www.cvrp.edu.in

Vaishayika

ANNUAL MAGAZINE
2024-25

C. V. Raman Polytechnic

Bidyanagar, Mahura, Janla, Bhubaneswar-752054

Vision

To emerge as a global leader in the area of technical education through the pursuit of excellence with future of skills and innovation to match the ever changing global scenario.

Mission

- Inculcating best engineering skills, professional ethics and practices.
- Working collaboratively with technical Institutes /Universities/ Industries of National and International repute.
- Providing strong foundations by adopting effective teaching learning methods.
- Developing leadership qualities, effective soft skills, critical thinking and attitude of lifelong learning by organizing student centric activities.

CHAIRMAN'S MESSAGE

Shri Sanjib Kumar Rout

It gives me immense pleasure to present this edition of our college magazine — a vibrant reflection of the creativity, intellectual spirit, and achievements of our students and faculty.

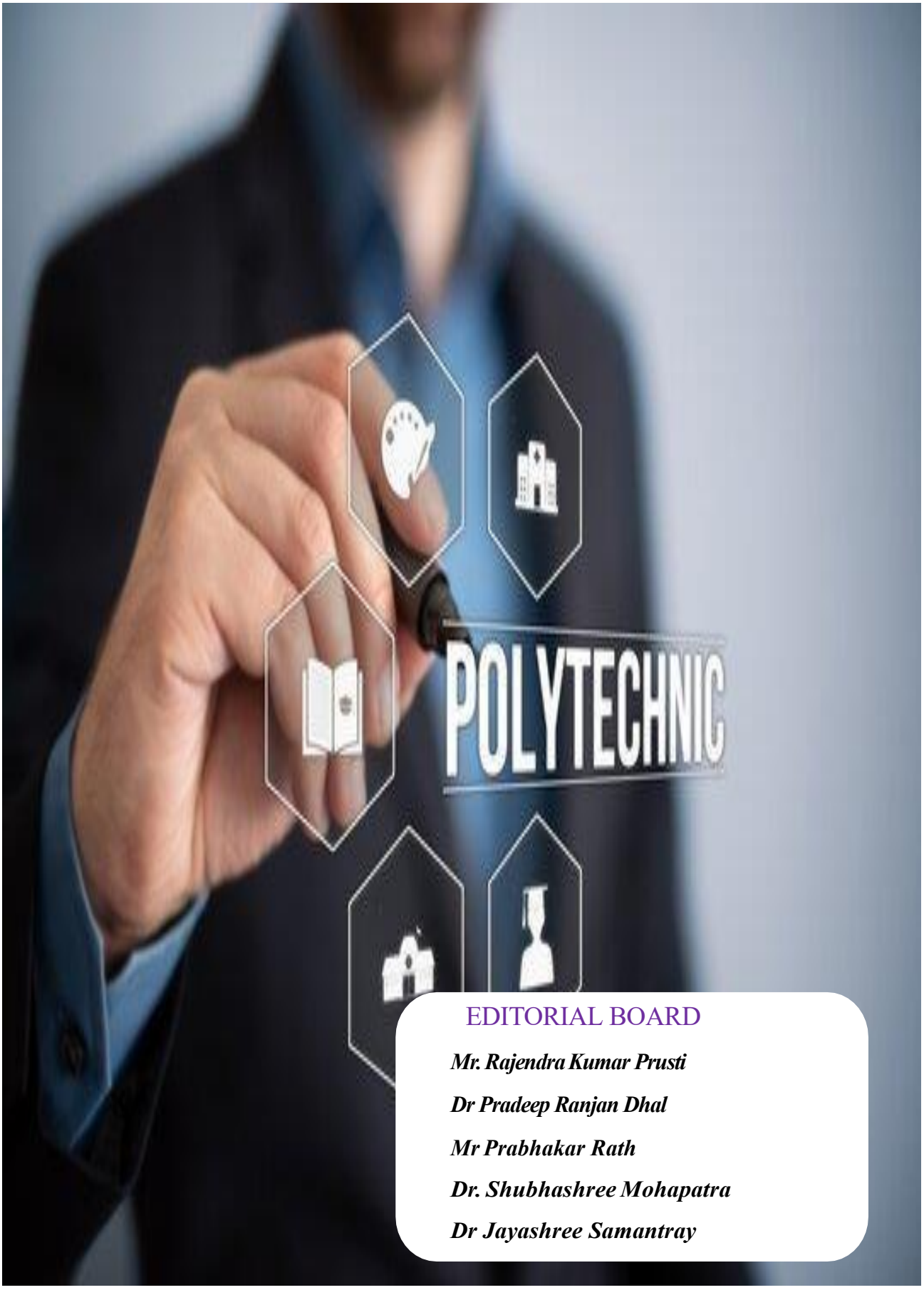
Education, in its true sense, is not just the acquisition of knowledge but the cultivation of values, leadership, innovation, and resilience. As Chairman, I am proud to see our institution nurturing not only future professionals but also responsible and enlightened citizens.

PRINCIPAL'S MESSAGE

Mr. Rajendra Kumar Prusti

It is with great pride and joy that I extend my heartfelt greetings through the pages of this year's college magazine. This publication is more than just a collection of articles — it is a testament to the vibrant intellectual and creative energy that thrives within our campus.

Our college has always strived to create a nurturing environment where academic excellence, innovation, cultural expression, and social responsibility go hand in hand. The magazine captures the voices, thoughts, and accomplishments of our students and faculty, reflecting the spirit of growth and collaboration that defines our institution.



INDEX

I. Technical Section:

II. Prose & Poetry

III. Art Gallery

IV. Photos: Industry Visit, Seminar & Achievement

V. Conclusion

I. TECHNICAL SECTION

SUSTAINABLE ENERGY IS AN OVERVIEW

Mr Radhamohan Kabisatapathy, HOD, ME

Mother goddess is the embodiment of energy. TheVedic Sastra preaches that
Yaa Devi Sarva-Bhutessu Shakti-Ruupenna Samsthitaa |
Namas-Tasyai Namas-Tasyai Namas-Tasyai Namo Namah ||

The meaning is **Mother Goddess manifests as the form of energy** in all Beings. Thus Salutations to Her, Salutations to Her, Salutations to Her, Salutations again and again.

The pious soul (Atma) cannot be cut into pieces by any weapon, nor can it be burned by fire, nor moistened by water, nor withered by wind. **Thus Srimad Bhagawat Gita preaches that Nainam chindanti sastrani, Nainam dahati pavakah, Na chainam kledayantyapo Na sosayati marutah.**

Similarly, energy can neither be created, nor be destroyed but only can be transformed from one form of energy to another.

There are mainly two types of energy resources such as,

1. Renewable resources

2. Non Renewable resources

1. Renewable resources:

Resources that can be replenished or renewed naturally at a higher rate than they are consumed are called as Renewable resources. For example, air, water, wind, solar energy etc. are all renewable resources.

2. Non Renewable resources:

Non-renewable resources are those natural resources that are available in limited quantity. These resources cannot be renewed or replenished after its consumption. These are also known as *exhaustible resources.* Examples- coal, natural gas, petroleum etc.

SUSTAINABLE ENERGY: The energy which is capable of meeting the energy needs of the present without compromising the resources and energy supply for the future is called sustainable energy. Sustainable energy can address three global challenges, like conservation of environment, energy security, and socio-economic challenges.

Sustainable energy plays a key role in decarbonising the energy supply. It also reduces utilisation of fossil fuels and has generated millions of jobs around the world. Sustainable energy is clean and environmentally friendly, and ensures efficient consumption energy. Thus sustainable energy ensures that the present energy consumption today does not compromise with the need of future generation.

