into the future. But there's a lot more to change that nobody can predict. In ten years, it's tricky to say what computer science jobs will look like.

The only guarantee is that you'll have them. The future of computer science is very bright, whether you're choosing it as a degree, a career, or just contemplating it as a facet of our human existence.

Computer science has a long and fruitful future ahead.

As a degree, as a career choice, and as a field, computer science is a wonderful option. Let's briefly discuss the challenges I mentioned before:

1. Hiring freezes/layoffs: It's true that the tech world is at its chilliest point, but as I mentioned, there's still a deficit of computer scientists out there in the world. Even if you don't get hired at a big-name company, you're almost certain to find work. Plus, recessions are historically good times to found startups. You may not get a job at Google, but you may get a job at the next Google.

2. AI is approaching: AI pretends to threaten every field, but it's not a real threat; it's a tool. In marketing, writing, sales, science, pharma, and yes, computer science, AI will help make your job easier. It will not take your job.

3. The no-code movement: Firstly, computer science encompasses a heck of a lot more than just programming languages. Second, my humble opinion is that no-code is not a long-term viable solution. Computer scientists need reproducibility and open-source products to collaborate and demonstrate their work. No-code might be good to get up and running, but in the long term, coding will prevail.

If you're at a critical junction at school or in your career and you're wondering about the future of computer science, here's your answer: computer science will be just fine. If you invest in learning those skills, you will be, too.

Dr. SHINE K
PROFESSOR & HoD
Dept of Mechanical Engineering

The *Mechanical Engineering* is a core and versatile branch of engineering that applies principles from physics, mathematics, and material science to design, analyze, manufacture, and maintain mechanical systems. It is one of the oldest and broadest of the engineering disciplines, encompassing a wide range of topics including mechanics, dynamics, thermodynamics, materials science, structural analysis, robotics, energy management etc.

As technology advances, the scope of mechanical engineering continues to expand into areas like artificial intelligence (AI) for predictive maintenance, 3D printing for advanced manufacturing, and the development of smart materials. The flexibility and broad skill set of mechanical engineers enable them to adapt and thrive in a rapidly changing technological landscape, ensuring their continued relevance and demand in the job market.

SMEGHA N C
ASSISTANT PROFESSOR
Dept of Agriculture Engineering

In 2023, Jawaharlal Colleges of Engineering and Technology came up with a new engineering trade, which is available in only four colleges in Kerala. B. Tech Agriculture Engineering- putting an effort to show the new generation a less taken path.

The Agriculture Engineering course under APJ Abdul Kalam Technical University, is focused on agricultural mechanization, irrigation and drainage of field and post-harvest technologies with an introduction of IoT in farming. The particular branch involves design and development of various agricultural machineries which will help the farmers to improve the efficiency in all aspects and thereby increase the productivity. This will also address the problems of unavailability of land and labor.

The program includes the courses like 'Principles and practices of crop production', 'Fluid Mechanics and Hydraulic machineries', 'Introduction to Internet of things (IoT)', 'Soil science and engineering', 'Thermodynamics and Heat engines', 'Agriculture structures and environmental control', 'Farm machinery and equipment', 'Tractor systems and controls', 'Watershed hydrology' and 'Post-harvest engineering'. It also enforces the practical level application of the theoretical knowledge by incorporating many lab courses.

As the mission of the department says, we are here to build agriculture engineers to solve the real-life societal problems for sustained growth.

B. Tech Agriculture engineering graduates can pursue different horizons like Farm power machinery, Soil and water conservation, Agriculture Food Processing and Agri- Business Management. Assistant Engineer and Work Superintendent in Agriculture and farmer welfare department, Work Superintendent in soil and water conservation department, Skilled and Field assistant in various state and central projects under Kerala Agriculture University, District Engineer and Block level Engineer in MGNREGA program, Technical Assistant in SMAM project and Food security officer are some of the posts which an Agriculture Engineer is recruited. Apart from this, many agripreneur's are arising with huge consumer market in national and international level.

MANOJ M
ASSISTANT PROFESSOR
Dept of Computer Science Engineering

DATA SCIENCE

Data Science is a hot topic that cannot be ignored, primarily as it features in nearly every business's job posting. In fact, it's now a well-established fact that following big data and data security, data science and analyst roles are among the highest-paying jobs. The demand for this skill is soaring across various IT sectors, notably in technology, banking, healthcare, and information technology industries. The future of data science is undoubtedly bright and promising.

If you are one of those passionate graduates eager to venture into the world of data science, this dynamic and high-growth field offers immense opportunities for career development and innovation.

Evolution of Data Science

It started with linear regression and stopped for ten years with almost no progress in the machine learning field. Data scientists were stuck with one significant problem. However, in the last decade, the landscape has changed dramatically.

The emergence of big data, advanced algorithms, and powerful computing tools has propelled Data Science into a realm of rapid growth and innovation. This evolution has allowed us to explore new horizons, solve complex problems, and uncover once unimaginable insights. Data Science is no longer at a standstill; it is now at the forefront of technological advancement, shaping the future of industries and decision-making.

Emerging Trends in Data Science

Stay ahead of the curve by exploring the latest trends in Data Science. From new methodologies to innovative applications, discover what's shaping the future of this dynamic field.

