A MECHZINE

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GEETHANJALI

INSTITUTE OF SCIENCE AND TECHNOLOGY

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Editorial Message

Hailed as the first draft of creativity and innovation, a magazine presents a social and tasteful conversation of a powerful organization, where the refined imaginative sensibilities and abilities of its young personalities go to the front. It holds mirror to the bunch exercises and activities embraced by the foundation to etch the multifaceted characters of adolescents besides being a media platform. On this earth shattering event of drawing out the magazine, we, the publication group, appreciatively recognize the unmistakable assortment of commitments made by the students and the staff.

"All progress comes beyond comfort zone"

Editorial Board

VISION-MISSION

VISION

To evolve as a prospective learnig centre for producing quality human resourses.

MISSION

DM_1: Impart Technical knowledge through effective teaching-learning practices

DM_2: Provide congenial academic environment for honing technical skills

DM_3: Develop professional and entrepreneurial skills through collaborations

DM_4: Promote leadership skills along with social and ethical values

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of B.Tech in Mechanical Engineering program shall able to

PEO1: Analyze Mechanical Engineering problems and provide sustainable solutions.

PEO2: Pursue successful professional career in industry, academia or research.

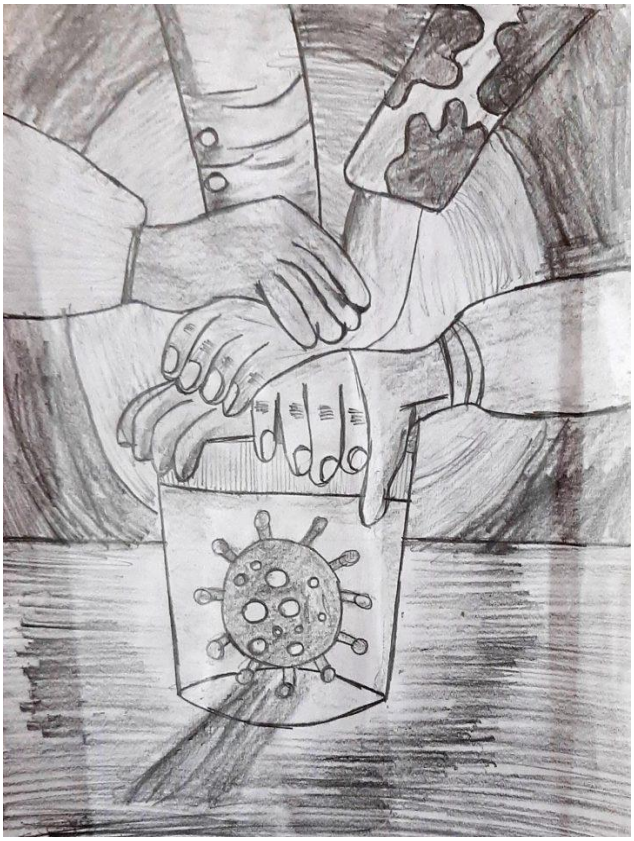
PEO3: Engage in continuous learning to keep abreast with emerging technologies with the sense of professional ethics.

PEO4: Contribute in multi-disciplinary teams through effective inter personal skills.