Differences between renewable and sustainable energy:

Biomass is the source of renewable energy which is produced from plants and animals. They can be burned to produce heat or fuel. Energy created by burning biomass creates greenhouse gas emissions and harms the environment. Another example of bio energy is ethanol, which is produced from sugarcane and corn. Since these crops can be planted and farmed to generate more energy, it is a typical type of renewable energy. Such type of renewable energy put negative impact on environment and harms to future generation. So this type of renewable energy is not sustainable energy. Hence all renewable energies are not sustainable energy rather all sustainable energy are renewable energy.

Sustainable energy and its importance:

Emission of greenhouse gasses like carbon dioxide (CO_2), responsible for rise in temperature of earth surface near about 1.5 degrees. Also due to industrial revolution other greenhouse gasses emission to the atmosphere which affects the ozone layer depletion and enhances global warming. Many factors have contributed to this increase, but a major cause is the burning of fossil fuels for energy. The most fatal greenhouse gas is carbon dioxide (CO_2), which has triggered immense global warming.

Although carbon is an essential element within the earth's ecosystem, there needs to be a sustainable balance for polluted free environment. Carbon particles have become trapped in the earth's atmosphere, between the surface and ozone layer. This is insulating our planet and warming it up, which is causing catastrophic effects like glaciers are melting, sea levels are rising and extreme weather events like hurricanes, heat waves and floods are escalating.

Beyond that, finite energy source responsible for pollution of air, water and soil which are increasing day by day. Besides destroying our natural environments, it is causing undue harm to the health of people globally.

Although human beings have done irrecoverable damage to the environment, there's still hope in how we maintain and mitigate the problem for future generations. The solution lies in how we stop the pollution of our atmosphere with carbon dioxide and how to reduce its emissions. It can be possible by the application of Sustainable energy.

Sustainable energy sources can reduce the various causes of global warming. By choosing sustainable energy resources (Solar, Wind, hydro power ....etc) and committing to clean energy, human beings can effectively slow down the acceleration of climate change and can achieve pollution free environment.

Benefits of sustainable energy

1. Public Health

Uses of non-renewable energy from fossil fuels like coal, petroleum and natural gas causes serious diseases, such as neurological damage, cancer, heart attacks, breathing problems and premature death due to emissions of greenhouses gasses to the atmosphere. Also burning of fossil fuels causes environmental pollution for which plant and animal kingdom are being affected. Such problems can be eliminated by using sustainable energy. Sustainable energy sources do not emit greenhouses gasses so that no air or water pollutants can harm public health. Utilisation of sustainable energy sources protects the environment from pollution. As a result the damage caused to flora and fauna can be minimised.

2. Energy Security

Sustainable energy conserves the planet's natural resources so that future generation can assess for their need. Sustainable energy the most reliable form of energy. It will never deplete and can remove our dependence on imported fossil fuels, which are growing more expensive and less accessible.

3. Reduces Carbon Content

Emission of greenhouse gasses like carbon dioxide (CO_2), released from burning of fossil fuel responsible for global warming and climate change as well as polluting the atmosphere. Sustainable energy, such as wind and solar energy, creates zero carbon emissions that protect the atmosphere and Ozone layer. Also Sustainable energy saves the human life from fatal diseases like heart, skin and respiratory issues. India has set a target to achieve net-zero carbon emissions by the year 2070.

4. Enhances Employment

Installation of Solar, Wind and Biomass power plant enhances the job opportunity which reduces unemployment in our country. Especially, such power plant is being installed in local areas which reduce the unemployment crisis in rural areas. As a result the Sustainable energy improves the economy of the society.

5. Cost Effective

Sustainable energy can save lot of capital in long term. Sustainable energy is clean and green energy. By choosing sustainable energy consumption one can get tax reduction benefit from the government. The cost of sustainable energy decreases each and every year.

Renewable Energy Scenario of our Country.

As per renewable 2023 global report, India is the 4^{th} largest country in wind power and 5^{th} in solar power capacity in the globe. India has set a target to produce 500 GW capacity of non-fossil fuel based energy by 2030. At present the capacity of non-fossil fuel based energy is about 45.1% of total energy capacity. As of April 2024, Renewable energy sources, including large hydropower, have a combined installed capacity of 191.67 GW. The details of various sources are given below.

1. Wind power: 46.16 GW
2. Solar Power: 82.63 GW
3. Biomass/Co-generation: 10.35 GW
4. Small Hydro Power: 5 GW
5. Waste To Energy: 0.59 GW
6. Large Hydro: 46.92 GW

At present the planet earth is advancing towards destruction due to global warming, melting of glacier, and rise of sea level and depletion of ozone layer. All these problems can be eliminated by enhancing the production and utilisation of Sustainable energy. Thus the use of Sustainable energy is inevitable which can protect the earth and restore adequate amount of energy for future generation.

Engineering Education in India Retrospect & Prospects

Mr. Ambika Prasad Mohanty (Civil)

Engineering education in our country needs to be focused to real life activities based on learning. This would mean a much greater interaction between our academic institutions, industry and society. All these three segments must participate in activities related to engineering education in such a way that students should realize the problems that we are facing today and develop ambition for its solution. Our education system must ignite spark of innovativeness in the students to work out original ideas and empower them to implement such ideas with confidence and courage. This can happen through their deep involvement in the happenings round the corner. During their engineering study, they learn and grasp engineering knowledge and simultaneously they must develop an affinity towards the society. There is a serious problem in terms of quality and competence. Most of our students study in ill-equipped institutions both in terms of faculty as well as laboratory and workshop facilities.

At present we have 4.00lakh seats approximately in engineering & Technology all over India This enlargement of the base of engineering studies is event of last few years. This sudden proliferation is confronted with two basic questions. What will be the quality of these fresh engineers because the increase of engineering college is not compatible with the demand of good teaching faculties and infrastructure that is inherent in engineering Studies? Secondly whether we can absorb so many engineers for employment.

Traditional Mind-set that engineering students are employed in the public sector/private sectors is no more applicable now. Since last ten years, major companies are being disintegrated and other Nuclear Companies are emerging with less manpower. So present crisis is to opt for self-employment which needs innovative mind and ambience. Most important is that the education system need for a paradigm shift and it has to aim at innovative training for improvement of entrepreneurial skills among students. AICTE has taken up programme at national level to restructure technical education in totality -- syllabus, eligibility and to attract good faculties.

It is estimated that in next 5 years there will be shortage of approximately 70,000 lecturers. Further to make good faculties and train the existing once, UGC has initiated programme through refresher and orientation course, FDP for teaching faculties of engineering institution.

Present day scenario reveals that there is an industrial recession throughout the world. To make engineering study more industry oriented, the academicians and professionals are working together. However in comparison to market when interdisciplinary areas are emerging, just mere increase of seats without any good faculty and infrastructure is not at all healthy.

One of the major areas of concern is that growth of well-qualified faculties is not proportionate to the growth of institutions as students do not prefer to take up teaching as a profession. We face anomalous

situation of not being able to find good quality engineers in certain specified areas. While there is large no of engineering students in the queue waiting to find employment. This problem is further aggravated by migration of our talented students some abroad and other to professions & disciplines different from their own discipline of study.

Now it is need of the day where we must change our orientation in understanding the complex world we live in. Education system should prepare the beneficiaries for the complexity of modern society. Many of the social issues we are facing today bear strong technological elements out of which environment is one. Therefore there must be a change in educational system.

