I.E.I NEWS

ANDHRA PRADESH

Oct - Dec 2023

Andhra Pradesh	Anantapuram	Bhimavaram	Kadapa	Kakinada	Srikakulam	Tirupati	Visakhapatnam
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A Century of Service to the Nation

Chairman - Dr. C V Sriram, FIE Hon.Secretary - Prof. (Dr.) M L S Devakumar, FIE

Andhra Pradesh State Centre

World Habitat Day -

This year World Habitat Day observed on 2nd October. In the year 2023, this day takes on a special significance as urban economies around the world grapple with unprecedented challenges. Against the backdrop of a declining global economy, exacerbated by the lingering effects of the COVID-19 pandemic and conflicts, World Habitat Day 2023 focuses on the theme of "Resilient Urban Economies: Cities as Drivers of Growth and Recovery." The Department of Civil Engineering of Lakireddy Bali Reddy College of Engineering has organized a Guest Lecture and drawing competition on "Resilient Urban Economies: Cities as Drivers of Growth and Recovery" for 1st year B.Tech Students in association with IE AP State Centre under the banner of IE (I) Student Chapter Mylavaram and Prakruthi Club of LBRCEon 03rd October, 2023.

The objective of the program is to create awareness to the 1st year B. Tech students about the importance of World Habitat Day, its history, and the critical theme for 2023.

Dr. P. Polu Raju, Professor, Civil EnggDept, KLU and Past Chairman of Indian Concrete Institution acted as the Resource person in the guest lecture programme along with Dr. C. V Sriram, FIE Chairman, IEI APSC, Prof. (Dr.) M L S Deva Kumar, FIE Hon. Secretary, IEI APSC and Dr D. Ramesh Kumar, EC member, IE APSC. DrPoluRaju highlighted the need for ecofriendly construction techniques to meet the increased habitation needs. He illustrated the same with a few case studies.

All the IB.Tech. Students and faculty members participated in the Guest Lecture. Students interacted with the resource persons and have enjoyed the sessions. This program is helpful for the students to understand the importance of World Habitat Day, its history, and the critical theme for 2023.

The resource persons were felicitated by Dr.K. Appa Rao, Principal LBRCE and distributed prizes to the winners in this regard.

Er. Yarlagadda Sreeramulu 20th Endowment Lecture

G. Satheesh Reddy is the Scientific Adviser to Raksha Mantri (the Minister of Defence), leading India's indigenous development of defence systems and technologies. He has worked on the development of missiles, fighter aircraft, unmanned aerial defence systems, and radar systems.

He is also the chairman of the Governing Body of the Aeronautical Development Agency, which developed the 4th Generation Light Combat Aircraft Tejas, which is being incorporated into active service.

Self-reliance, Aatma Nirbharta, in defence system development is imperative for National Security. The clarion call of the Govt. of India for an 'Aatma Nirbhar Bharat' places greater emphasis on the need for indigenously developed defence systems to secure our borders. This article emphasises on the need for a congenial ecosystem for achieving self reliance in defence.

The initiative of the Govt. of India for an Aatma Nirbhar Bharat is based on the concept of making the nation self reliant in all sectors leading to greater economic growth, improved quality of life and thereby a stronger nation in all spheres. A 'reduction in imports' and an 'increase in exports' is seen as the way from trade-deficit to trade surplus. The Aatmanirbhar Bharat Abhiyan initiative focuses on five pillars - Economy, Infrastructure, Systems, Vibrant Demography and Demand. Self reliance in Defence will play a key role in the areas of Economy, Infrastructure and Systems under the Aatmanirbhar Bharat Abhiyan. Self reliance in defence leads to greater national security. The imperatives for achieving self reliance in defence and the various initiatives being taken towards meeting that objective are brought out in the succeeding sections.

The Aatma Nirbhar Abhiyan of the Government of India encourages design, development and production of state-of-the-art systems within India, thereby encouraging in- house capability, and reducing dependence on external sources. This programme would also boost the country's exports and thereby help the economy grow. For achieving self reliance in defence, the stakeholders in the Aatma Nirbhar Bharat Enabling Triad need to actively collaborate by pooling in individual strengths synergistically, to achieve the collective goal of indigenous development of systems for the services.

The need of the hour is to usher in a robust defense ecosystem firmly based on the culmination of basic, applied, and translational research with active participation and collaboration among R&D institutes,academia, andindustry.This will ultimately lead to self-reliance in defense, and thereby, propel all-inclusive growth.

