



MIDHANI MANTHAN



A Quarterly Publication by Mishra Dhatu Nigam Limited

CMD Message



Dr. SK JHA

Dear Colleagues,

At the outset, I convey my best wishes from the bottom of my heart to all the promoted employees, I am very happy to wish you all the best for your future endeavors and the new roles. I hope you shall work with complete integrity and dedication for the organization and

deliver your best to take MIDHANI to greater heights.

MIDHANI successfully conducted a vaccination drive for our MIDHANI family including contract employees along with their spouses.

I believe that majority of employees are vaccinated which will provide us the ability to work without fear. But still, there is a need to follow covid related protocols and make our company a COVID-free environment. The second wave of the COVID-19 pandemic has slower down our production. MIDHANI has always displayed strong resilience and performed better in difficult situations. Like the previous year, we need to plan our roadmap meticulously to achieve targets within the prescribed time frame.

As you might be aware, MIDHANI is in expansion mode. Against all odds, great progress has been achieved at Rohtak plant. Production is likely to start very soon. On the other hand, Wide Plate Mill and Spring Plant are also at their final stages of completion. Under CSR initiatives, we are also constructing a "Public Primary Health Center" in our premises. With this, we shall be able to provide medical services to the needy and underprivileged members of our society.

I wish you all good health and happiness. Hearty congratulations once again to the promoted employees.

Jai Hind!!

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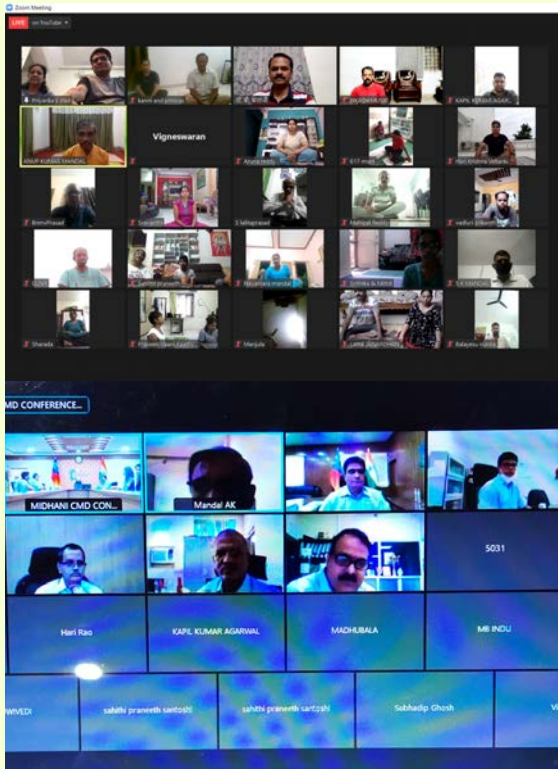
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CELEBRATIONS



YOGA WEEK CELEBRATIONS AT MIDHANI

On the occasion of the 7th International Day of Yoga, Mishra Dhatu Nigam Limited (MIDHANI), Hyderabad, a Govt. of India Enterprise under the Ministry of Defence, organized an online Yoga Week celebration in three parts (the practice of yoga asanas, a talk, and a performance of yoga asanas) on the theme "Be With Yoga, Be Always Healthy" from 14th to 21st June 2021.

Yoga practice sessions were conducted daily during the week from 5.45 am to 7.00 am under the guidance of Shri Anup Kumar Mandal, Addl. Gen. Mgr. (Down Stream Maintenance) of MIDHANI. Five steps were followed under yoga practice-Dhyana, Yogasana, Pranayama, Omkargeet and Hasyasana. Apart from the employees of MIDHANI, participants from different states of the country registered their presence in the practice session.

On June 21, 2021, a talk on "Yoga, A Shield Against COVID" was organized. The talk was presided by Dr. Sanjay Kumar Jha, Chairman & Managing Director of MIDHANI. It was started with the Yoga Pledge in Hindi and English. The Yoga Pledge was recited by P. Rama Mallika, JA-A (Purchase), and P. Varsha, JA-A (Fin.) respectively. The keynote speaker of the talk, Shri Anoop Kumar Mandal said that any disease can be cured by yoga. Human body is structured in such a way that it cannot fall sick. We can keep ourselves healthy always. The body and the mind can also be kept healthy by inculcating yoga in our life. He said that to maintain the atmosphere of happiness in our surroundings, there is no better means than yoga. He shared the benefits of yoga practice with the participants and said that by doing yoga regularly with patience, we can remain healthy forever. Yoga will act as a shield to protect the human body against corona virus. Addressing the participants, Dr. S.K. Jha said that by practicing yoga, the body, the brain, and the mind will be healthy as well as we can recognize the change in our work culture, which will also influence our production activities. Yoga has been able to take us from negativity to creativity. It can bind us in the thread of unity. He appealed to all the employees of MIDHANI to include yoga in their daily routine. Oxygen levels can be maintained in the body by various types of pranayama. During the ongoing pandemic, it is a very effective tool to boost our immunity and increase the resistance power of our body.



