SEPTEMBER 2023

Department of Mechanical Engineering

Meerut Institute of Engineering & Technology

MESSGAE FROM THE EDITOR

This e-magazine is a quarterly magazine published by the department of Mechanical Engineering, MIET, Meerut. This edition includes research papers & other articles from the faculty members based on the latest technological advancement. Additionally, the magazine also provides space for various technical & cultural activities organized by the department during past three months.

Hope this magazine provides all the relevant information & encouragement to the readers.

Ms. Khushboo Sharma
Assistant Professor
Department of
Mechanical
Engineering MIET, Meerut

EDITORIAL TEAM

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4th year student Mechanical Engineering Department

Navneet Kumar
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Abhishek
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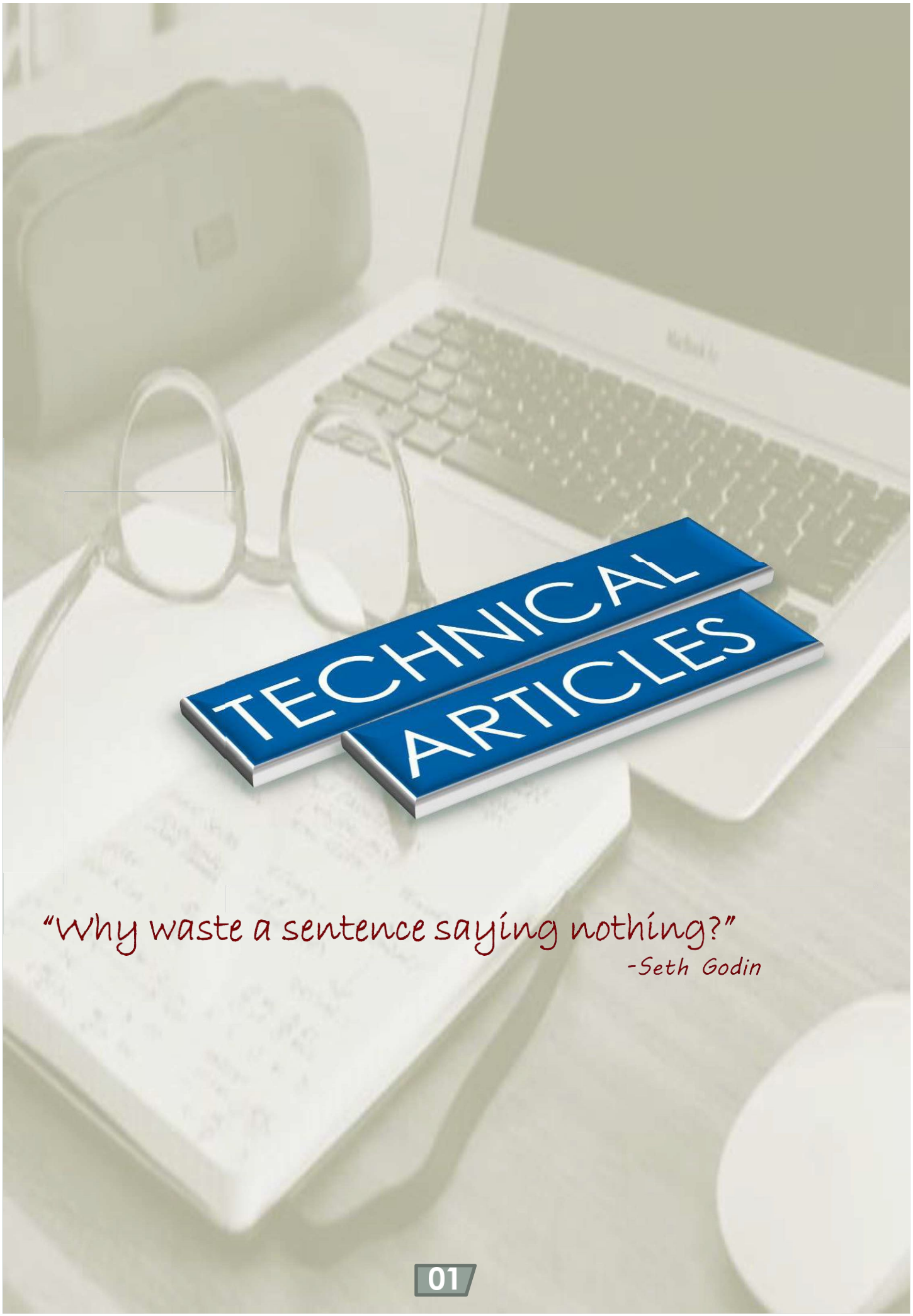
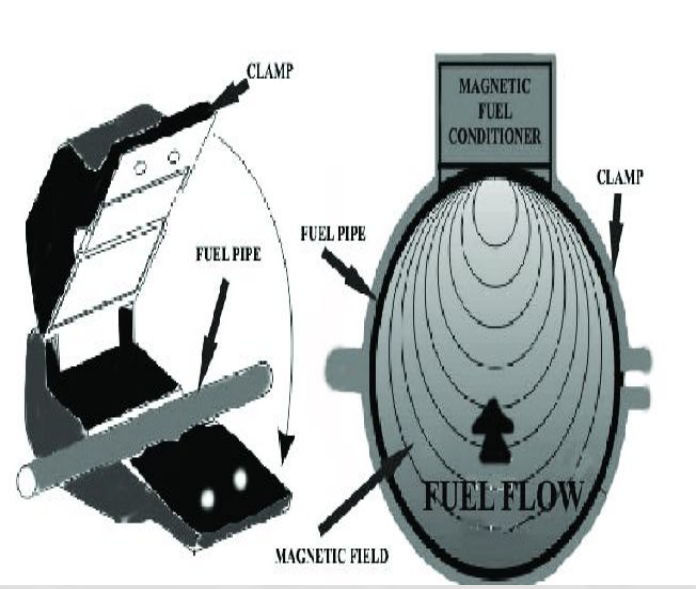


"Why waste a sentence saying nothing?"