In line with the vision of our Honorable Prime Minister, it is imperative that we elevate our endeavors from'Make in India' to 'Make for the World'. This entails a commitment to export defense projects of the highest quality, ensuring that our defense capabilities meet global standards and demands. This shift entails a steadfast commitment to exporting defense projects of the highest quality.

Energy Conservation Day

With today's global energy crisis resulting in high prices and shortages that are hurting consumers, businesses and entire economies, it has never been more important to use energy more wisely. We can do this through simple changes in behaviour and habits to consume less energy in our daily activities. We can also save energy by investing in more energy efficient products that reduce both our energy bills and our environmental footprint

Lower your thermostat by just 1°C to save around 7% of your heating energy and cut an average bill by EUR 50-70 a year. Always set your thermostat as low as feels comfortable, and wear warm clothes indoors. Use a programmable thermostat to set the temperature to 15°C while you sleep and 10°C when the house is unoccupied. This cuts up to 10% a year off heating bills. Try to only heat the room you're in or the rooms you use regularly.
The same idea applies in hot weather. Turn off air-conditioning when you're out. Set the overall temperature 1 °C warmer to cut bills by up to 10%. And only cool the room you're in.

Default boiler settings are often higher than you need. Lower the hot water temperature to save 8% of your heating energy and cut EUR 100 off an average bill. You may have to have the plumber come once if you have a complex modern combi boiler and can't figure out the manual. Make sure you follow local recommendations or consult your boiler manual. Swap a bath for a shower to spend less energy heating water. And if you already use a shower, take a shorter one. Hot water tanks and pipes should be insulated to stop heat escaping. Clean wood- and pellet-burning heaters regularly with a wire brush to keep them working efficiently.

Close windows and doors, insulate pipes and draught-proof around windows, chimneys and other gaps to keep the warm air inside. Unless your home is very new, you will lose heat through draughty doors and windows, gaps in the floor, or up the chimney. Draught-proof these gaps with sealant or weather stripping to save up to EUR 100 a year. Install tight-fitting curtains or shades on windows to retain even more heat. Close fireplace and chimney openings (unless a fire is burning) to stop warm air escaping straight up the chimney. And if you never use your fireplace, seal the chimney to stop heat escaping.

Replace old lightbulbs with new LED ones, and only keep on the lights you need. LED bulbs are more efficient than incandescent and halogen lights, they burn out less frequently, and save around EUR 10 a year per bulb. Check the energy label when buying bulbs, and aim for A (the most efficient) rather than G (the least efficient). The simplest and easiest way to save energy is to turn lights off when you leave a room.

Walking or cycling are great alternatives to driving for short journeys, and they help save money, cut emissions and reduce congestion. If you can, leave your car at home for shorter journeys; especially if it's a larger car. Share your ride with neighbours, friends and colleagues to save energy and money.

World Habitat Day

A programme was organized on World Habitat Day at Government Polytechnic, Anantapur by The Institution of Engineers (India), Anantapuram Local Centre on 02nd October 2023. On the occasion the Chief Guest Dr B. Karuna Kumar, Sr. Faculty in ECE, Government Polytechnic College, Ananthapuramu said that one hundred crore tones residential and industrial waste is generated in the World every year. Disposal of the Waste is essential to lead a better life in the cities. We can convert these wastes as money like gold by positive and creative attitude.

This manure is used to make the city green and beautiful. A large number of women in Ambikapur have formed a group and these groups are making money from these wastes. In many part of the world the waste is being used to generate electricity also. Dr. M. Rama Krishna Reddy, honorary Secretary , The Institution of Engineers(India) said that world Habitat Day is being organized all over the world from 1986 as per decision by united Nations General Assembly. Its aim is to aware the society about delivering adequate basic residential facilities to all citizens of any country. Additionally it serves as a reminder of our responsibility to develop the cities in a planned manner to have safe and better landscape for next generation.

In the end Dr. Dr. M. Rama Krishna Reddy, FIE, Honorary Secretary presented vote of thanks. For longer distances where walking or cycling is impractical, public transport still reduces energy use, congestion and air pollution. if you're going on a longer trip, consider leaving your car at home and taking the train. Buy a season ticket to save money over time. Your workplace or local government might also offer incentives for travel passes. Plan your trip in advance to save on tickets and find the best route.