Here are a few key trends to keep your eye on:

• Big Data and Advanced Analytics

• Machine Learning and AI Advancements

• Data Privacy and Security

These trends collectively drive efficiency, innovation, and competitiveness in the business world, making them essential focal points for organisations aiming to stay ahead of the competitive market.

Innovations Shaping the Future

- Graph Technology and Analytics

- Cloud Computing with Unlimited Computing Power

- Predictive Data Analysis

- Blockchain in Data Science

- Data-Visualisation Advancements in Real-Time

- Data as a Service Model

- Ethical AI and Bias Mitigation

- Quantum Computing

- Time Series Analysis

These examples illustrate the diverse applications of Data Science and advanced analytics in various industries.

The Role of Data Scientists in the Future

1. Evolving Skill Sets: Data scientists must continuously adapt, expanding their expertise in machine learning, AI, and data engineering. It is essential to be versatile and committed to staying current with technology trends.

2. Collaborations with Domain Experts: In the future, data scientists will increasingly collaborate with domain experts in fields such as healthcare, finance, and climate science. This partnership will allow data scientists to apply their skills to real-world problems, enhancing decision-making and problem-solving.

As data continues to shape the future, and data scientists play a crucial role in unlocking its potential for innovation and positive change. Choose the best colleges in Bangalore for a data science journey, as it can shape you from an early stage of your career.

If you're a graduate with a passion for exploring new-age business models, Data Science can offer you a world of opportunities for career growth and creativity. To fully explore its potential, it is crucial to stay up-to-date with the latest trends and innovations.

Aeronautical Engineering

The Nehru Group of Institutions, comprised of committed and distinguished experts with extensive and exceptional experience in the sector of aviation education, formed Jawaharlal College of Engineering and Technology to open a new opportunity in the field of higher education. It is the first institution in the state of Kerala, which provides a B.Tech curriculum in Aeronautical Engineering, and it started operations in 2008.

The goal of the 2008-founded Department of Aeronautical Engineering is to become a globally recognised leader in the field of aeronautical engineering education and research. The department offers a B.Tech course in aeronautical engineering. The department's highly skilled and knowledgeable faculty is dedicated to delivering high-quality instruction using creative teaching-learning techniques. Each faculty in the department excels in their own specializations and very much dedicated and committed to the institution's ongoing skill development. Using resource people, the curriculum is evaluated on a regular basis to keep up with the worldwide industrial scenario. With the introduction of the choice-based credit system, students can now choose from a wide range of engineering courses in several interdisciplinary fields. The department features cutting edge lab equipment and infrastructure, offering teachers and students a comfortable teaching-learning environment. To develop students' leadership skills, a number of associations and professional bodies actively support co-curricular and extracurricular activities. The students are successful in pursuing higher studies in the leading institutions such as IITs, in India and leading universities in abroad.

Department of aeronautical engineering is accredited by National Board of Accreditation (NBA) with good percentile in tyre one. Department is equipped with two centre of excellence in the

field of Drone technology and Piloting, which promotes our students' skill development and research activities through trainings and industrial interaction.

Numerous university rank holders have come from the Department of Aeronautical Engineering since its founding. Department has been generating graduates with 10+ university ranks since 2019, demonstrating their continued pursuit of excellence.

Aeronautical Engineers will design, construct and test aircraft, missiles, satellites, rockets, spacecraft's and anything that flies. Besides this, they are also involved in researching new materials, engines, body shapes and structures. An Aeronautical engineer applies scientific and technological principles to research, design, develop, maintain and test the performance of civil and military aircraft, missiles, weapons systems, satellites and space vehicles. They also work on the different components that make up the aircraft and associated systems. They focus on enhancing high-quality flight safety and standards as well as reducing overall design, operation and maintenance costs. To an extent, their role addresses the environmental impacts of air travel. Higher order specialization in the Aeronautical Engineering involves core subjects such as Aircraft Structures, Aerodynamics, Avionics, Computational Fluid Dynamics, Finite Element Methods, Material Science, Propulsion, Rockets & missiles, Vibration & Aero elasticity.

DEPARTMENT OF CIVIL ENGINEERING

In today's challenging and fast developing world, civil engineering is regarded as one of the most important fields across the globe. Civil engineers develop and improve all the services and facilities that we use every day. The Department of Civil Engineering at Jawaharlal College of Engineering & Technology was established in 2011.

We work together with the aim of becoming a premier technical centre with teaching, research and consultancy that serve the people and the nation and to create a people cantered and ecologically sustainable society. The department is focused in achieving technical excellence, ethical values, and overall development with global standards.

The academic activities of the department emphasize on deep understanding of fundamental concepts, development of creative ability to handle the challenges of civil engineering, and the analytical ability to solve problems. The teaching learning process involves classroom lectures, laboratory demonstrations, use of models and charts, industrial visits and expert lectures from industry and research organizations.

Our students are enthusiastic and faculty members are committed. All the students undergo industrial training during semester breaks thereby knowing the application side of the knowledge and generating a professional enthusiasm. The department association aims in overall development of faculties and students by conducting seminars, webinars, talks and creative sessions. The department also undertakes consultancy and testing activities, thereby contributing to the development of the region. The department has a well-placed alumni network in industries of repute or institutes of higher learning.