-Seth Godin

RP Krishnan
Assistant Professor

Magnetic Fuel Energizer



Fossil fuels leave a natural deposit of carbon content that choke carburetor, fuel injector, leading to decrease the mileage and wastage of fuel. In this era of increasing fuel price, here a device called 'Fuel Energizer' helps us to ReducePetrol/Diesel/Cooking gas Consumption up to 28%, or in other words this would be equal to buying the fuel upto 28% cheaper prices. When fuel flows through powerful Magnetic field created by Magnetic Fuel Energizer, The Hydrocarbon change their orientation and molecules in them change their configuration. The Result is Molecules get realigned, and actively interlock with oxygen during combustion to produce a near complete burning of fuel in combustion chamber. This seminar focuses on the idea of Magnetic Fuel Energizer, its working principle, components, installation technique, Comparison between the Catalytic Converter and the Magnetizer, its fuel benefits, research and development and the Developed for the Indian Market. The fact that taken into account a vehicle's performance is often affected by the level of adulteration in the fuel used. The Fuel Energizer has been adapted and developed with Indian conditions in mind and it is the first such device in India that can make this claim. "FUEL ENERGIZER" helps to reduce fuel consumption up to 30%. When fuel flows through powerful magnetic field created by Magnetizer inter molecular forces is considerably reduced or depressed hence oil particles are finely divided. This has the effect of ensuring that fuel actively interlocks with oxygen producing a more complete burn in the combustion chamber. Hence by establishing correct fuel burning parameters through proper magnetic means (Fuel Energizer) we can assume that an internal combustion engine is getting maximum energy per litre as well environment as with lowest possible level toxic.

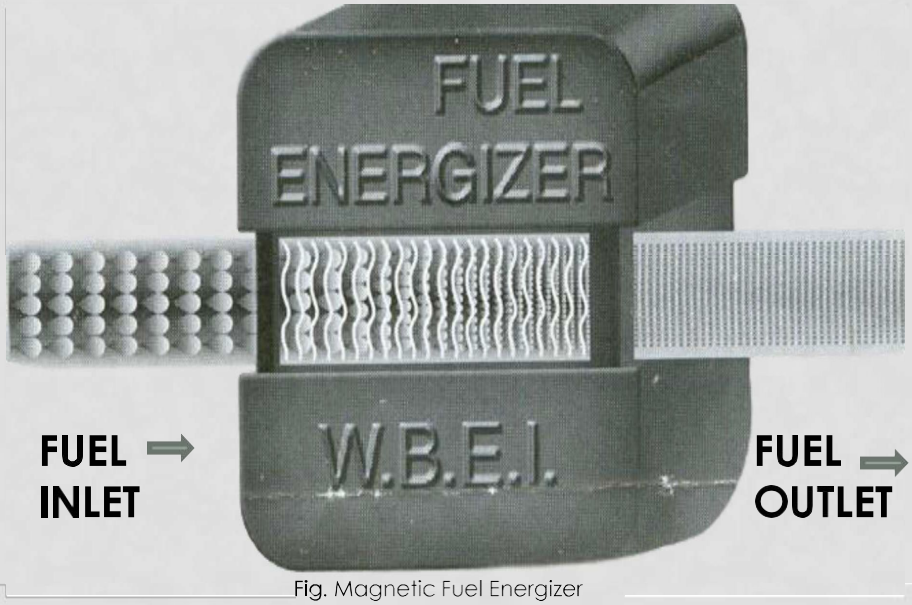


Fig. Magnetic Fuel Energizer

This result in higher engine output, better fuel economy and a reduction in the exhaust emission of hydrocarbons, carbon monoxide and oxides of nitrogen through the muffler. The magnetic ionization of the fuel also helps to dissolve the carbon build-up in carburetor jets, fuel injectors and combustion chambers and thus keeping the engine in a cleaner condition. It was established in 1994 by an English Scientist. 'FUEL ENERGIZER ' Reduce fuel consumption upto 28%.Magnetizer Fuel Energizer, the hydrocarbon molecules change their configuration due to magnetic field.Fuel actively interlocks with oxygen producing complete burning in the combustion chamber. Magnetizer fuel energizer (e.g- Neodymium super conductor – NSCM) is installed immediately before carburetor or injector on fuel line.On home cooking gas system it is installed just before burner.