World Standards Day'

The Institution of Engineers (India), Ananthapuram Local Center is organized celebrated 'World Standards Day' on 14th October 2023. On this occasion the Keynote Speaker Sri. Jaya Chandr ReddyReddy, Principal, Government Polytechnic College, Ananthapuramu. The theme this year was SHARED VISION FOR A BETTER WORLD: INCORPORATING SDG 3. He informed the audience about the fact that video has merged in our daily life very deeply and we cannot think about the World without Video like it is our favorite News Channel , U-tube, Sports Channel, Reality Show or like-wise any other channel.

Due to smart phone revolution in present, video Camera and Video has reached to almost all people and it has played a very important role in changing the method of sharing

experiences and making contacts.Now a day's use of video has vital role in the field of education, Health services, family security and safety/vigilance. Standards has always played an important role in the developments of Video technology specially when video moved a step forward from analog to Digital. Digital video coding started in the decade of 1970 and afterwards newer radio coding Standards were framed which helped in increased data storage and reducing the band width. Many Video sales statistics shows the probability of video to become more important and it will use 80% more international internet traffic. Earlier, Prof. C. Shoba Bindu, FIE, Chairperson, Anantapuram Local Centre welcomed the guests. In the end Dr. Dr. M. Rama Krishna Reddy, FIE, Honorary Secretary presented vote of thanks.

Energy Conservation Day

The Institution of Engineers (India), Anantapurm Local Center, Ananthapuramu celebrated the 'Energy Conservation Day' on 15th December, 2023. The Chief Guest of the event was Sri. Dr. Kishan Naik, Associate Professor, Department of Studies in Mechanical Engineering, University B.D.T College of Engineering, Davangere. He emphasized on energy conservation and said that in today's time it has become a common practice that people misuse electrical energy a lot like forgetting to put off mobile phones charging after full charging, spilling a lot of water while using geezer for hot water and not switching it off after its use. He cautioned that all these reasons will one day bring our sources of energy to the end.

He also emphasized that we have to be aware first ourselves and then awaking the people by telling and explaining about the importance of energy. One can save energy by taking care of it seriously, by switching off many electrical appliances of daily use like fans, bulbs, summer coolers, heaters etc. when not needed. This is one of the most efficient way to save the energy and plays an important role in the energy conservation.

Fossil fuels, crude oil, coal, natural gas, etc. generate sufficient energy for use in daily life, but their increasing demand day by day creates the fear of depletion of natural resources. Earlier in the eginning of the program, Prof. C, Shoba Bindu, FIE, Chairperson, IEI, Anantapuram Local Centre elcomed all the guests and said that energy conservation is one way to replace non-renewable sources of energy with renewable sources. Energy users have to be made aware for efficient energy conservation along with less consumption of energy ways.

She also said that people should be more aware of the fact that bright light at work places brings various problems (diseases) such as: stress, headache, blood pressure, fatigue and reduces efficiency, Whereas, natural light increases the productivity level of workers and reduces energy consumption. The event ended with vote of thanks by Dr. M. Rama Krishna Reddy, IE(I), Anantapuram local Centre. A large number of Students from various departments participated in the event.

Energy Conservation Day

Energy conservation day:Bhimavaram local centre IEI in association department of EEE and AICTE IDEAL LAB srkr engineering college in organised energy conservation day on 15th December 2023 .The chief guest sri.k .Pavan Kumar assistant professor of EEE and coordinator of AICTE IDEAL LAB, SRKR ENGINEERING COLLEGE BHIMAVARAM. The lecture on the topic energy conservation day, energy resources of green energy importance of feature in the world. The chairman of bhimavaram local centre welcome to the chief guest and introduced the prominent engineers. DR .K.BRAHMA RAJU, national council member of IEI India . To talk about energy conservation day importance. DR. N.G.K MURTHY bhimavaram local centre honarary secretary (or) participated energy conservation day celebrations and has proposed to cheif guest and other designatories , audience for successful conducting of the energy conservation day.

Artificial Intelligence Impact on Enhanced Project Management

The lecture undoubtedly provided valuable insights and knowledge for all the attending civil engineers. As AI continues to advance, its integration into project management processes holds immense potential for enhancing efficiency and effectiveness in the civil engineering domain.

Dr. T Naresh Kumar's expertise and insights in this area must have been instrumental in shedding light on how AI technologies can be leveraged to optimize project planning, monitoring, and execution

The chosen topic, "Artificial Intelligence's Impact on Enhanced Project Management," is particularly relevant in today's rapidly evolving technological landscape. It's evident that this topic resonated well with the audience, as it promised to equip civil engineers with the tools and knowledge necessary to elevate their skills and adapt to the changing demands of the industry. AI can assist project managers with the creation of detailed schedules and comprehensive risk logs, predict outcomes, optimize resource allocation and enhance communication.