"A NEW LOOK FOR A NEW BEGINNING"
"BE WITH YOGA, BE ALWAYS HEALTHY"

CELEBRATIONS

On the occasion, senior officials of the organization A. Ramakrishna Rao, GM (HR), D. Atchutram, GM (Commercial), R. Vighneswaran, DGM (Finance), and Kapil Kumar Agarwal, DM (Fin.) also expressed their views on Yoga.

On June 21, in the evening from 6.30 pm to 8.30 pm, online performance of yogic activities by participants was organized in four age groups of 8 to 15 years, 15 to 30 years, 30 to 45 years, and 45 years & above. It is noteworthy that people actively participated with their families in the Yoga Week celebrations organized by MIDHANI. At the end of the week-long celebrations, e-certificates were given to all the participants.

Online Yoga Week Celebration videos are available on the YouTube Channel of MIDHANI:

"Mishra Dhatu Nigam Limited"

<https://www.youtube.com/channel/UCPKe6hP6DZKWh0IC3PWc3ig>

BIRTH ANNIVERSARIES OF GREAT PERSONALITIES

Dr. BR. AMBEDKAR



Birthday Anniversaries of great personalities of INDIA, Babu Jagajeevanram, Mahatma Jyoti Rao Phule, and Dr. BR Ambedkar were celebrated with great enthusiasm by following COVID-19 protocols. Dr. SK Jha, CMD, MIDHANI expressed his gratitude to the great personalities.

Shri B. Ashok Kumar, DGM (Civil-PMO), President, SC association; Shri RSK Surya Prakash Rao, Sr. Mgr., P1 Maint., President, OBC association & other Executive members of respective associations along with Officials of MIDHANI have graced the occasion.

MAHATMA JYOTI RAO PHULE



BABU JAGJEEVAN RAM



CELEBRATIONS

COMMEMORATION OF 75 YEARS OF INDIA INDEPENDENCE CELEBRATION AT MIDHANI

Report by VK Sudarsshan, DM, SP

MIDHANI conducted various activities to commemorate 75 years of India's Independence between 9th Apr'21 to 15th Apr'21. The Bharat Ki Azadi ka Amrut Mahotsav was celebrated across all MIDHANI locations (Hyderabad, Delhi, Kolkata, Rohtak) virtually & physically following all Covid-19 guidelines. The theme of the event was 'Aatmanirbhar Bharat'.



MIDHANI kickstarted celebration of "Azadi Ka Amrut Mahotsav" with a weeklong program on 9th April 2021. On the inaugural day of the celebration following events were conducted:

a) Inauguration of "Bharat Ki Azadi ka Amrut Mahotsav":

Dr. SK Jha, CMD virtually inaugurated the Mahotsav, Shri N. Gowri Sankara Rao,

Director (Finance) and other senior officials graced the occasion. The event was attended by more than 200 participants online. In his address, C&MD emphasized the need to maintain Covid-19 protocols at work. Safety of employees, the safe working environment was mentioned. The need for skill development of employees was also discussed.



b) Skill development training: More than 150 ITI & apprentice students participated in the Skill development training in 2 batches. Details of training sessions conducted are i) Skill development session ii) Presentation on Atmanirbhar Bharat - Present & Future iii) Program on cybersecurity awareness d) Program on safety awareness.

c) Session on material, critical component developed for strategic applications: Young engineers attended an interactive session on MIDHANI's contribution towards Atmanirbhar Bharat in defence, space & energy sector. The session was conducted on material, critical components developed for strategic applications. It gave the participants an insight into MIDHANI's future plans in various sectors.

CELEBRATIONS



On 10th April, Heavy Duty Machine for Superalloys was inaugurated at MIDHANI by Shri N. Gowri Sankara Rao, Director (Finance) and Shri D.Gopikrishna, GM (P&M). The facility would enhance MIDHANI' machining capacity. A talk to "Inspire Employees on Patriotism & Self-Reliance" by Lt. Col. (Dr.) N. Seshagiri Rao was organized exclusively for women employees to share personal & professional experiences of retired senior army officers.