Most IC Engine fuels are liquid, but liquid fuels does not combust until they are vaporized and mixed with air.Motor Vehicles Exhaust consist of unburned hydrocarbon, carbon monoxide, and oxides of nitrogen.Unburned Hydrocarbons and oxides of N2 react in the atmosphere and create smog.Generally, fuel for an internal combustion engine is composed of a set of molecules.These molecules have not been realigned and so the fuel is not actively interlocked with oxygen.When Hydrocarbons in fuel contact with a magnetic field, by the Fuel Energizer, change their orientation.This has the effect of ensuring that the fuel actively interlocks with the oxygen,complete combustion take place. Effect of magnetic field results in Higher Engine output.Better Fuel Economy.Reduction in the hydrocarbons, carbon monoxide and oxides of nitrogen that are emitted through the exhaust

The ionization of the fuel also helps to dissolve the carbon build-up in carburetor jets, fuel injectors and combustion chambers, keeping the engine clean.Conversion of para to ortho hydrogen occurs.Declustering of hydrocarbons resulting in effective mixing with oxygen.Oxygen can effectively react with carbon in hydrocarbons under high intensity magnetic field.

One of the chief reasons for the Magnetizer to have possibility to lower the NO2 level, as reported elsewhere, is due to the low reactivity of nitrogen gas. If we can bind up all the available oxygen with the hydrocarbon fuel, there simply will be no oxygen left over to form the unwanted nitrogen compounds.Fuel Energizer polarizes the fuel producing a better bond with the air resulting in a much cleaner and more efficient burn. The result is a "HIGH TEST" performance with a lower octane fuel and Impressive Fuel Saving.Last But Not The Least "Fuel Energizer Make A World Of Difference To Our World". Therefore Fuel Energizer Is An "Authentic Way To Reduction Of Fuel Consumption".

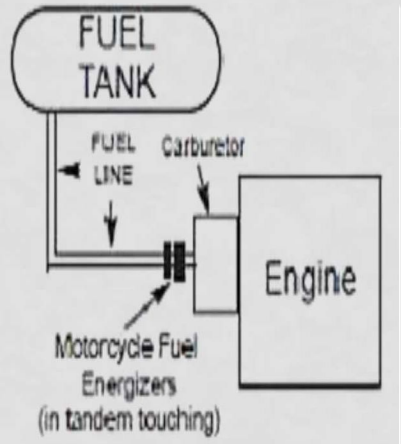


Fig. Flow diagram

Reference:

1. Hargude N.V Sawant SM 2012 Experimentalinvestigation of 4 stroke SI engine using furl eneergizer for improved performance and reduced emissions International journal of mechanical engineering and technology Vol3 pp 244-257.
2. Experimental Investigation of Magnetic Fuel Energizer in I.C. Engine,July 2012.
3. Rajan Garg Ajay Kumar Agarwal 2013 "Fuel Energizer The Magnetizer" International journal of innovative research and development vol2

Khushboo Sharma
Assistant Professor

Hyperloop-
'Innovation in the Field of Transportation'

Hyperloop is a completely new mode of fastest transportation. Hyperloop is firstly proposed by Elon musk and a team of engineer from Tesla Motors and the Space Exploration Technologies Corporation in August 2013. The concept of hyperloop includes travelling people from one place to another place in a capsule which is propelling at a very high speed. We can also called hyperloop as a solar powered transportation system and it is an alternative of high speed train.

The conventional modes of transportation of people consists of four unique types and that are rail, road, water, and air. These modes of transport tend to be either relatively slow, expensive or a combination of both. Hyperloop is a new mode of transport.

It seeks to change this pattern by being both fast and inexpensive for people and goods. We are always dream to travel from one place to another place within a blink of eye and that dream was comes true with the technology called as Hyperloop Technology. Basically hyperloop is magnetically levitated train which runs inside a long tube or pipe. It consists of low pressure tube with capsule that is transported at both low and high speeds. It is driven by linear induction motor and compressor. It includes 28 passenger pods.

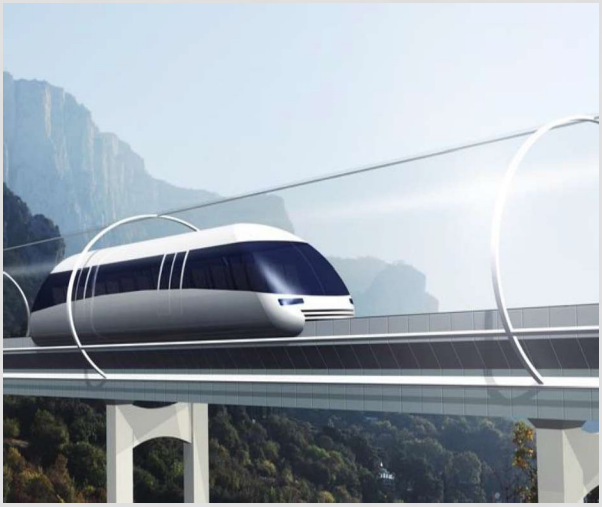


Fig. The Hyperloop

The Hyperloop is a hypothetical new fast transport system between cities, which works by launching pods that carry people through a very low air pressure tunnel. The Hyperloop reduces friction between the pods and the tunnel by supporting the pod on a cushion of air.

The principle idea behind the Hyperloop was simple and is just to reduce the friction and air drag, so as to get higher velocity, just like maglev trains.