The findings indicate that artificial intelligence, predominantly machine learning, can be considerably useful in the management of construction and IT projects; it is notably encouraging for enhancing the planning, measurement, and uncertainty performance domains by providing promising forecasting and decision-making. Artificial intelligence and machine learning have found a wide range of business applications, but their impact is only just starting to be seen in project management. In this report, we share our findings to aid in understanding the impacts of Artificial Intelligence on projects and how they will reshape project management in the future based on suitable AI inputs

World Habitat Day

World Habitat Day, observed on the first Monday of October each year, serves as a global platform to contemplate the state of our habitats and emphasize the fundamental right of every individual. According to UN Habitat - 1.2 billion people are currently losing this fight and live in insecure housing or have no home at all. Street homelessness is the other most extreme form of housing exclusion, Poverty drives homelessness. Armed conflict and a heating climate threaten to displace more people and drive them into home lessness.

Achieving goals towards Street homelessness was disrupted in many of partner countries/cities throughout the period of the Covid pandemic among the 170 UN partnership countries and same being the one of the targets of UN Sustainable Development Goal -11.

Artificial Intelligence and Its Applications

The Institution of Engineers (India), Kadapa Local Centre organized a Technical Seminar on “Artificial Intelligence and Its Applications" on 14th October, 2023. The Speaker Er. B. Ammanni, MIE, Academic Consultant, Dept. of Digital Techniques for Design & Planning, Dr. YSR Architecture and Fine arts University, Kadapa has delivered a lecture on the theme of the day. The brief details of the presentation given are as follows. Artificial Intelligence (AI) is a transformative technology that simulates human intelligence in machines, enabling them to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and decision-making. This abstract provides an overview of AI and its diverse applications across various domains.

AI encompasses several subfields, including machine learning, natural language processing, computer vision, and robotics. Machine learning, a prominent subset, involves training algorithms to learn from data and make predictions or decisions without explicit programming. Natural language processing enables computers to understand and generate human language, revolutionizing chatbots, language translation, and sentiment analysis. Computer vision equips machines to interpret and analyze visual information, powering applications like facial recognition and autonomous vehicles. Robotics integrates AI to develop intelligent, autonomous machines capable of performing tasks in diverse environments.

The applications of AI span a broad spectrum, ranging from healthcare to finance, manufacturing, transportation, and entertainment. In healthcare, AI-driven diagnostics and predictive analytics assist in early disease detection and treatment optimization. The financial sector benefits from AI's capabilities in fraud detection, algorithmic trading, and risk assessment. Manufacturing sees improvements in automation and quality control through AI-powered robots and systems. Transportation witnesses’ advancements in self-driving cars, traffic management, and route optimization. Entertainment is enriched with AI-generated content, recommendation systems, and immersive experiences.

The applications of AI span a broad spectrum, ranging from healthcare to finance, manufacturing, transportation, and entertainment. In healthcare, AI-driven diagnostics and predictive analytics assist in early disease detection and treatment optimization. The financial sector benefits from AI's capabilities in fraud detection, algorithmic trading, and risk assessment. Manufacturing sees improvements in automation and quality control through AI-powered robots and systems. Transportation witnesses’ advancements in self-driving cars, traffic management, and route optimization. Entertainment is enriched with AI-generated content, recommendation systems, and immersive experiences. In conclusion, artificial intelligence is a revolutionary technology with applications that continue to reshape industries and improve our daily lives. Understanding and addressing the ethical and social implications are crucial steps toward realizing the vast potential of AI for the betterment of society.

Role of Renewable Energy on Agriculture

The Institution of Engineers (India), Kadapa Local Centre organized a Technical Seminar on “Role of Renewable Energy on Agriculture" on 15th October, 2023. The Speaker Er. V.V. Krishna Reddy, Asst. Professor, Dept. of EEE, Dr. JNTUA College of Engineering, Pulivendula has delivered a lecture on the theme of the day. The brief details of the presentation given are as follows.require human intelligence, such as learning, reasoning, problem-solving, and decision-making.Energy is one of the major parameters for establishing growth and progress of the country, rather the standard of living depends directly upon the per capita energy consumption. Most of energy on the earth is received from the sun. Solar energy creates circulation of wind and ocean water, causes water evaporation and consequent precipitation. Plants use solar energy for photosynthesis and store carbohydrates, protein, fats, oils, alcohols, cellulose and lignin.