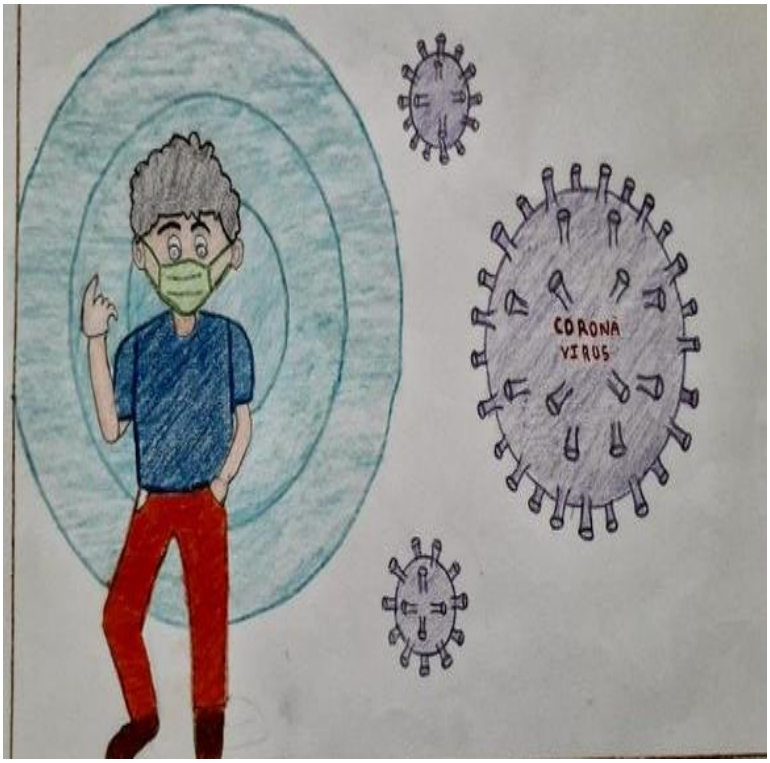
K. CHAKRADHAR (172U1A0314) , IV ME

D. SASI KUMAR (182U1A0313) , III ME

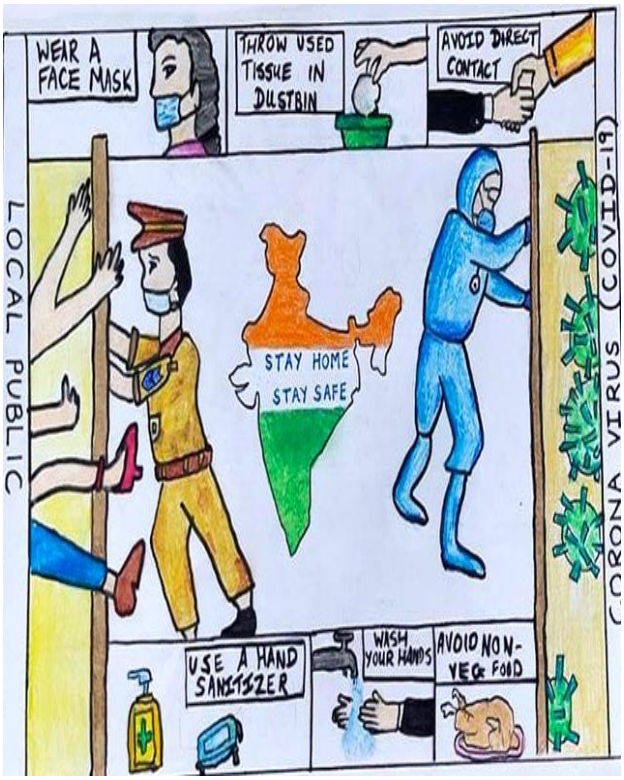
N. KARTHIK (192U1A0311) , II ME



P. SAI NIVAS (192U1A0316) , II ME



K.MURALI (182U1A0319) , III ME



UDATHA SIVAJI (172U1A0341), IV ME

SCIENCE AND ITS PUBLIC AFTER THE PANDEMIC

Who would have thought it? People all over the world, most of whom had happily forgotten whatever they'd learned about science and mathematics in school, were suddenly tuning into broadcasts and podcasts by virologists, epidemiologists, physicians, and geneticists, following the Twitter feed of doctors and nurses on duty in intensive care units, and obsessively washing their hands as they sung "Happy Birthday" (twice) under their breaths. They willingly, indeed avidly listened to explanations of R0, exponential curves, case/fatality ratios, and many other concepts that would have put them to sleep in seconds only a few weeks before. All the hand-wringing discussions about the growing distrust of science as evidenced by climate-change deniers and vaccine objectors vanished almost overnight from the airwaves and the newspapers.

Terrified by the specter of the COVID-19 pandemic, the public looked to science for its salvation. It's worth recalling just how anomalous this moment of voracious curiosity on the part of the public and daily communication on the part of scientists in the relevant specialties is. With the possible exceptions of astronomy (all those technicolor images of galaxies and black holes) and ethology (the perennial appeal of natural history films), most laypeople's attitude toward the sciences has been at best indifference and at worst hostility. Oddly, the countries in which high school students show the least inclination to continue studies in science and mathematics are arguably the ones that have profited most from these disciplines: the Norwegian-based Relevance of Science Education (ROSE) project found an inverse relationship between level of economic development and students' desire to learn more.

The scientists are badly in need of a more sophisticated way of thinking about the relationships between science and politics. Protestations of purity are ineffectual in situations in which politicians must rely on scientific counsel to make consequential decisions. All parties – scientists, politicians, citizens – need more practice in distinguishing between the scientific and political components of such decisions, as well as in discerning where the distinction is blurred. This is only partially a matter of transparency; it is also a matter of critical reflection and a frank acknowledgement of the risks involved. Scientific knowledge is the best knowledge we have, but it is not and cannot be certain knowledge.