If we are to make a massive investment in a new transportation system, then the return should by rights be equally massive. Compared to the alternatives, it should ideally be:

- Safer
- Faster
- Lower cost

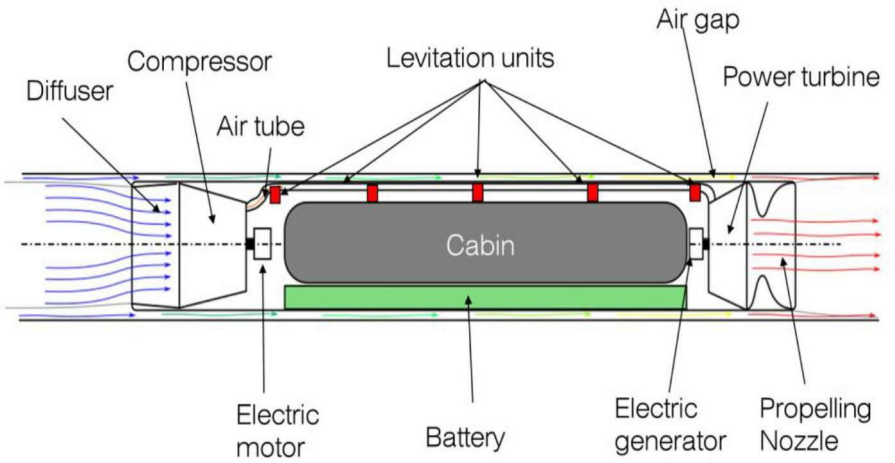


Fig. Hyperloop layout diagram.

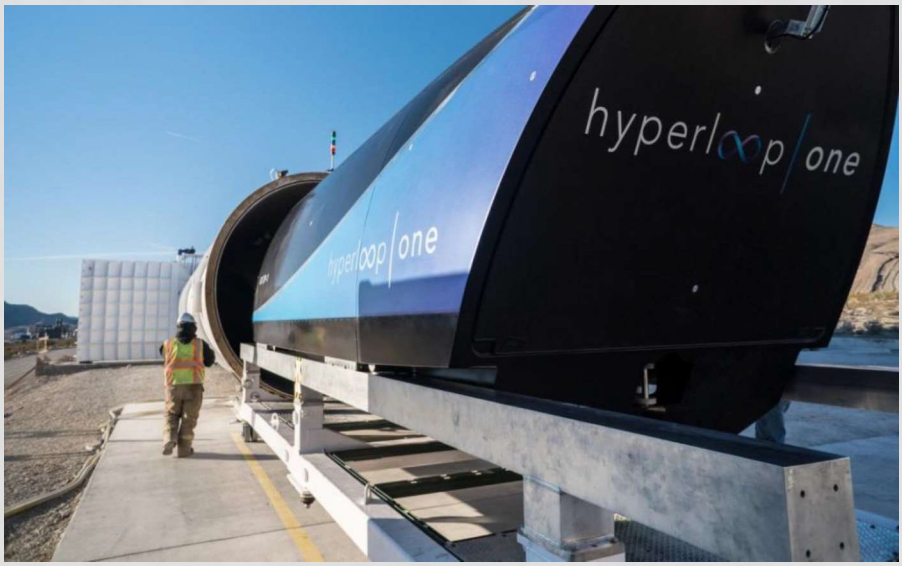


Fig. Hyperloop construction.

In July 2019, the Indian Government gave the final nod for construction of a

Hyperloop train between Mumbai and Pune. While several countries worldwide have unveiled plans to build this version of a high-speed train for years, India might take the lead in doing so. We take a closer look at the project.

- More convenient
- Immune to weather
- Sustainably self-powering
- Resistant to Earthquakes
- Not disruptive to those along the route.

So, the conclusion for the Hyperloop Technology is, with the increase in population and pollution, there has been a thriving demand for a technology that not only revolutionizes the world with its speed but also keeps in mind the impact it imparts to theenvironment.

Hyperloop could be the cleanest, fastest, cheapest and the latest means of transport.

The development in this new venture is encouraged by the very fact that it is *open-source.*

Reference:

1. On the Aerodynamic Design of the Hyperloop Concept Max J. M. Opgenoord and Philip Caplan Massachusetts Institute of Technology, Cambridge, MA, 02139.
2. Airlock System for Intelligent Hyperloop with Landing Wheels, Asian Journal of Applied Science and Technology (AJAST) Volume 1, Issue 5, Pages 22-24, June 2017.
3. Hyperloop Transportation System, Rajshri Tukaram Shinde' Vaishnavi Balasaheb Raijade,, Abhishek Sunil Lahare,Vijay B.Sarode4 Department of Mechanical Engineering, Guru Gobind Singh College Of Engineering & Research Centre, Nashik, Apr 2017.

Happenings at the Department

Department of Mechanical Engineering organized a FDP under MOU with Autodesk on Fusion 360. Faculties were delighted after completion of the FDP.

नेशनल प्रेस टाइम्स
राष्ट्रीय संस्करण
शनिवार 22 जुलाई 2023
दिल्ली /एनसीआर /

एमआईईटी में दो दिवसीय फैकल्टी डेवलपमेंट कार्यक्रम सम्पंन

एनपीटी ब्यूरो

मेरठ। मेरठ इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी में दो दिवसीय फैकल्टी डेवलपमेंट कार्यक्रम ऑटो डेस्क फ्यूजन सॉफ्टवेयर द्वारा किया गया। जो एक एडवांस लेवल का सॉफ्टवेयर है. जिस पर उन्नत स्तर के डिजाइन, सिमुलेशन, निर्माण कई प्रकार के एनालिटिक्स भी संभव हैं। ऑटो डेस्क इंडिया के एजुकेशनल कंट्री

हेड राजेश यादव और ट्विन टेक इंजीनियरिंग डिजाइन टेक्नोलॉजी की एचआर एवं ट्रेनिंग हेड निशा सिंह ने दो दिवसीय कार्यक्रम में सभी शिक्षकों को ऑटो डेस्क फ्यूजन 360 के बारे में जानकारी दी। कार्यक्रम सयोजक मधुर कुमार दुबे रहे। जिसमे विभागाध्यक्ष डॉ शैलेंद्र कुमार,शैलेंद्र कुमार भाटी, आर पी कृष्णा,ओमकार शर्मा,खुशबू शर्मा,विशाल कुमार,नागेंद्र कुमार आदि अध्यापकों ने हिस्सा लिया।

Department of Mechanical Engineering organized an Alumni interaction for the mechanical students on 7 July, 2023. Students were highly charged up after interacting with Captain Govind Pratap Singh.