Industry & educational institutions must thus get themselves involved in the process of enriching and reorienting Engineering. Education in line with national needs in general & their specific needs in particular. Our task is to devise and implement effective solutions to accelerate pace of development. There is an urgent need to groom our young engineering students to be oriented to our emerging problems applying engineering knowledge & needless to mention, with this gamut of talented and committed engineers we can accomplish task of implementing right solutions in right manner. Let the Government also turn to outstanding engineers and technocrats for advice and assistance in promoting both engineering & technology for progress, prosperity, greatness & glory to our Mother land.

Artificial Intelligence: Shaping the Future of Engineering

Ms Suchismita Satpathy, HOD, ETC

Artificial intelligence (AI) has emerged as one of the most transformative technologies of the 21st century, revolutionizing industries and reshaping the way we live, work, and interact with the world around us. In the realm of engineering, AI holds tremendous promise, offering unprecedented opportunities for innovation, efficiency, and problem-solving. As we delve into the future of AI in engineering, it's essential to explore its current state, potential applications, and the ethical considerations that accompany its rapid advancement.

AI has already made significant inroads into various engineering disciplines, from aerospace and automotive to civil and environmental engineering. Machine learning algorithms, a subset of AI, are being employed to optimize processes, predict outcomes, and automate repetitive tasks. For instance, in manufacturing, AI-powered robotics and automation systems are enhancing production efficiency and quality control, while in energy systems, AI algorithms are optimizing power generation and distribution networks.

Moreover, AI-driven design tools are enabling engineers to create innovative solutions with greater speed and accuracy. Generative design algorithms, for example, use AI to explore countless design possibilities and identify the most efficient and sustainable solutions. In the field of structural engineering, AI is being utilized to analyze complex data sets and simulate the behavior of structures under various conditions, leading to safer and more resilient infrastructure.

Looking ahead, the potential applications of AI in engineering are vast and diverse. Here are a few areas where AI is expected to have a profound impact:

1. Smart Cities: AI-powered systems can optimize urban infrastructure, transportation networks, and resource management, leading to more sustainable and livable cities.

2. Healthcare Engineering: AI algorithms can assist in medical imaging analysis, drug discovery, and personalized treatment planning, revolutionizing healthcare delivery and patient outcomes.

3. Environmental Engineering: AI technologies can help monitor and mitigate environmental risks, such as air and water pollution, climate change, and natural disasters.

4. Space Exploration: AI-driven robotics and autonomous systems are essential for space exploration missions, enabling autonomous navigation, resource extraction, and habitat construction on other planets.

5. Cybersecurity: AI can enhance cyber security measures by detecting and responding to cyber threats in real-time, safeguarding critical infrastructure and digital assets.

Despite its transformative potential, the rapid proliferation of AI in engineering also raises significant ethical considerations and challenges. These include issues related to data privacy, algorithmic bias, job displacement, and autonomous decision-making. As engineers and technologists, it's imperative to address these concerns and ensure that AI systems are developed and deployed responsibly, ethically, and with human values at the forefront.

Artificial intelligence is poised to revolutionize the field of engineering, offering unprecedented opportunities for innovation, efficiency, and sustainability. By harnessing the power of AI-driven technologies, engineers can tackle some of the most pressing challenges facing society today, from climate change and urbanization to healthcare and cyber security. However, it's essential to approach the development and deployment of AI with caution, mindfulness, and a strong commitment to ethical principles. Only then can we unlock the full potential of AI and ensure a brighter future for engineering and society as a whole.

Electrical Engineers: Bridging the Gap between Increasing Demand and Optimistic Environmental Upliftment

Mr Subhankar Dash, HOD, EE

In the field of electrical engineering, there is a continuous evolution of new and advanced energy-saving technologies being developed by electrical engineers. These technologies include a combination of renewable energy sources, energy storage systems, smart grid technology, energy-efficient devices, and energy management systems. These innovative solutions are leading to more affordable energy consumption and reducing our reliance on non-renewable sources of energy. Moreover, they are contributing to an enhancement in energy efficiency while simultaneously reducing overall costs. One of the most significant advancements in electrical engineering has been the development of renewable energy sources. Engineers are developing new methods to harness the power of the sun, wind, and water to provide clean, sustainable energy. For instance, solar panels are becoming more efficient and affordable, increasing accessibility to people all over the world. Similarly, wind turbines are expanding in size and efficiency, enabling the production of more electricity from fewer turbines. Energy storage systems are another field of advancement in electrical engineering. Engineers are developing new energy storage solutions that allow us to utilize renewable energy sources even when the sun isn't shining or the wind isn't blowing. For instance, batteries (Mainly LI-ION Batteries) are becoming more effective and inexpensive, enabling large scale energy storage. The use of pumped hydroelectric storage systems, which store energy in the form of water that can be released to produce power when needed, is also growing in popularity. Smart grid technology is yet another area of innovation in electrical engineering. Smart grids utilize cutting-edge sensors and communication networks to monitor and control the flow of electricity through the grid. As a result, utilities are better equipped to balance supply and demand, reduce energy waste, and respond quickly to interruptions like power outages. This allows us to produce more renewable energy while reducing our reliance on fossil fuels. Energy-efficient technology is also a significant area of innovation in electrical engineering. Engineers are constantly developing energy-saving products. LED bulbs are replacing incandescent ones, and smart thermostats enable more precise temperature control and reduce energy waste. Additionally, electrical engineers are working on creating more energy-efficient and durable construction and infrastructure technologies. For example, they are developing HVAC systems and building automation systems that use less energy and function more effectively, thereby reducing energy waste. Similarly, they are developing more efficient modes of transportation, such as electric vehicles and high-speed trains, to help us reduce our dependence on fossil fuels. Electrical engineers play a crucial role in environmental protection by creating and developing sustainable energy sources, encouraging energy efficiency, constructing green buildings, monitoring environmental conditions, and reducing electronic waste. They create and implement energy-efficient

systems in new construction projects, including energy-saving lighting, heating, and cooling technologies that support sustainable living. Furthermore, electrical engineers can develop sensors and monitoring systems that detect and measure environmental parameters such as air quality, water quality, and noise levels. These technologies assist us in understanding and managing our environmental impact. Electrical engineers also contribute to the reduction of electronic waste by designing products that are easy to repair, reuse, and recycle. They also develop methods for managing electronic waste to minimize the environmental impact of obsolete electronic devices. It is evident that the implementation of a cost-effective energy consumption setup can yield significant benefits for various stakeholders. From a consumer standpoint, the utilization of energy-efficient devices can lead to savings on energy bills, thereby increasing customer satisfaction and fostering loyalty towards energy providers. Energy providers themselves can enjoy advantages such as lower operating costs and an enhanced reputation in the market. Governments can achieve their energy conservation and sustainability objectives while also generating additional tax revenue. Furthermore, the adoption of cost-effective energy consumption setups plays a crucial role in reducing carbon emissions and mitigating other adverse environmental impacts. Overall, a cost-effective energy consumption setup establishes a win-win situation for all stakeholders involved, contributing to a sustainable and efficient energy future. In conclusion, engineers persistently innovate, creating new technologies with the potential to revolutionize our way of life and work. These technological advancements hold the promise of reducing our overall energy consumption, promoting sustainability, and safeguarding the environment.