BABURAJ K
LIBRARIAN
Central Library, JCET

CENTRAL LIBRARY

Central Library: An overview

Library is the 'Heart' of an academic and learning system. JCET Central Library is situated in the Central part of the academic block. It is located in 3 floors (Ground, first, and second accordingly) and easily accessible to all. The mission of the library to facilitate creation of additional knowledge through acquisition, organisation and dissemination of knowledge resources and providing for value added services. The library is furnished with 320 seating capacity in Reading & Reference area. The library maintains a growing collection of 30970 volumes in addition to the Department Libraries. The diversity of the library collection includes Textbooks of Engineering & management, Reference books, General reading English as well as Malayalam books, Competitive Examinations Collection (GATE/UPSC/CIVIL SERVICE/GRE/AFCAT/CAT/MAT/SSB/SSC/DRDO). Our library subscribed 98 National Journals, 45 technical magazines and 21 International Journals. We have a good collection of Newspapers (4 hard copies & 170+ e-papers) in different regional languages.

Library software – KOHA:

Library functions are automated through the open-source software, KOHA (ver. 20.11.01.000), globally using Integrated Library Management Software. It has acquisition, cataloguing, circulation, barcoding, serial modules etc. Online Public Access Catalogue (OPAC) can be checked anywhere. The entry and exit of library users also recorded with the e-gate register.

Icampuz.in

Icampuz.in is ERP software from M/s.insto technologies pvt. Ltd., Kochi, Kerala. The library is using Icampuz from 2016 onwards and partially switched to Koha software from November 2020 which is on cloud and OPAC can be accessed from anywhere with their cell phone also.

E-resources and Digital Library:

In addition to subscribed e-resources such as J-gate, Delnet, k-Hub, National Digital Library (NDLI CLUB), Knimbus-e Library, link to important and authentic free, open source and public domain resources are also provided. Detailed list of subscribed e-resources displayed in the digital Library equipped with 12+24 computers with high-speed Internet with a band width of 290mbps.

ABSTRACT OF DIGITAL LIBRARY CONTENTS

Sl. No	Name of the E - consortium	Total number of e-journals	Total number of eBooks	Total number of e-magazines	Total No.of video classes
1	DELNET	1874	10680	——	——-
2	k-hUb.in	15079	9387	177	198
3	J-Gate Plus	25000	—-	—-	——
4	Knimbus: e-Library	10244	9607	——	107
5	**Total collection**	**52,197**	**26,674**	**177**	**305**
6	National Digital Library	5,80,00,000 (5.8 Crores) Digital contents available in this repository			

Important Do's & Don'ts:

- Smart Card is Mandatory for Library Usage.
- Strict Silence is to be observed in the library.
- Each Student is permitted to borrow 3 Books at time period of 14 days. If not returned or renewed in time, the Library shall fix an appropriate fine per day (Govt. of Kerala (G.O.(MS)No.66/2003/11.Edn.) Dated, TVM 07/06/2003.) Default.
- Reference Books and Journals shall not be issued to anybody.
- Each one is expected to handle the Books in careful manner.
- Students are allowed to use personal laptops and mobiles in the library for academic purpose only. High speed internet & Wi-Fi available to access library resources.
- Previous Year Question bank, reprographic, printing and scanning facility also provided.
- While entering the Library, User should leave their belongings in the shelf provided.
- The User may take their **own books** or Issued library books to the **Study room** only.

GOPIMOHAN M S
ASSISTANT PROFESSOR
Dept of Physical Education

PHYSICAL EDUCATION

In our modern society, people's material living standards have risen substantially, and physical exercise has been paid more and more attention by the public. Therefore, the goal of physical education in colleges and universities should be set lifelong physical education thought as the core and reform towards lifelong physical education thought. Physical education provides cognitive content and instruction designed to develop motor skills, knowledge, and behaviors for physical activity and physical fitness.

Sports can improve people's spiritual life too. Only by taking physical exercise as the basis and gaining a healthier body can college students better devote their mind and body to study. With the help of sports, students can constantly activate their body and mind, learn to cooperate in team activities, improve the degree of tacit understanding, experience competition and pressure in confrontational activities, constantly meet their inner needs, enjoy the pleasure of sports, and sublimate their emotional experience in sports. By establishing physical education regularly in colleges, can provide students the ability, confidence, and be physically active for their lifetime.

In JCET, the facilities and atmosphere are positive for students. Therefore, our students excel and win at different competition held at university and national level. This has been possible because of the constant support and guidance of our benevolent management.

ANNUAL SPORT MEET 2022-23

JCET conducted Annual sports meet during the period of April 24th to May 26th 2023, which included events like football, cricket, shuttle, handball, chess etc… An ANNUAL SPORTS DAY was successfully held in JCETcampus on April 26th, 2023.The sports day was inaugurated by JYOTHIKA (INDIAN ATHLET), at 10 am, which was followed by a march-past of different houses participating in different events (athletics events 100m, Long jump, Shotput etc.). The events started by 10.30am and came to an end by 3.00pm.