MEERUT INSTITUTE OF ENGINEERING & TECHNOLOGY

SAP University Alliances

One Week Faculty Development Programme

on

SAP (Sales & Distribution Management & Warehouse Management)

14th Aug 2023 – 19th Aug 2023

Organized by:

Departments of Business & Management Studies (MBA)

&

Department of Mechanical Engineering

Venue :

Lab No. 125 (A), Admin Block

Convenor:

Dr. Madhu Bala Sharma

Mr. Rocky Sachan

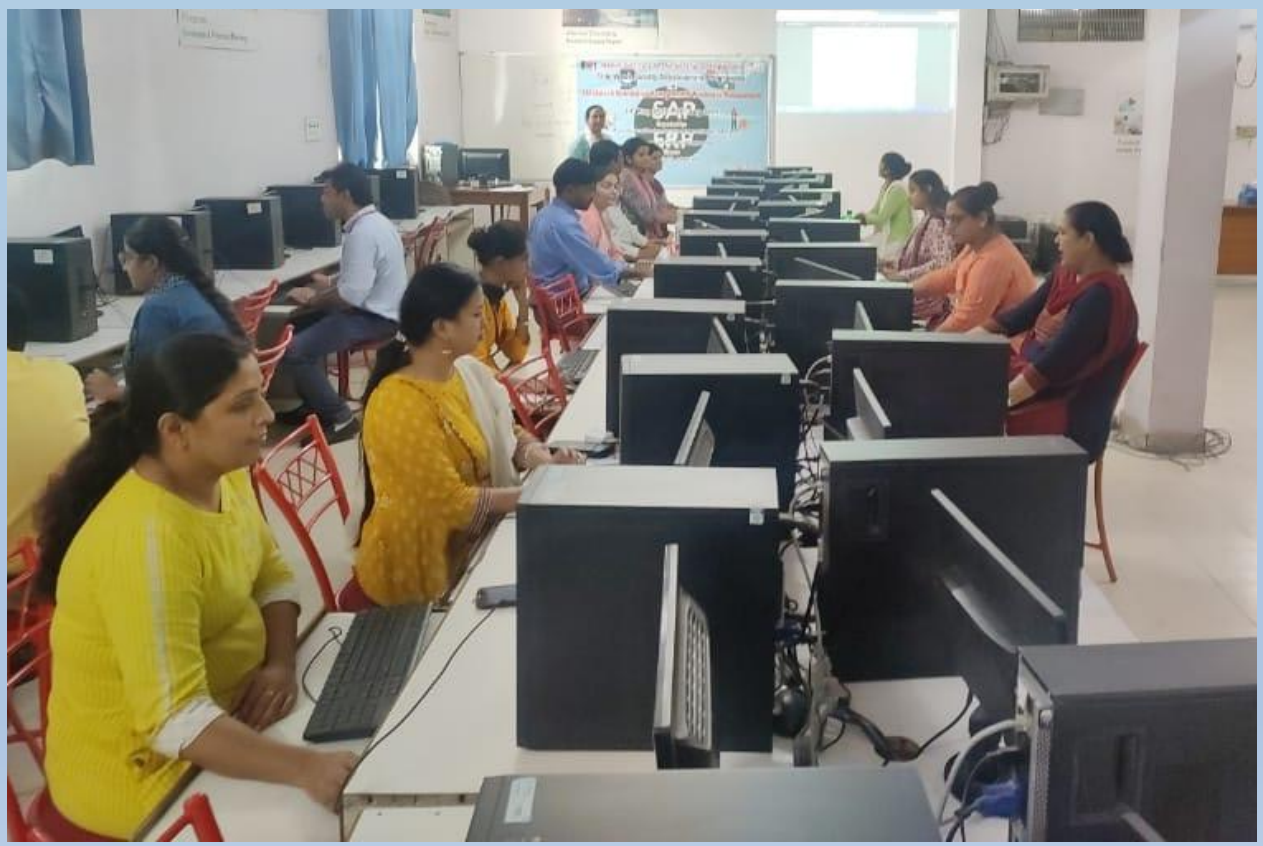
Dr. Shailendra Kumar

Resourse Person:

Dr. Priyanka Dalmia

Mr. Rahul Sharma

Department of Mechanical Engineering organized a FDP in collaboration with Department of Management studies on SAP. Faculties were delighted after completion of the FDP.