Multi-Connectivity Solutions for 5G and Future Networks Using AI and ML

Prabhakar Rath, Assistant Professor, ETC

Introduction

Future 5G networks will integrate various radio access technologies (cellular, satellite, WiFi) and network equipment (pico-cells, femto-cells, macro-cells) to handle increasing user demand and bandwidth needs. Multi-connectivity is a key approach that allows user equipment (UE) to simultaneously connect to different network nodes, such as base stations and WiFi access points. This enhances quality of service, energy efficiency, mobility, and spectrum management.

The Role of AI and ML in Multi-Connectivity

AI and ML are redefining network operations by introducing intelligent decision-making and automation. Multi-connectivity in 5G refers to a network's ability to leverage multiple radio access technologies (RATs) simultaneously—such as 5G, LTE, Wi-Fi, and satellite—to provide an uninterrupted and high-performance connection. AI-driven solutions enhance this capability by dynamically analyzing network conditions, predicting congestion, and optimizing data traffic in real time.

Some key AI and ML applications in multi-connectivity include:

1. **Intelligent Traffic Steering**: AI-based algorithms analyze user movement patterns, application needs, and network status to switch seamlessly between different connectivity options.
2. **Predictive Network Management**: ML models forecast potential network failures or congestion, enabling proactive adjustments to prevent service degradation.
3. **Resource Allocation Optimization**: AI-driven orchestration ensures efficient utilization of network resources, balancing traffic loads across available connections for enhanced performance.
4. **Automated Network Slicing**: AI facilitates the segmentation of network resources based on application-specific requirements, ensuring tailored connectivity solutions for industries like healthcare, autonomous driving, and smart cities.

Benefits of AI-Enabled Multi-Connectivity Solutions

1. Enhanced Reliability and Coverage

By integrating multiple network types, AI-powered multi-connectivity ensures greater redundancy, reducing the chances of network failures and improving overall service continuity.

2. Optimized Latency and Speed

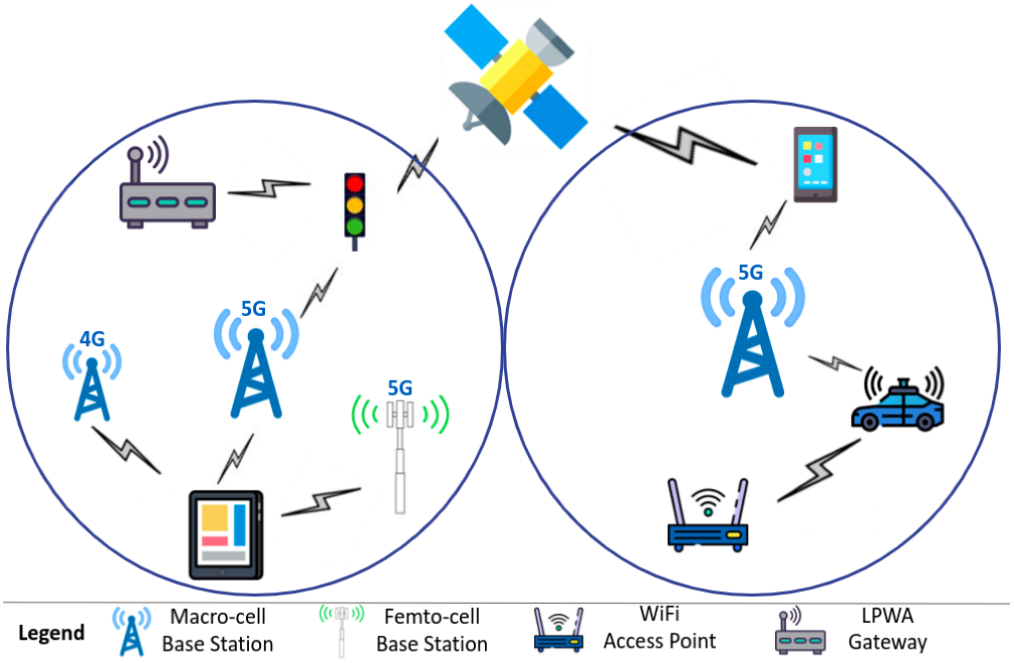
AI and ML optimize routing and network resource allocation, leading to lower latency and higher data speeds, critical for applications like virtual reality (VR), augmented reality (AR), and industrial automation.

3. Energy Efficiency

AI-driven predictive analytics help minimize unnecessary network activity, reducing energy consumption and enhancing sustainability for future networks.

4. Cost-Effective Operations

AI-enabled automation reduces operational complexities and human intervention, leading to significant cost savings for network operators and enterprises.



Future Outlook

As we progress toward 6G and beyond, AI and ML will play an even greater role in enabling ultra-smart, self-optimizing networks. Technologies such as federated learning, edge AI, and digital twins will further refine multi-connectivity solutions, allowing seamless, intelligent, and highly adaptive network experiences.

Conclusion

Multi-connectivity solutions powered by AI and ML are the backbone of future communication networks. By leveraging real-time data analytics, intelligent traffic management, and predictive maintenance, these technologies will ensure unparalleled connectivity, efficiency, and reliability in an increasingly interconnected world. As industries continue to embrace digital transformation, AI-driven multi-connectivity will remain a cornerstone of next-generation network evolution.

Laser Interferometer Gravitational-wave Observatory (LIGO)

Mr Sabyasachi Patra, Assistant Professor, ETC

The objective of the Laser Interferometer Gravitational-Wave Observatory (LIGO) is to identify and examine gravitational waves (GWs) of astrophysical root. Direct identification of GWs holds the guarantee of testing general relativity in the solid field routine, of giving another test of outlandish items, for example, dark gaps and neutron stars and of revealing unexpected new astronomy. LIGO, a joint Caltech– MIT venture bolstered by the National Science Foundation, works three multi-kilometer interferometers at two broadly isolated locales in the United States. These locators are the consequence of many years of overall innovation advancement, structure, development and dispatching. They are currently working at their structure affectability, and are delicate to gravitational wave strains littler than one section in 1021. With this extraordinary affectability, the information are being examined to distinguish or put constrains on GWs from an assortment of potential astrophysical sources.

The expectation of gravitational waves (gws), motions in the space– time metric that proliferate at the speed of light, is a standout amongst the most significant contrasts between Einstein's general hypothesis of relativity and the Newtonian hypothesis of gravity that it supplanted. Gws remained a hypothetical forecast for over 50 years until the principal observational proof for their reality accompanied the revelation and ensuing perceptions of the double pulsar PSR 1913 + 16 by Russell Hulse and Joseph Taylor. This is an arrangement of two neutron stars (nss) that circle each other with a time of 7.75 h. Exact planning of radio heartbeats produced by one of the nss, checked now more than quite a few years, demonstrates that their orbital period is gradually diminishing at simply the rate anticipated for the general-relativistic emanation of gws , Hulse and Taylor were granted the Nobel Prize in Physics for this work in 1993.

In around 300 million years, the PSR 1913 + 16 circle will diminish to the point where the pair blends into a solitary conservative item, a procedure that will deliver straightforwardly noticeable gws. Meanwhile, the immediate discovery of gws will require also solid sources—very substantial masses moving with extensive increasing velocities in solid gravitational fields. The objective of LIGO, the Laser Interferometer Gravitational-Wave Observatory is only that: to recognize and think about gws of astrophysical birthplace. Accomplishing this objective will check the opening of another window on the universe, with the guarantee of new material science and astronomy. In material science, GW identification could give data about solid field attractive energy, the untested area of firmly bended space where Newtonian attraction is never again even a poor guess. In astronomy, the wellsprings of gws that LIGO may identify incorporate double nss (like PSR 1913 + 16 yet a lot later in their development); paired frameworks where a dark gap (BH) replaces either of the nss; an outstanding center breakdown which triggers a sort II supernova; quickly pivoting, non-axisymmetric nss; and perhaps forms in the early universe that produce a stochastic foundation of gws.