In agricultural systems, energy is available from different sources as human, animal, sun, wind, biomass, coal, fertilizer, seed, agro-chemicals, petroleum products, electricity etc. Energy sources that release available energy directly to the system are classified as direct energy sources. Renewable energy and farming are a winning combination. Wind, solar, and biomass energy can be harvested forever, providing farmers with a long-term source of income. This paper is an overview of renewable energy uses for farmers and ranchers on how they can help make renewable a growing source of energy and rural income in India.

National Energy Conservation Day

The Institution of Engineers (India), Kadapa Local Centre and KSRM College of Engineering , Kadapa jointly conducted a lecture on the occasion of National Energy Conservation Day on 15th December 2023. The Speaker Er. D. Lakshmi Pathy, MIE, Deputy Executive Engineer, APSPDCL/SPM, Kadapa had delivered a lecture on the theme of the day. The brief details of the presentation given are as followsstandard of living depends directly upon the per capita energy consumption. Energy is very important in our daily life.
We call Energy the ability to do any work.

Energy Conservation is the Energy saving without loss of quantity, quality and comfort level. The Energy Conservation is a social issue and answerable to next generation. Reduction of gap between Demand and Generation. Finally, Energy Conservation means Reduction in Energy Consumption. • Energy Conservation is the Energy saving without loss of quantity, quality and comfort level. The Energy Conservation is a social issue and answerable to next generation. Reduction of gap between Demand and Generation. Finally, Energy Conservation means Reduction in Energy Consumption.

A New Control Strategy for Solar and Battery Integration System by Three Level NPC Invertery on Agriculture

The Institution of Engineers (India), Kadapa Local Centre organized a Technical Seminar on “A New Control Strategy for Solar and Battery Integration System by Three Level NPC Inverter" on 24th November, 2023. The Speaker Er. G. Rajesh, M. Tech., Regional Director, Campus Islands Pvt. Ltd., Andhra Pradesh has delivered a lecture on the theme of the day. The brief details of the presentation given are as follows. œDue to environment problems caused by conventional power generation, renewable energy sources such as solar photovoltaic (PV) and wind generation systems are becoming more promising alternatives to replace conventional generation units for electricity. Advanced power electronic systems are needed to utilize and develop renewable energy sources.

œIn three-phase applications, two types of power electronic conœgurations are commonly used to transfer power from the renewable energy resource to the grid.

A three-level neutral-point-clamped (NPC) inverter, that can be integrate solar photovoltaic and battery storage system.

A new control algorithm is presented in order to control the power delivery between the solar PV, battery & grid, which simultaneously provides MPPT operation for the solar PV.

The effectiveness of the proposed methodology is investigated by the simulation of several scenarios, including battery charging and discharging with different levels of solar irradiation

œA three-level neutral-point-clamped (NPC) Inverter with fractional order PID control has to be proposed.

Conclusion:

A three-level npc voltage supply electrical converter that may integrate each renewable energy and battery storage on the dc aspect of the electrical converter has been given.

In this project a fractional order PID controller is used to analyze the inverter output voltage and currents to reduce the overall THD values of the inverter.

New optimization controllers can be designed for better control performance, this will results the flexibility of power flow control.

World Habitat Day

World Habitat Day is being celebrated on October 2rd at IE Kakinada Local Centre.Prof B Balkrishnaattended as chief guest for the above program.Hon'ble chairman Dr M Ramesh& Secretary Dr V Jaya Prasad and other members shared few words about the importance of conservation. World Habitat Day is being celebrated on October 2 rd at IE KAKINADA LOCAL Centre.Prof B. Balakrishna D E Jntuk attended as chief guest for the above program. Chairman Dr M Ramesh& Hon. Secretary Dr V Jaya Prasad and other members shared few words about the importance of conservation. World Habitat Day underscores the importance of advocating for the basic right to shelter. It recognizes that every individual on our planet deserves a safe and decent place to call home. Access to adequate housing is not only a matter of shelter but also a fundamental stepping stone to personal success and the realization of opportunities.

In addition to shelter, World Habitat Day also raises awareness about the need to balance urbanization with environmental concerns. As our world becomes increasingly urbanized, it is essential to develop sustainable cities and communities that our future generations can be proud to inhabit. This day serves as a reminder of our responsibility to create a world that is both habitable and sustainable.