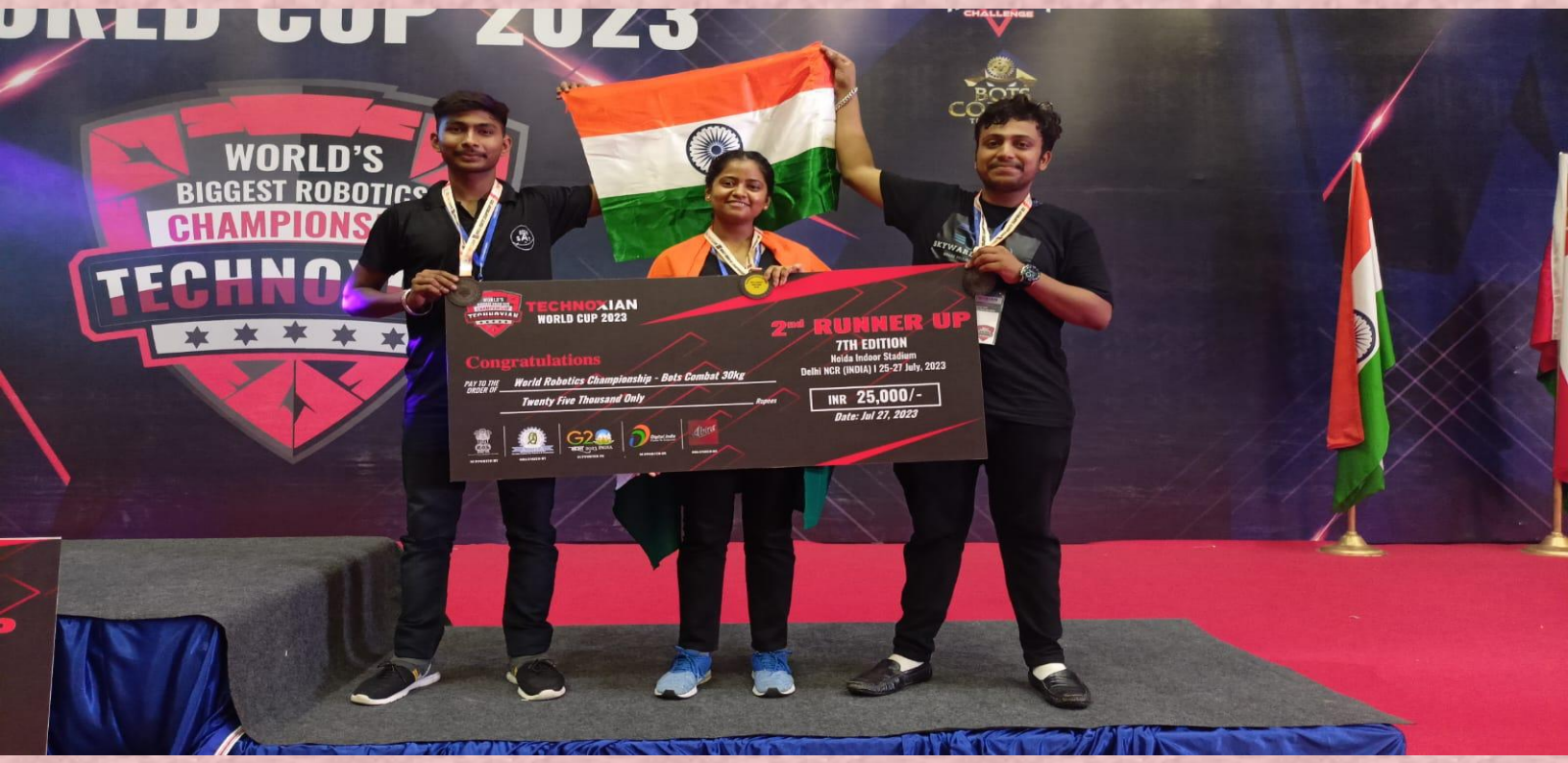
On the occasion of Engineers Day, Department of Mechanical Engineering organised a GK Quiz competition

Department of Mechanical Engineering organised a seminar on Intellectual property rights on 14/9/23.