On 15th April, the following programmes have been organised:

a) Virtual interactive session for MSMEs & Start-ups: Shri Dasu Atchutaram, GM (Commercial) welcomed the participants to the session. Key note address was delivered by Shri N. Gowri Sankara Rao, Director (Finance). During the programme, vendors were apprised about MIDHANI activities, initiatives to support MSMEs/Start-ups,



GeM registration and participation of bids as seller in GeM portal etc. About 50 vendors from various locations participated in the programme. Mr Ravi Varma, GeM Coordinator, Telangana region gave a presentation on GeM registration as a seller, catalogue creation of products, bid participation, reverse auction in GeM, invoice creation etc. Various clarifications sought by vendors were addressed during the programme.

b) Virtual interactive session on export capability: About 20 representatives from leading global organisations participated in the webinar. During the interactive webinar, MIDHANI explained about its experience in development of new products, manufacturing capability, R&D expertise, uniqueness of the process followed in manufacturing strategic materials.



c) Awards of Slogan / Catchy phrase writing competition: 22 employees participated in slogan/catchy phrase competition organised on the theme "Energise-Motivate-Inspire-Encourage Employees". All participants were awarded "Certificate of Appreciation", 12 winners were awarded Memento by Shri N. Gowri Sankara Rao, Director (Finance) & Shri Supartha Sen, GM, (Vig.)

d) Valedictory function: Bharat Ki Azadi ka Amrut Mahotsav event was concluded by vote of thanks given by Shri Supartha Sen, General Manager (Vigilance). All the events conducted were appreciated & efforts of the organising team was commended. Post the vote of thanks, national anthem was recited by all participants attending the event virtually & physically.

EVENTS

COVID VACCINATION DRIVE



Dr.SK Jha, CMD, MIDHANI inaugurated the "COVID Vaccination Drive" organized by MIDHANI for its Employees, their Spouses, Contract Employees, Casuals, retired employees, their dependents, and residents of nearby areas. The drive was organized in two phases. The first & second drive was organized in coordination with Apollo DRDO, Hyderabad, and Telangana State Government respectively from 18th to 22nd June 2021.

Dr. Amrutha Lakshmi, SPHO, Govt. of Telangana graced the occasion. On the occasion, Shri A. Ramakrishna Rao, GM (HR), Shri S. Narasinga Rao, AGM, ADMIN, Shri NS Reddy, President, MW & SU, Dr. P. Veera Raju, CMO, Dr.G.R. Praveen Jyothi, Manager (FAC), Shri MP Ramesh, DGM, HR -EMS & Canteen, Dr. Krishna Mohan, Visiting Doctor, FAC, Township and other officials of MIDHANI were also present.



FIREWOOD DONATED



Shri N. Gowri Sankara Rao, Director (Finance), #MIDHANI has handed over the vehicle loaded with firewood / un-utilized packing wood approx. 50Ts to the Satya Harishchandra Foundation Destitute Welfare Centre, Hyderabad to perform the funerals of unknown-unclaimed dead bodies on June 11, 2021.



The Satya Harishchandra Foundation (Unknown-Unclaimed-Missing Bureau), Destitute Welfare Centre, Hyderabad expressed its gratitude towards Mishra Dhatu Nigam Ltd. (#MIDHANI) for donating firewood for funerals of unknown-unclaimed dead bodies. The Bureau said that "We appreciate your noble initiative to support us. Your noble initiative proved that the MISHRA DHATU NIGAM LTD team always stands in the frontline to help society." As a gesture of gratitude bureau officials felicitated Dr. SK Jha, CMD, MIDHANI and Shri S. Narasinga Rao, AGM (Admin) on June 19, 2021.

EVENTS

FOUNDATION STONE OF PPHC

Report by AR Rashmi, Mgr., HR



Dr. SK Jha, CMD, MIDHANI laid the foundation stone of "Public Primary Health Center (PPHC)" on June 03, 2021, in the gracious presence of Shri N. Gowri Sankara Rao, Director (Finance), Sr. Officials, and workmen representatives of MIDHANI.

MIDHANI has envisaged establishing a facility called "MIDHANI Public Primary Health Care Center" under CSR for the promotion of Health. The said center shall be operated for the purpose of providing medical services at a very nominal fee for the poor families residing in and around MIDHANI. The center shall be equipped to conduct basic blood tests, outpatient treatment, etc & services include consultation, checkups, and medicines.