National Energy Conservation Day

The National Energy Conservation Day is being celebrated on December 14 at IE Kakinada Local Centre.Prof GVR Prasada raju, Hon'ble Vice chancellor attended as chief guest for the above program. chairman Dr M Ramesh & Hon. Secretary Dr V Jaya Prasad and other members shared few words about the importance of conservation. National Energy Conservation Day is celebrated annually on December 14th to raise awareness about the importance of conserving energy and promoting sustainable energy practices. This day serves as a reminder of the finite nature of energy resources and the need to protect the environment by reducing our energy consumption.

Energy conservation involves deliberate actions and practices aimed at using energy more efficiently. This can include individual efforts, such as turning off lights and fans when not in use or opting for public transport instead of personal vehicles to reduce energy consumption. At a larger scale, energy conservation contributes to energy efficiency.

The ultimate objective of energy conservation is to achieve sustainable energy usage, ensuring that current needs are met without compromising the ability of future generations to meet their own needs.

WORLD HABITAT DAY

The Institution of Engineers (India), Visakhapatnam Local Centre had organized a technical activity on 02nd October, 2023 at 06.30 PM through Virtual Mode. Speaker, Sri Er. Saripalli Suryanarayana, FIE, Project Manager, Mumbai Port Trust while delivering lecture on “Resilient urban economies. Cities as drivers of growth and recovery”. We celebrate World Habitat Day on 02 October 2023, it is imperative that we recognize the pivotal role cities play in shaping our collective future. We must continue to invest in building resilient urban economies that not ronly drive growth and recovery but also promote social equity and environmental sustainability. By doing so, we can create cities that are not only economically robust but also inclusive, green, and capable of withstanding the challenges of an ever-changing world. It is through these efforts that we can ensure a brighter and more sustainable future for all urban dwellers, today and for generations to come.

World Habitat Day aims to convene various city stakeholders to discuss the ways in which cities can be primed for recovery following the global intersecting negative economic shocks of COVID-19 and conflicts by: roaching the different dimensions of economic slowdown that cities are currently experiencing and identifying actions that cities can take to boost economic recovery. Sharing experiences among different cities on how they are positioning themselves to tackle inflationary pressures and other tight global financial conditions.2023 has been a particularly challenging year for Urban Economies. The global economy growth itself is declining to about 2.5% and, apart from the initial COVID-19 crisis in 2020 and the global financial crisis in 2009, this is the weakest growth experienced since 2001 [WEO by the IMF]. Given the size of the contribution of cities to the national economy, the future of many countries will be determined by the productivity of its urban areas. Cities are the engines creating the value that boosts economic recovery. The need for finances for the city growth: For this economic growth and recovery to be sustainable, we need cities that can absorb, recover, and prepare for future economic shocks [OECD, 2023]. It is crucial that this is also packaged under the green recovery framework that scales up private and public investments to finance the transition to a climate-neutral economy in a post-COVID world. The needs to fulfil the SDGs. This includes; Housing, Education, Transport, Employment and Power and Cooking medium to meet the climate Changes.

RECOVERY OF THE CITIES Providing safe cooking medium. Resilient transport for all. Safe power to all corners. Hygiene to avoid the bacterial and virological infections. The effects of COVID -19 have left some marks on human Development. Finding the Resources, Employment, System of Education, Avoiding resurgent Virology, Water Sanitation Hygiene has become [WASH] paramount. With water as a human necessity for better hygiene and living.

HOW DID THE CITIES SURVIVE

• It is culture exchange; inter dependence of social and health care systems. Availability of fresh vegetables at cost. Possibilities to use digital technologies in all spheres of life.

World Standard Day

"WORLD STANDARDS DAY CELEBRATIONS", October 14, 2023 at 07.00 p.m & Er G Madhu babu, Lead Auditor & Associate General Manager, Indian Register of Shipping, Visakhapatnam has kindly consented to be the GUEST SPEAKER. Standardization is the process of developing, promoting and possibly mandating standards-based and compatible technologies and processes within a given industry; The criteria it proposes ensure that materials, products, processes, services, systems, or persons are fit for their intended purpose.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. SDG 3 aims to achieve universal health coverage and equitable access of healthcare services to all men and women. It proposes to end the preventable death of newborns, infants and children under five (child mortality) and end epidemics.

Good health is essential to sustainable development and the 2030 Agenda. It focuses on broader economic and social inequalities, urbanization, climate crisis, and the continuing burden of HIV and other infectious diseases, while not forgetting emerging challenges such as non-communicable diseases. Considering the global pandemic of COVID-19, there is a need to give significant attention to the realization of good health and well-being on a global scale.