The public for its part is badly in need of an education, both intellectual and moral, in uncertainty. Intellectually, this would mean a better understanding of how science domesticates but does not eliminate uncertainty: if laypeople could figure out R0 in a matter of weeks, there's no reason why they can't also learn the meaning of error bars, confidence intervals, and the other checks and balances instituted to gauge the reliability of scientific claims. We don't all have to become scientists, but we do have to become scientifically literate citizens. The moral component of this education will be harder: we must wean ourselves of our addiction to certainty.

The past few months have been a brutal lesson in just how uncertain life can suddenly become. Yet to an admirable degree the vast majority of people coped with the fact that their world had been turned upside down and inside out. Accustomed to planning our lives months in advance, we learned to live with a foreshortened future horizon of only a few days. The real challenge will be to hold onto this lesson learned once life again becomes predictable – predictable, but not certain.

A.SAI KRISHNA(202U5A0301) , II ME

THE REAL-LIFE HEROES

On World Humanitarian Day (WHD), 19 August, we celebrate and honor frontline workers, who, despite the risks, continue to provide life-saving support and protection to people most in need. On this day, we also commemorate humanitarians killed, harassed, and injured while performing their duty. This year's theme is "Real-Life Heroes".

But, what does it mean to be a hero? What does it take to help those in need, the poor and at-risk communities, those who are most vulnerable when a disaster strike? Why should we hold up as heroic the deeds of those who everyday continue to extend a helping hand?

He was a true frontline hero, and he is not alone.

In these extraordinary times, and despite the very real danger to themselves, Filipino front line workers, like my fallen colleague, everyday put their own safety and well-being aside to provide life-saving support and protection to people most in need.

Through years of responding to various emergencies and capitalizing on national expertise and capacity, the humanitarian community in the country has embraced a truly localized approach by recognizing what at-risk communities themselves can do in these challenging times. The private sector in the Philippines has also stepped up in sharing its resources and capabilities, joining with other humanitarian actors to support affected local governments and communities.

COVID-19 might be today's super-villain, but it does not deter our real-life heroes from doing their job and tirelessly working to find ways to combat the threat and eventually beat the invisible nemesis. We mourn the thousands who have lost their lives to the virus across the globe, including my colleague whom I have spoken of.

N. NAGA PRASAD (182U1A0332), III ME

Poems

CORONA – A THREAT

Came a virus very deadly,
Came the rumor…. A confounded medley
Codified as Novel Corona or Covid-19
Has frustrated the lives of lakhs
Many children, elders and teen….
When an infected coughs or sneezes,
Droplets may enter our nasal cavity…
Or fall on many objects with much ease
The virus remains active for some days
And gets transmitted in many ways
A touch, a handshake or physical contact
Through carelessness in fact…..
So what should we do? In such cases
Avoid going to crammed places
Use your arm while you sneeze or cough
Wash your hands frequently-30 seconds enough
Insane eating habits are a cause to this threat..
But there is no time to regret
No handshake, NAMASTE in trending
There is a need to change, because
Lives are ending.

M. VARUN KUMAR (172U1A0322) , IV ME

CORONA FEAR

This is a fear
that's making us aware
for the next problem
which is very surreal

Everything is closed,
Like a locked door.
But don't get scared or bored.
The sugar is dissolved,
but the story isn't over,
The problem isn't solved
but solution will discover.
Coronavirus may be ghastly
but let the world not be cowardly.

P. SREENIVASULU (202U5A0311) ,II ME

THE VIRUS

Should I be disappointed for the pandemic you have caused?
For initiating the curfew clause?
For thousands of lives you paused?
Or for the breaking of several laws?
Millions of people infected
Global economy neglected
Why have you brought this clamour?
I ask because this ain't gonna give you any glamour I wonder;
Should I be grateful for the change you have caused?
For your efforts in stopping the pollution of the lakes?
For ending the nature's aches? Soham Magazine (Class 8th)
For this should I give you an applause?
Millions of animals unseized
Global forestation achieved
Now, I know why you had brought the clamour
Because you wanted the nature to glamour

P . PAVAN KALYAN(182U1A0334) , III ME

DESIGN AND FABRICATION OF MAGLEV WINDMILL

SYNOPSIS :