In the previous couple of years the field has achieved an achievement, with decades-old intends to fabricate and work expansive interferometric GW indicators presently acknowledged in a few areas around the world. This centers around LIGO, which works the most delicate finders yet constructed.

Width of National highway in India as per IRC

Mr Debi Prasad Panda, Assistant Professor, CE

In India, as per the rules & guidelines of Indian Road Congress (IRC), width or right of way (ROW) of national highway in India is varies between 30m to 75m wide. It is about 30m wide for 2 lane NH, 45m wide for 4 lane NH, 60m wide for 6 lane NH and 75m wide for 8 lane NH which includes width of roadway + other necessities + future extension. This is ideal, desirable standard width of National Highway. However, their actual width is varying according to geometric design of Highway Engineering and depending on land availability and economic condition.

The area of land that are acquired for the road along its alignment is termed as the right of way (ROW). This includes width of roadway + other necessities + future extension. Width of formation or roadway comprise of width of carriageway + width of paved shoulder + width of unpaved shoulder. Other necessities are Road margin uses for parking cycling Footpath, drainage and bus stoppage.Future extension of national highway will be required due to increased road traffic day by day.

One lane width is 3.5m wide for carriageway, maximum shoulder width is about 4.6m and minimum of 2.5m, width of median will be varying 5m to 7m wide, other space uses for parking, footpath, bus stoppage, accommodation of stop vehicle, drainage and service lane along with its alignment and future extension.

Width of National highway in India as per IRC

Width of 2 lane National Highway as per IRC:- In India, as per the rules & guidelines of Indian Road Congress (IRC), total right of way of national highway in India is about 30m (100 feet) wide for two Lane Road. This includes width of 12m for roadways or built-up area those comprise of 2 lane carriage width of about 7m wide and paved shoulder width of 2.5m wide and rest about 18m will be used for future extension and development of Highway facilities. This figure might be little very according to geometric design of highway Engineering and land acquisition.

Width of 3 lane National Highway as per IRC:-In India, as per the rules & guidelines of Indian Road Congress (IRC), total right of way of national highway in India is about 30m (100 feet) wide for 3 Lane Road. This includes width of 16m for roadways or built-up area those comprise of 3 lane carriage width of about 10.5m wide and paved shoulder width of 2.75m wide and rest about 14m will be used for future extension and development of Highway facilities.

Width of 4 lane National Highway as per IRC:-In India, as per the rules & guidelines of Indian Road Congress (IRC), total right of way of national highway in India is about 45m (150 feet) wide for 4 Lane Road. This includes width of 27m for roadways or built-up area those comprise of 4 lane carriage width of about 14m wide, median of 5m wide along with kerb shyness, paved shoulder width of 4mwide and rest about 18m will be used for future extension and development of Highway facilities.

Width of 6 lane National Highway as per IRC:-India, as per the rules & guidelines of Indian Road Congress (IRC), total right of way of national highway in India is about 60m (200 feet) wide for 6 Lane Road.

II. Prose & Poetry

SURRENDER TO NOTHINGNESS

Release all the burdens of the body, mind and surrender....

Open sky, cool breeze, the dark grey clouds, just get lost into nothingness....

I feel nothing....

Glitters of intellect open up,

Inviting me into their realms of wisdom,

The hidden glitch, directing the journey of mind into other dimensions,

Finally realizing the importance of nothingness.....

The spirit,

Silently wondering across the horizon,

Looking out over landscapes,

Finding a soothing and peaceful calmness approached in nothingness....

A rhythmic signal of vibration,

Forming a sort of music alluring continuously,

Sometimes soaring high into another atmosphere,

Windows open widely to allow exploration,

Discovering every avenue hidden within nothingness.....

Mrs. Pallavi Mishra

Assistant Professor, EE

'ମା'

ମୋ ମା ,
ଅସରନ୍ତି ସ୍ନେହର ଅମୁଲ ଡାକଟିଏ
ବାଁଛଲ୍ୟ ସ୍ନେହର ଅଭୁଲା ଅନୁଭୂତି ଟିଏ,
ଜୀବନ ବୃଦ୍ଧିର ଅନନ୍ତ ଉଣ୍ଟ ଟିଏ ,
ସେ ମୋର ଅତିପ୍ରିୟ , ମୋ ମା ନିଷ୍କପଟ ଦେବକୀ ଟିଏ [୧]

ତାର ଉପଦେଶ ଅମରସି ବାଣୀ, ସତ୍ତା ପୋଷଣୀ ଚଳଣିରେ
ଜୀବନର ଅମୁଲମୁଲ ଉଦେଶ୍ୟର ପରିପୋଷଣୀ
ଜୀବନ ବୃଦ୍ଧିର ଅସରନ୍ତି ଉତ୍ସାହ ,ଉଦ୍ଦୀପନାର ଅକଳନ୍ତି ଭଣ୍ଡାର
ସେ ଜଣ ସଦଗୁରୁ ନୁହଁ ? [୨]

ଜୀବନର ଆରମ୍ଭ ଓ ଅଭିବୃଦ୍ଧିର କାରଣ ହୋଇ
ଅସରନ୍ତି ସେବା ଦେଇ ଯତ୍ନ ଦେଇ ,ମମତାର ସେ ଫଲଗୁଧାରା ହୋଇ
ଝରଣା ହୋଇ ବହିଯାଏ , ପ୍ରତିଟି ହୃଦୟରେ ....
ଶୀତଲସ୍ପର୍ଶରେ ଅମୋଦିତ ହୋଇଉଠେ ପ୍ରତିଟି ପ୍ରାଣ,
ପରମ ପବିତ୍ର ଉତପ୍ରେରଣାଦାୟୀ ଚରିତ୍ରର ପରାକାଷ୍ଠା ରେ
ଜୀବନ ତତ୍ତ୍ୱକୁ ଅବବୋଧିତ କରିତୋଳି ଧରେ ,
ବଂଚିବା ବଢିବାକୁ ଧର୍ମମୁଖୀ ଅନୁପ୍ରେରିତ କରିଦିଏ [୩]

ମୋ ମା ...
ପ୍ରାଣଭରା ଡାକଟିଏ ପରିପୂର୍ଣ୍ଣତା ଲାଭକରେ
ଯେବେ ଧରଣୀସମ ଦୁଃଖ, ଯାତନା,ବର୍ବରତା ଶଯ୍ୟକରି
ପାଲଟିଯାଏ ଜୀବନର ପ୍ରେରଣାଦାୟୀ ଝାନସୀରାଣୀ [୪]

Subhankar Dash

HOD, EE

Be yourself always…

A timeless piece of advice that encourages authenticity, sincerity, and self-acceptance. It serves as a reminder that our experiences and emotions make each of us unique. They shape us, and no one can fully understand them. Allowing other's judgment to dictate our actions, happiness, personal development, or identity only hinders our personal growth and mental peace. It is important to recognize that not everyone will value or comprehend us and that is okay, accept it. The key is to be in the company of people who love and accept us for who we are. These people recognize our genuineness and accept our authenticity. Karma says, "No one has the right to judge you because no one knows what you have been through." They might have heard stories but they don't feel what you have felt in your heart. Don't change yourself for other people. The right people will love the real you. Embrace your true self and develop a sense of fulfilment and inner peace. Honour your individuality, trust your instincts, and stay true to yourselves in all aspects of life. In a world where opinions vary from person to person, the quest for universal approval can be a never-ending pursuit. Yet, amidst the cacophony of diverse perspectives, one truth remains steadfast – "You cannot please everyone". Striving to satisfy everyone is futile. Each individual carries a unique set of preferences, beliefs, and expectations, shaped by a lifetime of experiences. Therefore, instead of contorting yourself to fit into a mould crafted by the whims of others, embrace your authenticity, and free yourself from the suffocating constraints of external validation. Develop confidence and stand firm in your convictions without fear and shine brighter. Be yourself… Develop confidence and stand firm in your convictions …

Soumya Dash

Assistant Professor, ME

My_View_on_Graphics

Lines and curves, so sharp, so neat,
Angles precise, where drawings meet.
Circles, arcs, and plans so grand,
Shapes designed by steady hand.