The Bureau of Indian Standards (BIS), serving as India's National Standards Body (NSB), has been actively working towards achieving Sustainable Development Goal 3 (SDG3). It has played a crucial role in shaping the landscape of medical devices in India by dedicating efforts to formulate Indian Standards. Acknowledging the paramount importance of ensuring the safety, efficacy, and quality of medical devices, BIS has collaborated with various stakeholders, including industry experts, healthcare professionals, and regulatory bodies. BIS is actively pursuing standardization in cutting-edge technologies, including the use of artificial intelligence (AI) in medical devices, applications of robotics in healthcare, medical biotechnology, and medical nanotechnology, among others.

SDG 3 also aims to prevent needless suffering from preventable diseases and premature death by focusing on key targets that boost the health of a country's overall population. Regions with the highest burden of disease and neglected population groups and regions are priority areas. Goal 3 also calls for deeper investments in research and development, health financing and health risk reduction and management.

Interoperability of Healthcare Systems: Standardized systems and data formats facilitate the interoperability of healthcare information systems. This interoperability enables seamless communication and sharing of health data among different healthcare providers, leading to more efficient and effective healthcare delivery particularly important for achieving the SDG 3 universal health coverage.

WORLD SOIL DAY

The world's fresh water resources are unequally distributed both in time and in space. Until recently water resource management focused on reallocating water to when and where it was required, a supply-side or fragmented approach. Nowadays there are signs that water resource availability is dwindling – due to both population growth and increased per capita water use – and ecosystems are being damaged. To face this challenge a new holistic approach is needed. This approach includes the integrated or conjunctive use of surface and groundwater resources and takes account of social, economic and environmental factors. Moreover, it recognizes the importance of water quality issues. The continuous increase in global population and simultaneous decrease in good quality water resources emphasizes the need of using surface water and groundwater resources conjunctively for irrigation. Until the late fifties, planning for management and development of surface and groundwater were dealt with separately, as if they were unrelated systems. Although the adverse effects have long been evident, it is only in recent years that conjunctive use is being considered as an important water management practice. The issue has become more challenging in the light of shrinking water resources (Singh and Panda, 2012a) due to urbanization, contamination, and climate change impacts.

Sustainability of water resources - Improved living standards (Mariolakos, 2007) and changing dietary habits, which require more water, make the issue even more severe. The provision of irrigation is vital for achieving food security to burgeoning global population (Singh, 2012a; Singh and Panda, 2012b,c) and sustaining livelihoods. This is particularly important in arid and semiarid regions where water resources are critical for the economic development. However, without proper planning and management, the intensification of irrigated agriculture can result in declining biodiversity and other environmental problems in agro-ecosystems.

The sustainability of water resources is a critical issue against the backdrop of rising water demand for agricultural, industrial, and domestic uses as the world needs about 60% more food (FAO, 2013) to feed the 9.5 billion people in 2050 (United Nations, 2012). More than one third of the world's irrigated land is affected by secondary salinization and/or waterlogging (Heuperman et al., 2002) and this condition poses a threat for food security and environmental conservation.

The water resources sustainability largely depends on the proper management and efficient utilization of agricultural water (Fasakhodi et al., 2010) because irrigated agriculture is the largest user of all the developed water resources and consumes over 70% of the abstracted freshwater globally (FAO, 2013), though this figure ranges between more than 80% in many developing countries and less than 60% in developed countries. Nearly 23% of the world's cultivated land is irrigated and it provides more than 40% of agricultural production. Irrigation will remain vital in achieving food security and its share in world food production will rise to over 45% by 2030 (Faures et al., 2007), but the water shortages in many regions endangered the irrigated agriculture (Schoups et al., 2006)

SEMINAR ON "PROPELLER NOISE PREDICTION AND CONTROL"

Until the advent of the steam engine, ships were largely propelled by oars imparting momentum to the surrounding water or by sails capturing the energy of the wind. œThe first mechanical propulsion device to be widely used in ships was the paddle wheel. œit consisting of a wheel rotating about a transverse axis with radial plates or paddles to impart an astern momentum to the water around the ship giving it a forward thrust A Propeller consists of a number of blades attached to a hub.œThe hub is fitted to the propeller shaft through which the power of the ship is transmitted to the propeller. œWhen this power is delivered to the propeller, a turning Moment or Torque is applied making the propeller revolve about its axis. œThere by producing an axial force or thrust causing the propeller to move forward with respect to the surrounding medium (water) at a speed of advance, Sound generated by a propeller is critical in underwater detection, and it is often, related to the survivability of the vessels especially for military purposes.