APJKTU INTER COLLEGIATE ATHLETIC MEET-2022-2023

In the fifth APJKTU Inter collegiate Athletics Championship held at Kerala University Stadium Thiruvananthapuram on 27th ,28th, and 29th APRIL 2023. Out of the total 1560 students from 101 colleges participated. JCET participated in the meet.
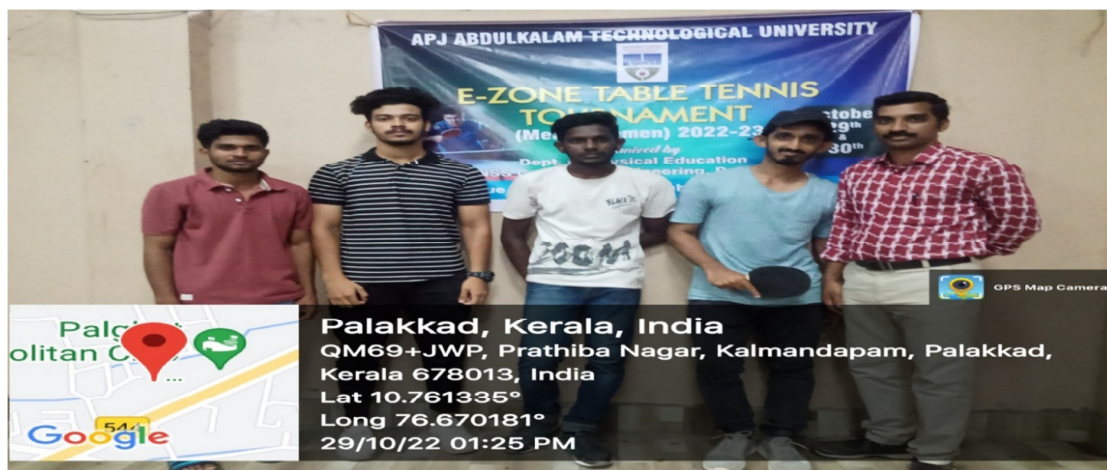
COLLEGE TABLE TENNIS TEAM

COLLEGE VOLLEYBALL TEAM

COLLEGE SHUTTLE BADMINTON TEAM   COLLEGE FOOTBALL TEAM

COLLEGE CRICKET TEAM   APJAKTU E ZONE TABLE TENNIS WOMEN TEAM 3rd PRIZE

From our Bodies…

Innovation and Entrepreneurship Development Centre (IEDC)

Jawaharlal College of Engineering and Technology
(Supported by KSUM, State Nodal Agency by Govt. of Kerala)

Vision

➤   IEDC-JCET shall focus to convert start-up ideas into Successful Business through Innovation by providing Mentorship, Expertise and Networking

   To foster entrepreneurial culture in the college and to provide a platform for the students to pursue entrepreneurial activities

Mission

➤   To promote creativity and innovation in technology by understanding the requirements of the society and thereby to lead the country towards a sustainable future

➤   To generate a new dimension of entrepreneurship based on technology-driven Start-ups

➤   To inculcate the attitude of self-sustainability within the youth of India and the World through excellence in Scientific and Technical Innovations that serve as a valuable resource for our society

Achievements

   Two startups' companies have been incorporated as private limited. 1) Orbitocure Innovations Pvt. Ltd., 2) Cropive Innovations Pvt. Ltd.,

   There are 4 Indian Patents have been filed and published so far

   Four startup projects got a Grant Amount of Rs. 2.5 Lakhs each from NGI NewGen IEDC, Supported by Department of Science and Technology, Govt. of India

• 3 startup projects have been selected out of 25 ideas through the idea pitching competition

   22 startup companies from IEDC-JCET were Pre-Incubated under NGI-TBI

Activities on 2023-24

   'NGI Bootcamp' on 03/02/2023

NGI Bootcamp, organized by NGI-TBI at NIET Campus, Coimbatore. Two teams from IEDC-JCET have been presented their innovative idea and prototype to the expert panel. An Amount of Rs. 2.5 Lakhs has been Sanctioned for both the teams as Prototype Development Grant Amount from NGI NewGen IEDC, Supported by Department of Science and Technology, Govt. of India.

IEDC Summit 2023 on 04/03/2023

IEDC SUMMIT 2023, organized by Kerala Start-Up Mission [KSUM] and hosted by Rajagiri School of Engineering and Technology, Kakkanad. A group of 27 students and Nodal officer have been attended the Asia's Iargest IEDC Student SUMMIT. Also, the participation for product exhibition called KITE, from JCET was extremely well. There was a good explanation and effort in making those products by our students.

IEDC Summit on 12/10/2023 CET, TVM

IEDC SUMMIT 2023, organized by Kerala Start-Up Mission [KSUM] and hosted by College of Engineering, Trivandrum. A group of 8 students have been attended the Asia's Largest Student Entrepreneurship SUMMIT. Students could attend various of technical events and talk session during the summit

• **Yip Awareness Programme 8/6/2023**

Sibushnu R, YIP Program Coordinator, K-DISC, Palakkad was the resource person for the awareness program. 75 students were participated and many are ignited towards idea generation.

Idea Pitching Competition– 5/8/23

NGI-NewGen IEDC and IEDC-JCET jointly organized 'Idea Pitching Competition' on 05th Aug 2023.

Jury Members: 1) Dr. K Sivakumar, Professor & Head, CSE, NCERC

2) Dr. Umesha K, Professor & Head, ECE, JCET

There were 25 teams have presented their idea and out of that 3 teams have been finally selected to begin their startups.

Five Days Management Development Programme [MDP] on 15/01/24 to 19/01/24

The Ministry of MSME Sponsored five days MDP for Entrepreneurs has been conducted at JCET campus.