One small slip, the whole thing's wrong,
Erase, redraw-it takes so long!
But when it's done, so clear, so true,
A masterpiece of thought and view.

From sketches rough to models bright,
Graphics bring our dreams to light.

Sutapa Sarkar

Assistant Professor, ME

Globalisation of Terror

The images of collapsing trade towards are etched crystal clear in our memories. Explosions in Madrid and London were heard the world over-repeatedly in the comforts of living rooms. Closer home, serial blasts in Mumbai Malegaon or recent atrocities in Hyderabad were all carried,presented and vividly dissected in scrutiny for our consumption.

Connectivity, we defend, is an asset-a necessity in the modern era. The world is shrinking and the global hub gifted numerous opportunities and advantages to end cash. But in this rush to capitalize on the fruits of globalisation, both as a cause and vehicle of perpetration of violence is increasingly being realized.

Globalisation has revolutionized each and every aspect of our society, touching us at myriad levels in numerous ways. From the times, we decided to jumps on and integrate with global forces by adopting the new economic policy, the pace of Jump on only taken a unidirectional approach.It brought along an era of instant entertainment through satellite, television, ignorant of the sensitivity of the population. Through the barriers of culture and religion were being broken down to build a world of understanding, the process accentuated alienation of certain segments of the society, by sheer irreverence and insensitivity to local traditions, values and cultural uniqueness. The promotion of individuality got replaced by an invasion on ethics and homogenization of theperceived good.

The apathy of the state in an era of market led growth bred indignation in certain segments of society. In face of sheer neglect and socio-economic deprivation, terror emerged in different formsand under different names. Violence was a consequence and globalization provided a vehicle to collaborate their efforts and be heard.

"Think Global, Act Local" is often the phrase linked with sustainable efforts and that should form the premise of our efforts. No knee jerk responses ever eliminate the cause. Globalization is a reality. Though it may accept accusations of supporting the evil designs, it cannot be overlooked inmodern era. It should rather provide platform to collaborate the national efforts through regional forums like SAARC, G-8, UN, MERCOSUR. Innovative mechanisms, like the 'Joint Terror Mechanism' advocated by our PM, on the side lines of NAM, need support and effective implementation.

Globalisation, moderated by consideration for people, should institutionalize peace and harmony. It can work as a unifying force to uproot the evil intentions. Global funds to develop the deprivedregions and stricter monitoring of any human rights violations anywhere in the world could prevent growth of any cluster of neglect. The strength of our culture and heritage faces the test of globalisation, whereby it should emerge as an anchor for global development. Let our efforts find directions to develop a global village- a sustainable model of peace, harmony and tolerance.

Ms Sumitra Parida,

Assistant Professor, CE

The Power of One

Ravi was an ordinary 17 years old boy who loved football and history. Every day, he passed by the town's grand public library, eager to step inside and explore the world through books. But there was a problem—the library had a strict rule: only children from wealthy families could enter. Ravi, whose parents were farmers, found this deeply unfair.

One afternoon, he gathered the courage to ask the librarian, "Why can't I read books here? Isn't education for everyone?"

The librarian sighed. "That's the rule, son. Only members who can pay the high fees can use the library."

Ravi refused to accept this injustice. He researched human rights and learned about Article 26 of the Universal Declaration of Human Rights—which says education is a right, not a privilege. Inspired, he started a petition, explaining why the rule was unfair. He spoke to teachers, students, and even local shopkeepers. Soon, hundreds of people signed in support.

A journalist read Ravi's petition and published an article titled "Knowledge for All". The issue gained attention, and town officials had no choice but to respond. After several discussions, they removed the restriction—now, the library was open to everyone, rich or poor.

Tanmay Das

F24029002031, EE

ଆସ ଜଗନ୍ନାଥ

ଥାଇ ସଦା ବିଦ୍ୟମାନ ସକଳ ଘଟରେ
ଏ କି ଅନ୍ୟାୟ ଅନୀତି ମନୁଷ୍ୟ ଭିତରେ ।।
କାହିଁ ବସିଅଛ ହୋଇ ଏପରି ମଉନ
ବିଚାର ବୁଦ୍ଧି ବିବେକ ହଜିଗଲା ଜ୍ଞାନ ।।
ତୁମ୍ଭେ ଥାଉଁ ଥାଉଁ ପ୍ରଭୂ ଘୋଟିଲା କି କାଳ
ଶେଷ ବେଳ କଳି କରେ ଦେଖ ମହା ଗୋଳ ।।
ପଶୁଠାରୁ ବଳି ଭୟଙ୍କର ଏ ମାନବ
ନରହତ୍ୟା କରୁଅଛି ସାଜିଛି ଦାନବ ।।
ଆତ୍ମଘାତୀ ସାଜେ ଆତ୍ମା କାହାରି ନ ଚିହ୍ନେ
ଦିବା ସପନ ଦେଖେ ସେ ପାଗଳଙ୍କ ଯେହ୍ନେ ।।
ସ୍ୱାର୍ଥ ଅହଂକାର ଘୋର ହୋଇଛି ମହିରେ
ଜ୍ଞାନ ନରୁହେ କାହାର କୌଣସି କର୍ମରେ ।।
ବାଣ୍ଟି ଦିଅ ସଦଜ୍ଞାନ ଅଜ୍ଞାନତା ନାଶ
ଅସମ୍ଭାଳ ହେଲା ପ୍ରଭୂ ଦିଅହେ ଆଦେଶ ।।
ସହି ନହୁଏ କି ରହି ନହୁଏ ମହିରେ
ସାଧୁ ସନ୍ଥ ଡାକିଲେଣି ମହୋଦଧି ତୀରେ ।।
ଧର୍ମର ଗ୍ଲାନି ହୋଇଲେ ଯୁଗେ ଯୁଗେ ଆସି
ଧର୍ମ ସଂସ୍ଥାପନ କର ଆହେ ବ୍ରହ୍ମରାଷି ।।
ଏ ଯୁଗ ଶେଷ ବେଳକୁ କାହିଁକି ବଧିର
ପାଦେ ପଡି ଜଣାଉଛୁ ନକର ଉଚ୍ଛୁର ।।