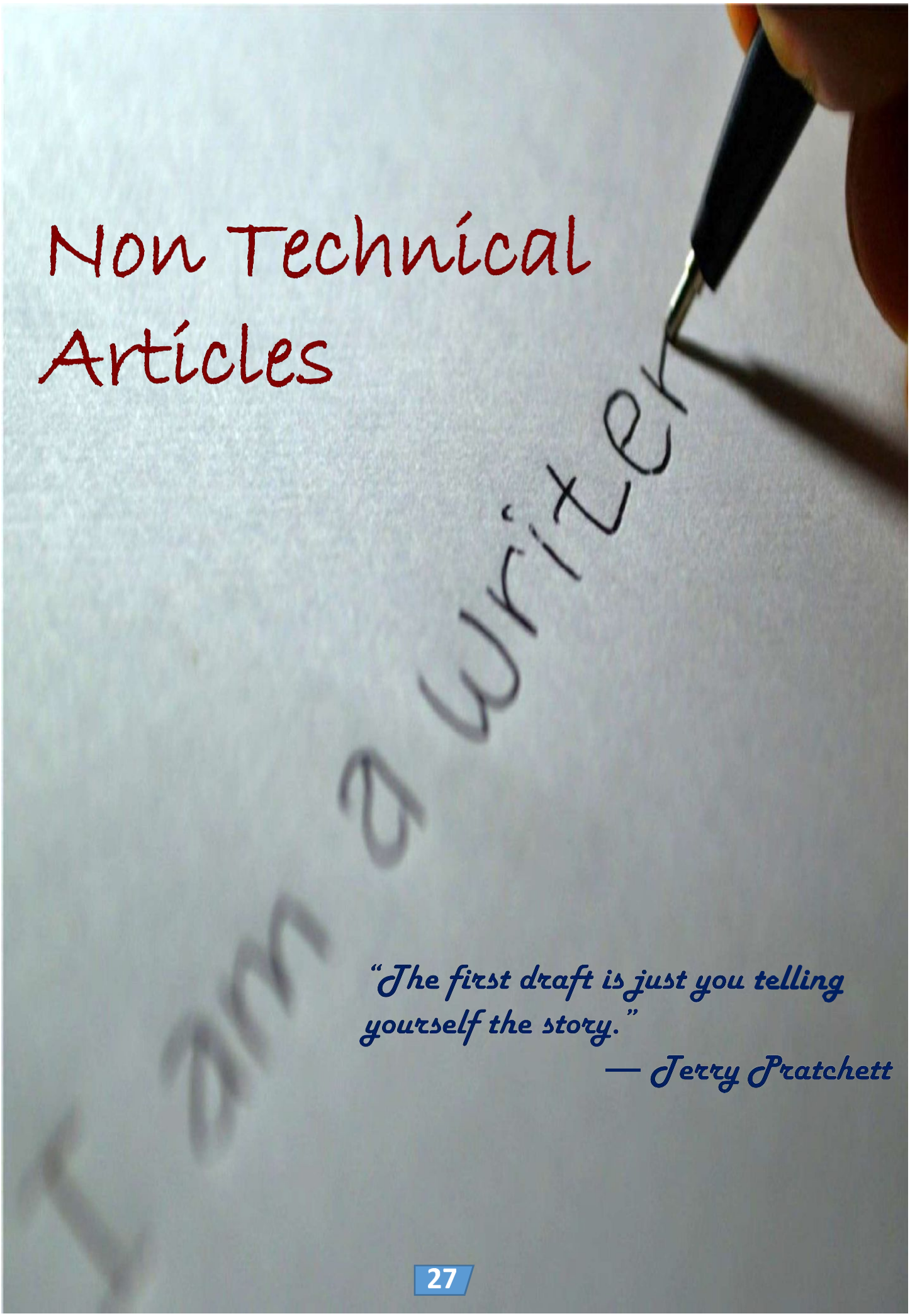
ACHIEVEMENTS

Dr. Suneel Kumar Kalla got the certificate of appreciation from ISHRAE for his efforts

Students of MED got 1st prize in World's biggest robotics Championship, 2023 at IIT, Guwahati



Non Technical Articles



"The first draft is just you telling yourself the story."

— Terry Pratchett

Quotes

- *Change in you will change everything around you and that change will develop new opportunity to you.*

- *Always give path far success , dan't give any thing ta anyone spoon feeded , they neve value it.*

- *Make yourself such a brodbranded product which do not require any marketing to be sold out*

Kunik Dayal
3rd Year, MED

Non-Technical Article

रद्दी

काल दि. 8 मार्च 2020.जागतिक महिला दिन .सोसायटीचत बरेच रद्दी विकत घेणारे फिरत असतात. दोन महिन्यांपूर्वी एका ओमीनी गाडी वाल्याला रद्दी विकली होती. त्यावेळेस पेपर रद्दी असुन पण वजन कमी भरले होते. मला त्याच्या इलेक्ट्रॉनिक डिजिटल वजन काट्याची शंका आली होती. जाता जाता माझा मोबाईल नंबर घेतला होता पंधरा **दिवसापासून** त्याच रद्दी वाल्यांचा सारखा फोन येत होता की सर रद्दी आहे का? मी हो म्हणालो. पण आमची वेळ मॅच होत नव्हती. तो आला की मी घरी नसायचो .या पंधरा दिवसात त्याचे साधारण पंधरा फोन मला झाले की ,रद्दी कधी न्यायला येउ अखेर काल तो मुहूर्त आला .मिसेस ने सर्व पेपर एका गोनीत भरले होते .

काल रविवार **असल्याने** मी रद्दी वाल्याला फोन करण्या अगोदर माझ्या **नेहमीच्या** किराणा दुकानदाराकडून रद्दीचे आधीच वजन करून घेउन आलो .गोणीचे वजन भरले 21 किलो **रद्दीवाला** त्याचे डिजिटल वजन काटा घेऊन आला . रद्दीची गोन **काट्यावर** ठेवली, त्या **काट्यावर** गोनीचे वजन भरले 10.80=11किलो. मग मी त्याला म्हणालो मी वजन आधीच केले आणि ते 21 किलो भरले आहे. त्याने लगेच **सारवासारव** करून म्हणाला की माझा काटा बिघडला आहे. वजन 20 किलो लावतो. 20 किलो प्रमाणे पैसे द्या. तो 7 रू किलो प्रमाणे पैसे द्यायला लागला , मी म्हणालो तुम्ही मागील वेळस 10 रू किलो प्रमाणे रद्दीचे पैसे दिले होते. कारण मला समजलं की मागील वेळेस निम्मे वजन त्याने मारले **असल्याने** 10 रू प्रमाणे पैसे दिले.