Ideathon 2024 on 12/02/2024

Nehru Group of Institutions Technology Business Incubator (NGITBI) – IEDC- JCET Organised NGI Ideathon-2024 at JCET campus on 12/02/2024. More than forty-six teams of students from different engineering colleges and schools in Kerala participated in the event. Valedictory function of the event was presided over by Dr. H N. Nagaraja Executive Director, Academics and Administration, NGI. Dr. B Vaikundaselvan, Executive Director, NGI TBI, welcomed the gathering. Mr. Jiju John, Group Director, AETG, ISRO, Bangalore, was the event's chief guest. He gave the valedictory speech. The Chief Guest also released NGI TBI Newsletter. The keynote address was given by guest of honor Mr. Vignesh Radhakrishnan, Head-LEAP, Kerala Startup Mission.

New IEDC Excecom Team – 2024(Jan-Dec)

Moments of IEDC@2022-23

Journey of IEDC @ 2022-23

EAC on 17/06/22

Prototpe Unveiling Ceremony-17/08/22

IEDC Orientation Program-26/11/22

IDEATION Workshop-30/11/22

I-Talk-02/12/22

IEDC Orientation Program-10/01/23

IEDC SUMMIT'23-04/03/23

"From Boundaries to Boundless, A Journey of Creativity, Courage, and Acceptance in Building a Wholesome Family"

IEDC Excecom Team – 2023-24 (July'23-June'24)

AJITH MOHAN M
ASSISTANT PROFESSOR
Dept of Mechanical Engineering

NSS UNIT 251

National Service Scheme: Promoting Civic Engagement and Social Responsibility

The NSS (National Service Scheme) unit in JCET (Jawaharlal College of Engineering and Technology) is a vibrant and active organization that plays a significant role in fostering social responsibility and community engagement among the students. JCET, located in Palakkad, Kerala, is one of the premier engineering colleges in India, and its NSS unit has been actively involved in various community service programs for many years.

The NSS unit in JCET functions as a platform for students to actively contribute to society while developing their own skills and perspectives. The unit organizes a wide range of activities and initiatives that aim to address the needs of the local community and create a positive impact. These activities are designed to promote social awareness, environmental conservation, education, and overall holistic development.

Community service is one of the primary areas of focus for the NSS unit in JCET. Students actively engage in various programs and projects that cater to the needs of the underprivileged sections of society. These initiatives include organizing health camps, blood donation drives, and awareness campaigns on important issues like sanitation, hygiene, and preventive healthcare. The NSS unit also undertakes projects related to rural development, such as constructing basic infrastructure, facilitating clean drinking water supply, and promoting sustainable practices in villages.

Education and skill development are integral aspects of the NSS unit's activities. Students from JCET organize educational programs, workshops, and tutoring sessions for children from disadvantaged backgrounds. These initiatives aim to bridge the educational gap and provide equal opportunities for learning. The NSS unit also focuses on promoting technical education by conducting workshops, seminars, and training programs for students from nearby schools and colleges.

The NSS unit in JCET also actively participates in social awareness campaigns. We also actively participated for the rescue, cleaning operations during the flood in 2018 in Palakkad. Students organize rallies, street plays, and interactive sessions to spread awareness on crucial issues like gender equality, environmental conservation, and social justice. These campaigns aim to create a sense of responsibility and consciousness among individuals and encourage them to actively contribute to social change.

Additionally, the NSS unit in JCET regularly organizes special camps and training sessions for its members. These camps provide students with hands-on training in areas like disaster management, first aid, and emergency response. The objective is to equip students with practical skills that can be utilized during emergencies and natural disasters, making them valuable assets to society.

The NSS unit in JCET has consistently demonstrated its commitment to social welfare and community development. The unit's efforts have earned recognition and accolades, and its members actively participate in state-level and national-level NSS events and conventions. Our NSS unit is awarded for the continuous support of the blood donation by the volunteers during the academic year 2022-23. Through their involvement in NSS activities, JCET students develop leadership abilities, teamwork skills, and a sense of social responsibility that extends beyond their academic pursuits.

In conclusion, the NSS unit in JCET Palakkad is an active and impactful organization that promotes community engagement, social responsibility, and overall development among its students. The unit's dedication to community service, education, and social awareness has made it an integral part of the college's culture and has contributed significantly to the betterment of society.

Dr. ASHOKAN CHANKARACHAN
Professor & HoD
Dept of MBA

UDHYAMA 4.0 (2024)

Udhyama 4.0 is the flagship event of JBS and is called as a lollapalooza. It is the cynosure of all B-Schools and was conceptualized in 2021. It is the brain child of JBS faculty & students. It is done with the intention of honing the managerial skills of JBS students. It is one-day national level management fest followed by a musical night. Students from all over the country participate in the event and the JBS campus is chock a block with students on that day. Udhyama is not only fun and frolic, but also serious business of managerial skills. It is day full of energy and enthusiasm for the students and is an invigorating experience for them. Udhyama 4.0 consists of 10 events, they are as follows.