Jyoti Ranjan Biswal
F23029004016, ME

मुस्कराते हैं फिर से

खोया हूँ अब कहीं पे, इस गुमनाम शहरों में।

बेफिक्र पतंग था बचपन में, अब हर रोज रोता हूँ रातों में।।

उम्मीद की किरण एक और चलो जागते है जिंदगी में।

रोते हुए भी चलो फिर से मुस्कराते हैं जिंदगी में।।

नई कहानी एक और लिखते हैं चलो फिर से।

पर इस बार कलम थामे रहते हैं अपने हाथों में

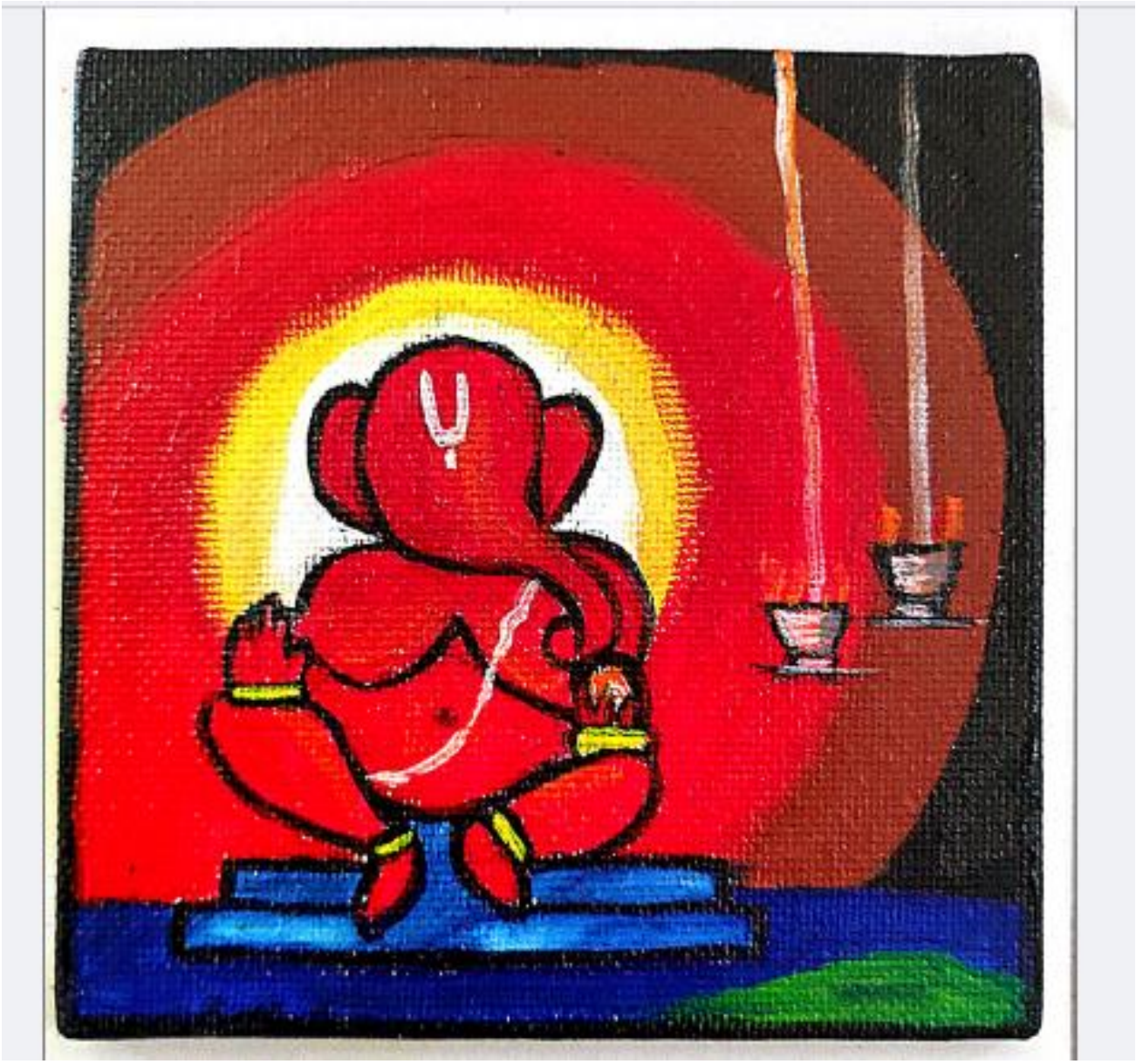
रोते हुए भी चलो फिर से मुस्कराते हैं जिंदगी में।।

Prabhakar Tiwari

F22029004090, ME

III. ART GALLERY


• ØMM PRAKASH DUMURI
• MECHANICAL
• F2402900 4019



Art by Monalisha Sahoo

F24029004016

ME

Art by Anwesha Swain

F24029007016

CSE

Art by Geetpriya Swain

F24029007035

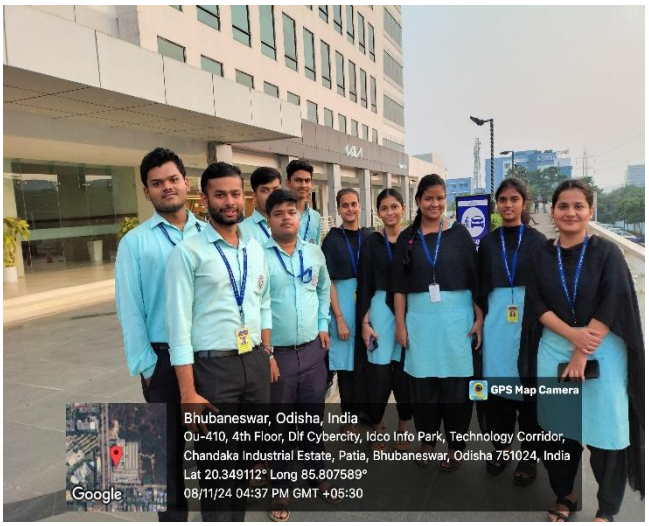
CSE

Art by Subodh Kumar Sahu
F22029001024

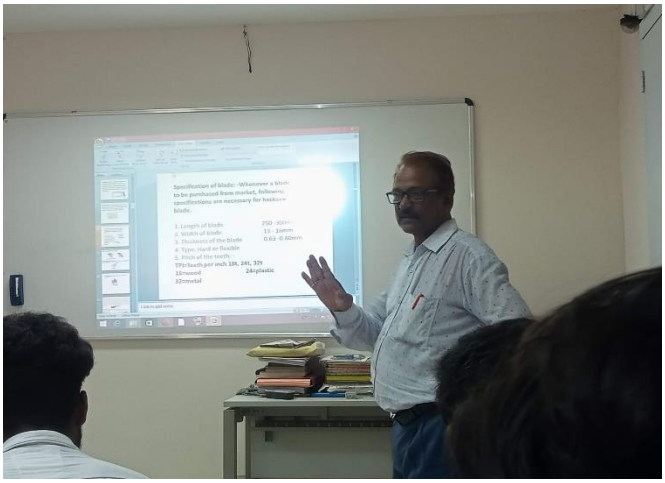
CE

IV. Photos: Industry Visit, Seminar & Achievements

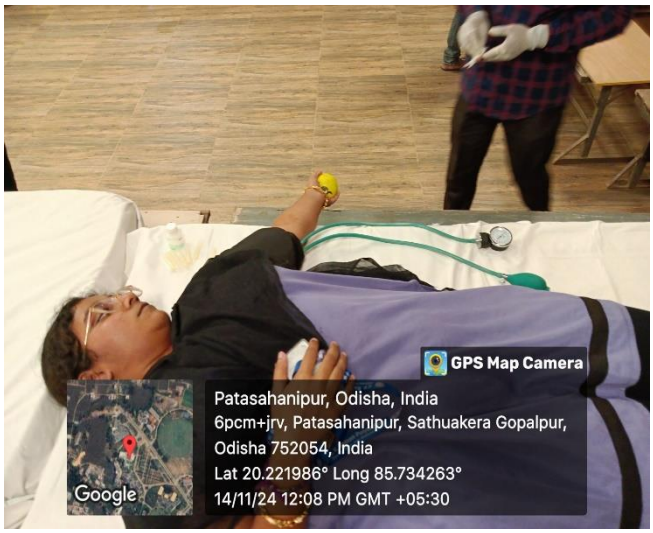
Industrial Visit to Dzinepixel webstudios, DLF Cybercity