The Propeller is a vital component which is subtle for the safe operation of a ship at sea.The Purpose of the propeller is to produce a thrust causing to move the ship in forward direction. But it is identified as major noise source. The noise produced by a propeller is very much importance to warship designers and military strategists for many years. Noise reduction is one of the key parameter in design of propeller. Underwater propeller noise can be classified into 1.Cavitating Noise and 2.Non-Cavitating Noise. Submarines and Torpedoes are usually operated under the deep sea enough to avoid cavitation. The non-cavitation noise of underwater propeller is numerically investigated in this study.

PREDICTION OF PROPELLER NOISE USING CFD AND ACOUSTIC ANALYSIS - This presents the numerical investigation of unsteady non-cavitating turbulent flow around a marine propeller with the eddy viscosity model of Large Eddy Simulation (LES) available in Computational Fluid Dynamics (CFD) and Fluent software. Propeller behaviour is investigated for its hydrodynamic parameters and then Computational Acoustic Analysis (CAA) is carried out using Ffowcs Williams–Hawkings formulation (FW-H). Present work focuses on the non-cavitation noise of propellers. RANS used by many for turbulence modeling. Limitations of RANS is capturing events like unsteady force, Pressure fluctuation of the blade. LES has merits to resolve the least large scale turbulence. A direct numerical simulation (DNS) of the sound radiation is not possible with available computer resources for the Reynolds numbers of technical interest. To reduce the computational effort in the source region, the precise DNS is substituted by less expensive methods such as Large Eddy Simulation (LES) or Detached Eddy simulation (DES). LES method is of computational expense and predictive accuracy than DES. The FW-H equation is an appropriate tool for predicting the noise generated by the complex motion of the solid Bodies.

CONCLUSIONS - The influence of Number of blades and Pitch angle on propeller Noise is studied and optimum influence parameter combination has been found using fuzzy logic technique which yields good results in finding minimum propeller noise.

Energy Conservation Day

Energy is the back bone of country's all-round Development. It is the responsibility of every citizen of India to strive to use the existing Energies in most efficient way and to conserve the existing available Energies for a better tomorrow and protection of Environment.

œEnergy conservation is the effort made to reduce the consumption of energy by the Energy users. Energy can be conserved by reducing wastage and losses, improving efficiency through technological upgrades and improved operation and maintenance

The Kyoto Protocol is an international treaty, which is an extension to UNFCCC meeting in 1992 (Rio-Brazil). The Kyoto Protocol was adopted in Kyoto, Japan, on 11-12- 97. There are currently 196 member countries in UNFCCC. The Kyoto Protocol aim to implement the objective of the UNFCCC to fight global warming by reducing GHG concentrations in the atmosphere to 'a level that would prevent dangerous interference with the climate system.

What Needs for Energy Efficiency in Electrical systems forœTo reduce Energy Consumption and hence Electricity bill, To reduce the T and D losses and increase the system Efficiency, To extend the life of the equipment for effective life cycle It reduces cost of production in industrial output. To reduce the utilization of fossil fuels, To reduce the additional demand on Generating Stations, OH Conductors, Transformers and other equipment, To reduce the Carbon Emissions thus protecting Environment and to Save mother Earth from Environmental Effects.

India is now in 7th place worldwide in Solar Photovoltaic (PV) module production. 9th place for thermal Systems with nations like Japan, China, and the US currently ranked far ahead. Globally, solar is the fastest growing source of energy with an annual average growth of 35%, as seen during the past few years. Solar Energy with large potential growth in India ranging a solar radiance between 5.2 to 6.4 KWH/Sq Mt/day.

General Features of Solar Power generation - Solar Power generation of 1 MWs installed capacity. Cost of plant would be around Rs 8- 10 Cr excluding land and other infrastructure 5 Acres land required per MWs. It should be completely protected, with high security zone. It generates 1.7 MU per year at Plant terminal under normal atmospheric conditions as per the standard radiation values notified by NASA. Project period for construction is about one year.

Why we have to opt for Solar Power - Solar Power is Clean Power. Abundantly available in nature, very safe to operate, Non-Conventional Energy, No need to use conventional fuels hence reduces the emissions, Availability of existing fossil fuels for future generations, Solar lighting and off-grid power packs, in rural, Areas where Grid Electricity is not available. Less maintenance, long lasting, with grid parity. Why we have to opt for Solar Power - Solar Power is Clean Power. Abundantly available in nature, very safe to operate, Non-Conventional Energy., No need to use conventional fuels hence reduces the emissions Availability of existing fossil fuels for future generations