Sl No.	Event	Prize Money
1	THE BEST LEAGUE/BEST MANAGER	3000
2	SKILL HUNT/SKILL PLAY	3000
3	EYE SPY/TREASURE HUNT	7000
4	MYSTERY SOLVERS/BEST MANAGEMENT TEAM	5000
5	ARGUMENTARENA/DEBATE	3000
6	BRAIN BLITZ/FINANCE GAME	3000
7	BRAND BOSS BATTLE/MARKETING GAME	3000
8	TALENT TRIAL BLAZERS/H.R.GAME	3000
9	PINNACLE CLASH/OPERATIONS GAME	3000
10	GLAMOUR FEST/FASHION SHOW	5000

Around 30 colleges from all across India is likely to participate in the event. The Chief Guest of the programme is CA Nithin Chettoor, the famous chartered accountant in Palakkad. Udhyama maxime quaesivit of all management fests attracts a whole lot of students from all across India. Udhyama will be concluded on 20th February'2024. Usually, eminent colleges like SAINTGITS GROUP OF INSTITUTIONS, Sahrdaya College of Engineering and Technology, Yuvakshetra Institute of Management Studies, Aligarh Muslim University etc., used to participate in the event.

ZEROe

Towards the world's first hydrogen-powered commercial aircraft

"You gotta dream, You gotta protect it"

On December 17, 1903, two brothers from Dayton, Ohio, named Wilbur and Orville Wright, were successful in flying an airplane they built.

They gotta dream and they protect it. They created a whole industry after their invention. Because of their idea connectivity between countries increased, the mode of travel upgraded and their invention created a new industry and a new world.

In the wake of increasing concerns over climate change and the environmental impact of traditional air travel, the aviation industry has been diligently seeking innovative solutions to reduce carbon emissions. Among these efforts, Airbus, a global leader in aerospace technology, has unveiled an ambitious initiative known as Airbus ZEROe. This groundbreaking project aims to revolutionize air travel by developing zero-emission aircraft, marking a significant step towards a more sustainable future for aviation.

All four ZEROe concepts are powered by hydrogen.

In the case of hydrogen combustion, gas turbines with modified fuel injectors and fuel systems are similarly powered with hydrogen to how aircraft are powered today. A second method, hydrogen fuel cells, creates electrical energy which in turn powers electric motors that turn a propeller or fan. This is a fully electric propulsion system, quite different from the propulsion system on aircraft currently in service. These technologies are complementary, and the benefits are additive.

Airbus is meeting several technologies and testing milestones as it moves towards its ambition of bringing to market a hydrogen-powered commercial aircraft by 2035. Airbus test aircraft A380 MSN1 is taking the lead in testing these technologies that will be vital to bringing a hydrogen-powered commercial aircraft to market.

The Airbus ZEROe project represents a landmark initiative in the pursuit of sustainable aviation solutions. By leveraging hydrogen power, electric propulsion, and advanced materials, Airbus aims to revolutionize air travel and pave the way for a greener, more sustainable future. As the world faces growing environmental challenges, initiatives like Airbus ZEROe offer hope for a brighter tomorrow, where air travel can coexist harmoniously with the planet, we call home.

In 1903, two brothers created history. All the aviation enthusiasts can wait and see this team Will we make history or not?

IEEE Student Members

JAWAHARLAL COLLEGE OF ENGINEERING AND TECHNOLOGY
27(K) BN NCC PALAKKAD

Opportunities to bloom the next future is a crucial and inevitable part of any organization, the future promises are the hopes and purposes of each of the individuals involved in an institution. NCC (National Cadet Corps) plays an impending role in moulding and polishing each one of the cadets involved in them, NCC provides exposure to the cadets in a wide range of activities, with a distinct emphasis on Social Services, Discipline and Adventure Training. The NCC is open to all regular students of schools and colleges on a voluntary basis. The students have no liability for active military service.

Being an NCC cadets is certainly handful, though the Beneficials makes every single drop of sweat worth it, NCC Cadets have reservation in many Government jobs, especially in the State and Central Police and in paramilitary forces. NCC cadets have a lot of academic incentives too. NCC 'C' Certificate cadet taken part in Republic Day parade at New Delhi, they are exempted from CEE and be awarded 100 marks in lieu.

The NCC is the youth wing of Armed Forces and a prestigious Tri Services Organization comprising Army, Navy and Air Wing. The students who are part of this significant team are groomed to be disciplined and patriotic citizens of the country. In JCET, it has been allowed to raise an NCC unit for boys & girls attached to the 27th Kerala Battalion NCC Army Wing. The NCC training is imparted to the Cadets during the regular parades which are held on Sundays and in the various camps held throughout the year. The Cadets are prepared for the "B" and "C" Certificate examinations. The college unit is extremely dynamic and actively participates in various activities at College level, University and National level. The glimpses are presented here with a sense of pride and achievement.

THE JOURNEY OF DICIPLINE AND CAMARADERISE

(UNITY AND DICIPLINE)

In recent years, the National Cadet Corps (NCC) has become an integral part of our college community, demonstrating remarkable dedication and enthusiasm in various activities and events. From fostering a sense of discipline to contribution actively to societal welfare, NCC cadets have left an indelible mark on our campus.

B Certificate Exam: One of the pivotal moments in the NCC calendar was the B certificate Exam held on March 4, 2023. This exam not only tested the cadet's knowledge and skills but also showcased their commitment to personal development and excellence.