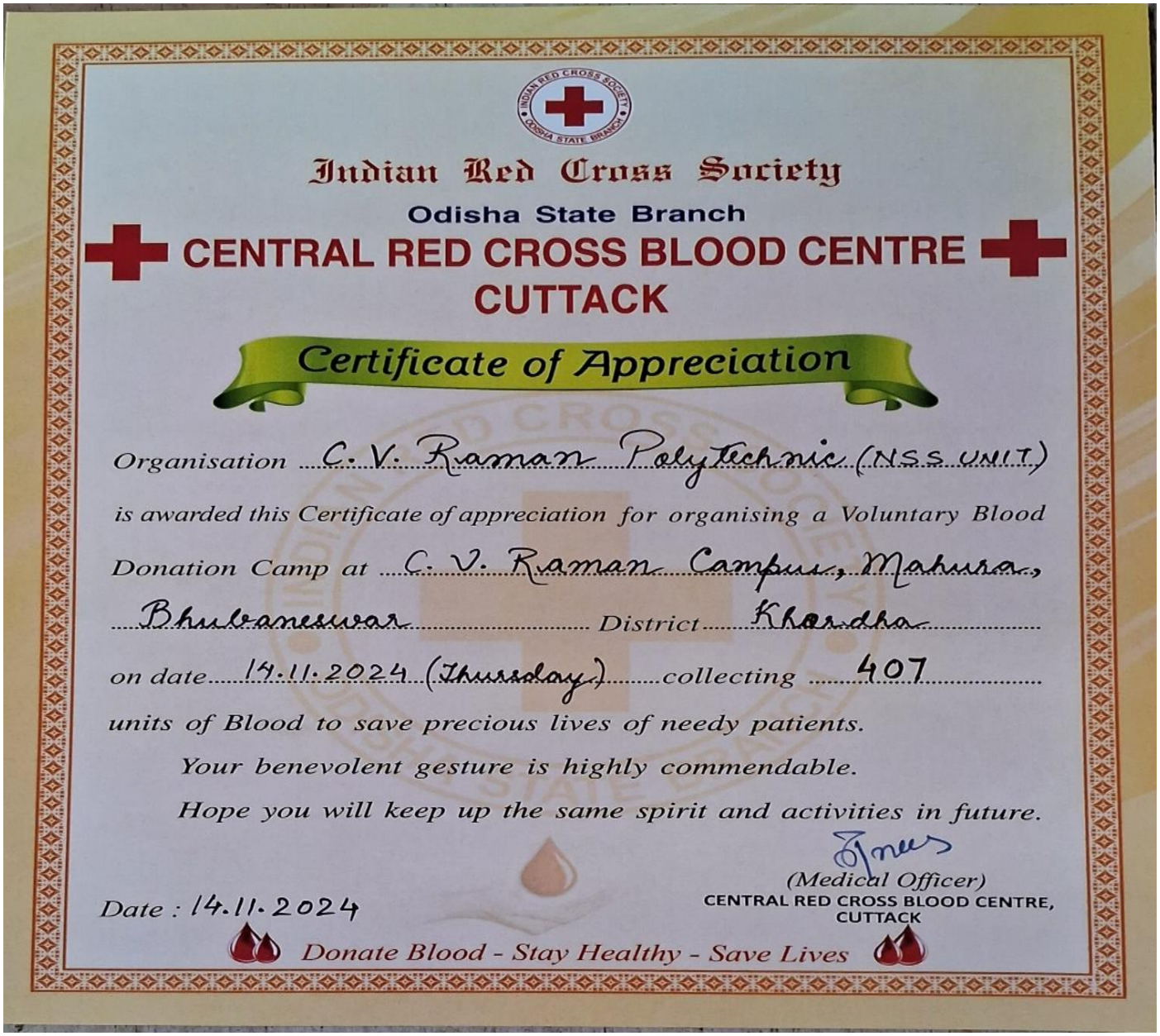


CoE training on Plumbing and water treatment



Social Activity





Indian Red Cross Society

Odisha State Branch

CENTRAL RED CROSS BLOOD CENTRE
CUTTACK

Certificate of Appreciation

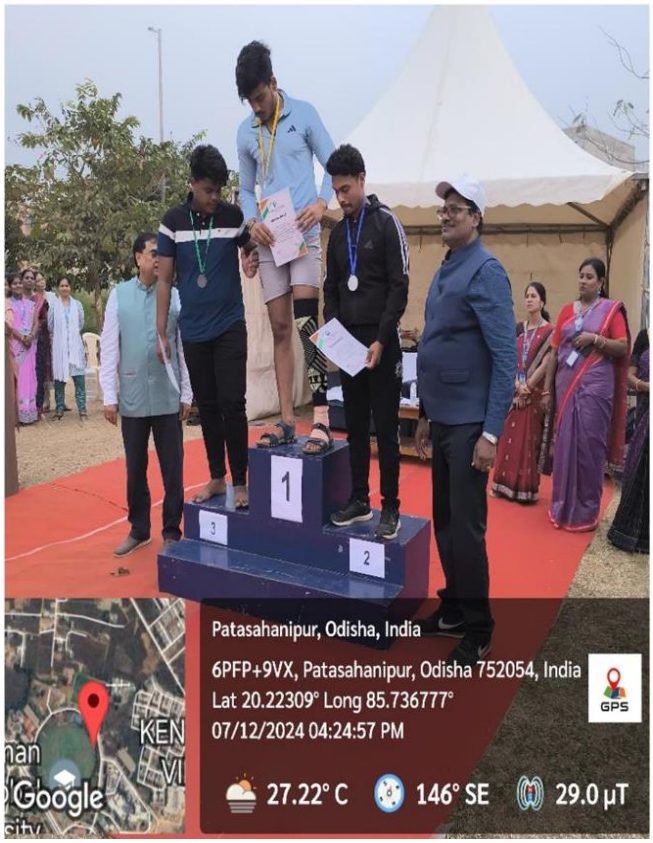
Organisation C. V. Raman Polytechnic (NSS UNIT)
is awarded this Certificate of appreciation for organising a Voluntary Blood
Donation Camp at C. V. Raman Campus, Mahura,
Bhubaneswar District Khordha
on date 14.11.2024 (Thursday) collecting 407
units of Blood to save precious lives of needy patients.
Your benevolent gesture is highly commendable.
Hope you will keep up the same spirit and activities in future.

(Medical Officer)
CENTRAL RED CROSS BLOOD CENTRE,
CUTTACK

Date : 14.11.2024

Donate Blood - Stay Healthy - Save Lives

Annual Sports & Cultural Program



Conclusion

As we turn the final pages of this edition, we celebrate the voices, visions, and victories of our college community. This magazine has been a reflection of our collective journey-filled with creativity, curiosity, and commitment. From academic achievements to artistic expressions, every contribution adds a unique thread to the vibrant fabric of our institution.

Let this not be an end, but a reminder of the stories yet to be told and the milestones yet to be achieved. Here's to continuing our pursuit of excellence and making each year more memorable than the last.

CONTACT US

C. V. RAMAN POLYTECHNIC

Bidyanagar, Mahura, Janla, Bhubaneswar-752054

E-mail : infopolytechnic@cvrgi.edu.in

Ph.: +91-674-2113593/9040272733/9040272755