ह्या वेळेस वजन बरोबर आसल्या मुळे तो 10 रू प्रमाणे पैसे द्यायला तयार होईना. मी म्हणालो 10 रू प्रमाणे पैसे द्यायचे असेल तर द्या नाही तर मी रद्दी देणार नाही. **रद्दीवाला** पण मनातून नाराज झाला होता. तो म्हणाला जास्तीत जास्त 8 रू प्रमाणे पैसे देतो मी नकार दिला. तो परत जाताना म्हणाला सर 10 रू किलो प्रमाणे कुठेही विकून दाखवा तुमची रद्दी आणि मला फोन करा.मी तुमचे चॅलेंज **स्वीकारतो** .मी त्याला प्रतीउत्तर दिले नाही तो **रद्दीवाला** निघून गेला. मी घराबाहेर गोणी पासी बसून विचार करत होतो की मी रद्दी विकून जास्त पैसे **कमवणार** नाही पण त्या **रद्दीवाल्याला** चांगली अद्दल घडवली परवाच एका **दुकानातून** जिलेबी आणली होती तिथे बोर्डवर लिहिले होते. "येथे रद्दी 10 रू प्रमाणे **स्वीकारण्यात** येईल ",आज होळी आहे **सगळ्यांना** होळीच्या हार्दिक शुभेच्छा .

श्री अरुण कुमार कुशवाहा
सहायक प्रोफेसर,
मैकेनिकल इंजीनियरिंग विभाग,

-

Poetry

Poetry is the rhythmical creation of beauty in words.

-Edgar Allan Poe

SARASWATI VANDANA
"GYAAN DE MAA SHAARDE BAAGESHWARI"

ज्ञान दे माँ शारदे बागेश्वरी
ज्ञान दे - शारदे बागेश्वरी
वैष्णवी सुरवन्दिता विमला सुभद्रा वरप्रदा
वरारोहा ब्रह्मजाया ब्रह्मविष्णु शिवात्मिका
ज्ञान दे माँ शारदे बागेश्वरी
ज्ञान दे - शारदे बागेश्वरी

चन्द्रिका माँ चन्द्रवदना चन्द्रलेखा विभूषिता
अम्बिका माँ चित्रगन्धा चित्रमाल्य विभूषिता
कलाधारा महाविद्या महाभागा महाभुजा
महाकारा महापाशा महाभद्रा महाफ़ला

ज्ञान दे माँ शारदे बागेश्वरी
ज्ञान दे - शारदे बागेश्वरी
ज्ञान दे, ज्ञान दे, ज्ञान दे, माँ
ज्ञान दे, ज्ञान दे, ज्ञान दे, ज्ञान दे, माँ
ज्ञान दे माँ शारदे बागेश्वरी
ज्ञान दे - शारदे बागेश्वरी, बागेश्वरी, बागेश्वरी...

मालिनी माँ पीत कान्ता श्रीप्रदा पद्माक्षी
विशालाक्षी रमा सौम्या गोमती माँ भारती
सर्वदेवस्तुता रक्तबीजनिहन्त्री
मुण्डकाय प्रहरणा सुधामूर्ति सरस्वती

ज्ञान दे माँ शारदे बागेश्वरी
ज्ञान दे - शारदे बागेश्वरी, बागेश्वरी, बागेश्वरी...

Himanshu
Assostant Professor, MED

शायरी

माँ

❖ माँ तेरी ममता के सामने हार गया समंदर,

माँ तू जिम्मेदार, तू सहनशील, और कितने गुण है तेरे अंदर ?

माँ इस नादान मन को तूने मोहब्बत सिखाई है,

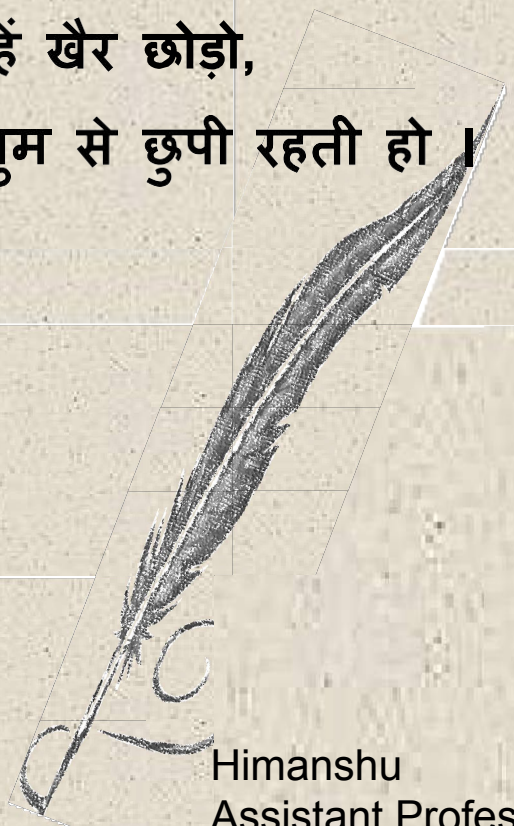
माँ अपने हिस्से की भी रोटी तूने मुझको खिलाई है ।

❖ अनगिनत गलतियाँ मेरी तुम हर बार भुला देती हो,

तुम सही और मैं गलत फिर भी मेरा साथ देती हो

कुछ बातें बतानी है माँ तुम्हें खैर छोड़ो,

ऐसी कोई बात ही नहीं जो तुम से छुपी रहती हो ।



Himanshu
Assistant Professor,
MED

"Painting is just another way of keeping a diary"

~Pablo Picasso

PAINTING

Vanshika Bhaduoria

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Department of Mechanical Engineering

7th Semester, Placement 2022-23


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