Yoga Day Celebration: On June 21 2023, the college witnessed a serene yet invigorating atmosphere as NCC cadets led the celebration of International Yoga Day. Their dedication to promoting holistic

well-being as evident as they guided fellow students, NSS volunteers and faculty members through various Yoga poses and breathing exercises.

Farewell Event: As June drew to a close, the NCC bid farewell to graduating cadets with a heartfelt event on June 25, 2023. Their involvement in organizing and hosting this event reflected their deep sense of camaraderie and respect for their peers.

Rank Selection and Independence Day Celebration: August brought with it opportunity for growth and patriotism as NCC cadets participated in rank selection procedures and orchestrated a memorable Independence Day celebration on August 15, 2023.Their commitment to upholding the values of freedom was palpable throughout the festivities.

CATC Aug 2023: From August 26 to September 4, 2023, the NCC cadets embarked on a transformative journey during the Combined Annual Training Camp (CATC) held at JCET, Lakkidi. This immersive experience not only honed their leadership skills but also fostered a strong sense of teamwork and resilience.

Bharathapuzha Cleaning Campaign: September17, 2023, marked a significant milestone as NCC cadets actively participated in the Bharathapuzha Cleaning Campaign, demonstrating their commitment to environmental conservation and community service.

Carrier Guidance Session: The insightful carrier guidance session led by Vice Admiral G. Ashok Kumar on September 21, 2023, empowered NCC cadets to envision and pursue promising career paths, underscoring the holistic development fostered by the NCC.

Enrolment Drive and NSITE Stall: On September 23, 2023, the NCC welcomed new recruits through an enrolment drive, further expanding its reach and impact within the college community. Additionally, their presence at the NSITE stall on November 20, 2023, showcased their technological prowess and innovative spirit.

NCC Day Celebration with Blood Donation Drive: The culmination of their efforts was the NCC Day Celebration on November 27, 2023, coupled with a noble blood donation drive. This event epitomized the ethos of service before self-ingrained in every NCC cadet, leaving an enduring legacy of altruism and compassion.

January 26, 2024- Celebrating 75th Republic Day: The NCC at JCET marked the 75th Republic Day with grand celebrations. The event showcased patriotic fervour through various activities, including flag hosting, freedom run and speeches emphasizing the significance of the day.

Last Line Thod of 2021-23 Batch: The NCC unit bid farewell to the 2021-23 batch with a memorable "Last Line Thod" ceremony on February 4, 2024.

B Certificate Exam: On February 10 & 11, 2024, JCET College hosted the B Certificate exam for NCC cadets. This examination provided an opportunity for cadets to demonstrate their proficiency and dedication, marking a significant milestone in their journey.

In conclusion, the dynamic involvement and unwavering dedication of NCC cadets have not only enriched our college experience but also exemplified the values of leadership, service, and excellence. As we reflect on their myriad contributions, it is evident that the NCC continues to inspire and empower the leaders of tomorrow.

Next our commanding officer Colonel S K Babu Saab inspired each and every cadet to believe in themselves and to build a routine and have a disciplined life.

Dr. SHINE K
PROFESSOR & HoD
Dept of Mechanical Engineering

The Nehru Group of Institutions Technology Business Incubator (NGI TBI)

The Nehru Group of Institutions Technology Business Incubator (NGI TBI) is recognized by the National Science and Technology Entrepreneurship Development Board (NSTEDB) of the Department of Science and Technology, Ministry of Science and Technology, Government of India, New Delhi. The Technology Business Incubator (TBI) is an organizational setup that nurtures technology-based and knowledge-driven companies by helping them survive during the startup phase, which typically lasts around the initial two to three years. It is a Technology Business Incubator in India that fosters technology-based enterprises and startup companies in the fields of healthcare andIoT.

NGI TBI aims to guide and encourage all entrepreneurial ideas, whether for a product, service, equipment, novel application, business model, or technique. The primary focus of TBI is to stimulate startups and motivate incubators by governments and private players. This includes the process of selecting, nurturing talent, as well as providing post-incubation support. NGI TBI serves as a "One-Stop-Shop Business Incubation Center" for startups, facilitating an Entrepreneurial and Innovative Ecosystem for all stakeholders, including students, faculty members, alumni, industrialists, investors, and society at large. NGI TBI is established in a 24,000 sq.ft. Space with state-of-the-art facilities for startups, including co-working spaces, seminar halls, healthcare laboratories, IoT workstations, 3D printing facilities, etc.

NGI TBI is delighted to associate with startups, particularly in the areas of IoT and healthcare, providing workspace and basic facilities to develop businesses and promote startups in our country.