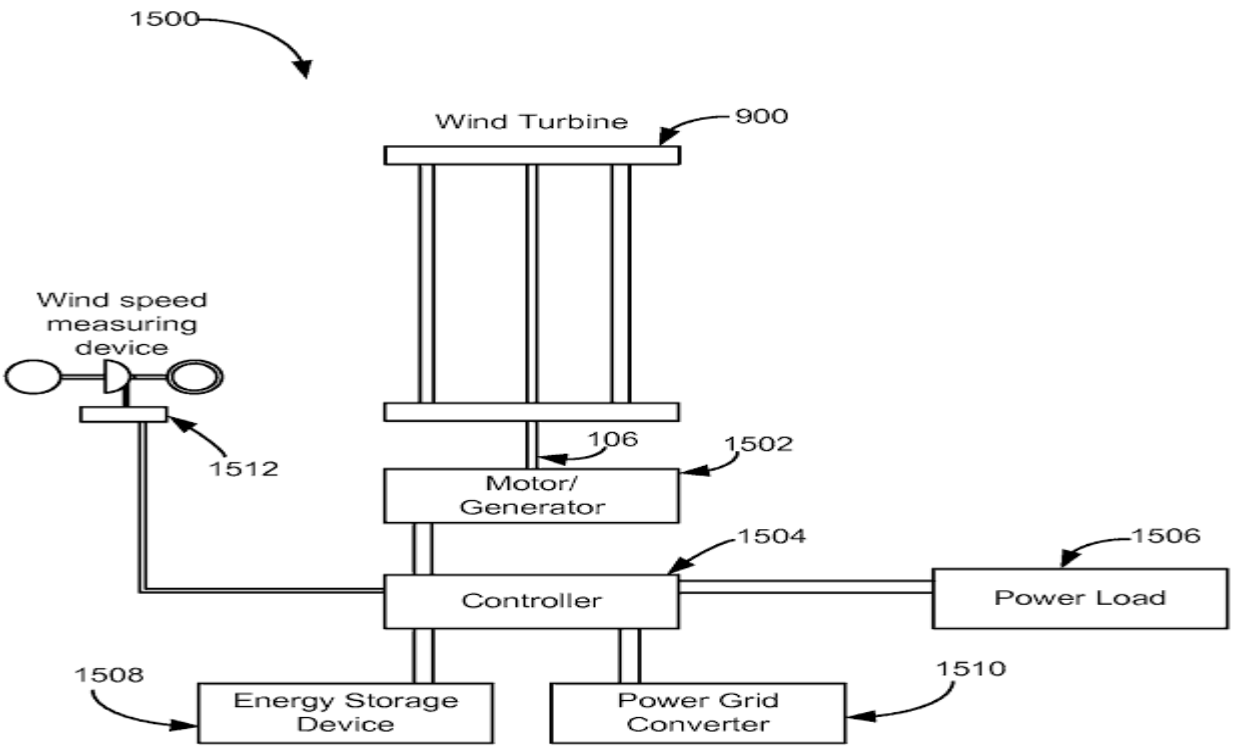
- Wind power turbines come in handy in the market today. Vertical-axis wind turbine happens to be one of the most popular and widely coveted wind turbines.
- It is also more practical, reliable and cost effective has the best longevity and durability features. Therefore, you will be able to use it efficiently over a long haul.
- It is also more practical, reliable and cost effective has the best longevity and durability features. Therefore, you will be able to use it efficiently over a long haul.

INTRODUCTION :

1. The kinetic energy of the wind can be changed into other forms of energy, either mechanical energy or electrical energy.
2. The kinetic energy contained in wind can be transferred to other objects, such as boat sails, or transformed into electrical energy through wind turbine generators.
3. With the recent surge in fossil fuels prices, demands for cleaner energy sources, and government funding incentives, wind turbines are becoming a more viable technology for electrical power generation

WORKING PRINCIPLE

All wind turbines essentially work the same way with minor modifications depending on size and configuration.The wind turns the blades to spin a shaft which connects to a generator which produces electricity. Essentially the rotors harness the kinetic energy of the wind and coverts it into electrical energy.



DESIGN AND FABRICATION OF MAGLEV WINDMILL

ADVANTAGES :

1. This Project gives 230 volt output main advantage.
2. no harm to birds and noice
3. Accepts wind from any angle.
4. Better answer to rapidly changing winds.
5. Components can be mounted at ground level
6. Ease of service
7. Lighter weight towers

M. ADARSH(192U1A0309) , II-II ME

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

PO1. **Engineering Knowledge :** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions

PO11 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES

At the time of graduation student of B. Tech in Mechanical Engineering will be able to

PSO1: Professional Skills: Utilize the knowledge of materials and manufacturing principles to plan, design and monitor the production operations of an Industry.

PSO2: Design Skills: Employ the governing laws of thermodynamics, heat transfer and refrigeration & air-conditioning to design and develop thermo-fluid system.