Facilities available:

• Air-conditioned co-working space

• High bandwidth internet LAN/WAN cabling connection

• Uninterrupted power supply

• Air-conditioned, well-equipped healthcare laboratories

• Air-conditioned computer labs

• Operational space

• 3D printers

• Printer/photocopier/scanner facility available

• Access to meeting rooms with projector facilities

• Air-conditioned access to the conference hall

• Technical assistance

• Common parking space

• Transportation facilities

Services available:

• Training/Mentoring

• IPR & Legal services

• Technology development

• Commercialization

• Branding

• Fabrication of prototypes

• Networking

• Fundraising opportunities

• Marketing assistance

• Access to investment

Follow our Social Media pages for regular updates

 Instagram:

https://www.instagram.com/ngitbi/

Facebook:
https://www.facebook.com/profile.php?id=100088376784740

Twitter:
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LinkedIn:
Profile: https://www.linkedin.com/in/ngitbi/
Page: https://www.linkedin.com/company/ngitbi/

Centre1
Jawahar Gardens
Lakkidi, Mangalam P.O
Ottapalam
Palakkad, Kerala-679 301
Ph: 04884284000
Centre 2

NehruGardens

Thirumalayampalayam

Coimbatore

Tamilnadu-641105

Ph: 0422 6794474

Dr. Shine K

NGI TBI (K) Coordinator

Dr. UMESHA K
PROFESSOR & HoD
DEPT OF ELECTRONICS ENGINEERING

INDIAN SOCIETY FOR TECHNICAL EDUCATION

Greetings from the ISTE Faculty and Student Chapter at JCET, Lakkidi.

Jawaharlal College of Engineering and Technology has membership ID IM1680/2008 and is a life member institution.

Dr. Murugesan R., President of ISTE, formally inaugurated the faculty chapter, which has 153 members (as of certificate no. KE073/2013). It was an honour to have the JCET is the only college with all of its faculty members becoming ISTE life members.

Using funds from the Indian Society for Technical Education (ISTE), an international conference on "safety by design" was made possible in 2013.

AICTE-ISTE Sponsored the Refresher Online Course on Technology-Driven Healthcare Systems, conducted by the Department of ECE, from January 18, 2022 to January 24, 2022 Additionally, ISTE provided financial support for NSITE 2017 of Rs 10,000.

Numerous technical and non-technical events that took place at our campus and were attended were funded by ISTE.

Faculty have participated in the 51-hour online ISTE-conducted IoT Foundation course.

A refresher online course on "technology-driven healthcare systems" was funded by AICTE-ISTE and was held from January 18, 2022 to January 24, 2022, at the Department of ECE

Dr Umesha K

Convener/ISTE@JCET

Research & Innovation (R&I) Cell

Jawaharlal College of Engineering & Technology (JCET) stands as a beacon of academic excellence and innovation in the field of Education. JCET's commitment to pushing the boundaries and fostering creativity is fulfilled through the Research and Innovation (R&I) Cell. It is a dynamic hub where ideas converge, innovations take shape, and dreams turn into reality.

The R&I cell at JCET was established on 2018 and it serves as a nucleus for driving research initiatives across various domains, spanning from cutting-edge technology to societal challenges. Spearheaded by a team of dedicated faculty members and students, the cell operates with a clear vision to cultivate a culture of innovation and problem-solving among students and staff alike.

One of the distinguishing features of JCET's R&I cell is its multifaceted approach towards research. Rather than focusing solely on academic pursuits, the cell actively seeks collaborations with industry partners, government agencies, and research institutions to tackle real-world problems. By bridging the gap between academia and industry, the cell ensures that research outcomes have tangible applications and societal impact.

Furthermore, the R&I cell at JCET is committed to nurturing talent and fostering an environment conducive to innovation. Through mentorship programs, workshops, and hands-on projects, students are encouraged to explore their creativity and delve into research from an early stage in their academic journey. This not only equips them with invaluable skills but also instils in them a sense of purpose and drive to make a difference in the world.

Moreover, the R&I cell provides state-of-the-art facilities and resources to support research endeavours. From well-equipped laboratories to access to cutting-edge technology, researchers at JCET have everything they need to push the boundaries of knowledge and innovation.

The impact of the R&I cell extends beyond the confines of the campus, as evidenced by its collaborations with industry and government. By leveraging partnerships and forging alliances, JCET's R&I cell is contributing to the economic growth and development of the region while addressing pressing societal challenges.

In conclusion, the R&I cell at Jawaharlal College of Engineering Technology, Lakkidi Palakkad, embodies the institution's commitment to fostering innovation, research, and collaboration. Through its multifaceted approach and dedication to excellence, the cell is paving the way for a brighter future and empowering the next generation of innovators and leaders.

INSTITUTION OF ENGINEERS INDIA

The Institution of Engineers (India), the IEI, is a national organization for engineers in India. It is the world's largest multi-disciplinary engineering professional society. It has more than one million members in 15 engineering disciplines. The institution was established in 1920 in Kolkata, West Bengal, and was incorporated by Royal Charter in 1935. It is currently headquartered at 8 Gokhale Road, Kolkata. The institution conducts an examination for associate membership. This examination is considered to be on a par with B.E. / B.Tech. examinations for employment in government, public and private sectors in India, and is also recognized by other nations.

There are five fora of the IEI: the National Design & Research Foundation (NDRF), Water Management Forum (WMF), Safety and Quality Forum (SQF), Sustainable Development Forum (SDF), and Rural Development Forum (RDF). The IEI also has an autonomous organ, the Engineering Staff College of India. The objectives of students' chapter include:

1. To facilitate the exchange of information and ideas, amongst the members and the persons attached to the Institution

2. To inculcating and promoting the technical instinct among the students and as a platform for the technical proceedings

3. To get the students more acquainted with the existing technology and to make familiar with the state-of-art technology.

4. To promote the general advancement of engineering their applications. The function of IEI students chapter include Implement the technical knowledge which they get from guest lecture, workshops and project exhibitions. Enhance their thinking ability and build a leadership quality to pursuit their career growth.