QUIZ COMPETITION RESULT

Dr. SK Jha, CMD, MIDHANI released quarterly In-house e-journal 'MIDHANI MANTHAN', Jan-Mar, 2021, Vol-1, Issue-3, a special issue on Awards.

A quiz competition based on the In-house e-journal 'MIDHANI MANTHAN', Jan-Mar, 2021, Vol-1, Issue-3, a special issue on Awards was organized for the employees. The winner of the competition was selected by lottery draw on the basis of all correct answers submitted by 59 employees.

Shri Kapil Kumar Agarwal, Deputy Manager, Finance was declared as the winner of Quiz no.1.



Dr. Jha took out the draw and announced the winner of the competition.

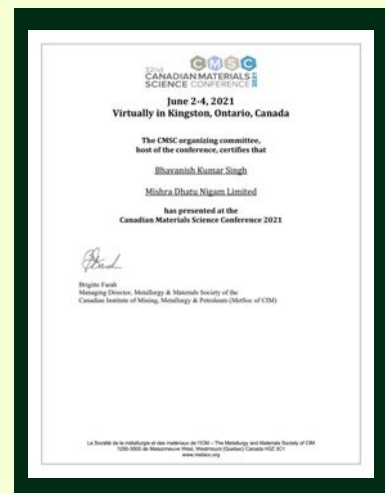
PARTICIPATION

PARTICIPATION IN WEBINARS BY YOUGH ENGINEERS



Shri B. Gowtham, Deputy Manager, Melt shop and Shri Bhavanish Kumar Singh, Assistant Manager, PAG have participated in the webinar organized by Metalogic PMS on "Green Steel Technologies for India by NexGen" on 24th June 2021 at Goto Webinar Platform. Both the young engineers of MIDHANI have presented a technical talk on "Green Steel Technologies for India" and "An approach to reduce CO2 emission in steel making"

respectively which was acclaimed by other panelists and participants. Shri Bhavanish Kumar Singh, Assistant Manager, PAG has presented a poster virtually in "32nd Canadian Materials Science Conference 2021 held at Kingston, Ontario, Canada" organized by CMSC organizing committee on "Development Of Ring Forgings Of 11Cr-10Ni-2Mo-1Ti PH Martensitic Stainless Steel For Rocket Motor Application" on 2nd June 2021. The organizing committee and participants appreciated the research by MIDHANI. The committee felicitated Shri Bhavanish Kumar Singh with a certificate.



VIP VISITS



Brig HS Sandhu, SM (Brig. Inf 'B') and Col Tapan Pant, SC (Director, Inf-5) visited MIDHANI and had a discussion with Dr. SK Jha, CMD, and Sr. Officials about production facilities of Mishra Dhatu Nigam Ltd., especially on Armouring products.



Quiz No.2 - Grab the opportunity !!!

You can win a cash prize of Rs. 1000/-

HOW ???

Check your Intranet mail for the questionnaire.

The questions are from the latest issue of MIDHANI MANTHAN.

"12 प्र" Framework and Strategy for OL Implementation

**Dr. Sumeet Jairath,
Secretary, DoL, MHA, GoI**

Under the able guidance and inspirational leadership of Hon'ble Prime Minister –Shri Narendra Modi and Hon'ble Home Minister – Shri Amit Shahji, Department of Official Language (DoL), Ministry of Home Affairs (MHA), has transformed Covid challenge into an opportunity taking the following initiatives:

Inspired by our Official Language Policy and Mnemonics used by Hon'ble Prime Minister, a "12 प्र" framework and strategy have been crafted whose pillars are:

1. प्रेरणा (Inspiration and Motivation)
2. प्रोत्साहन (Encouragement)
3. प्रेम (Love and affection)
4. प्राइज़ अर्थात पुरस्कार (Rewards)
5. प्रशिक्षण (Training)
6. प्रयोग (Usage)
7. प्रचार (Advocacy)
8. प्रसार (Transmission)
9. प्रबंधन (Administration and Management)
10. प्रमोशन (पदोन्नत) (Promotion)
11. प्रशिबद्धता (Commitment)
12. प्रयास (Efforts)

The above framework is used by Officers of Department of Official Language (DoL) while participating in various Rajbhasha meetings and workshops organized in different Ministries / Departments / Central Public Sector Undertakings / National Banks and Town Official Language Implementation Committee (TOLIC) meetings.

The DoL seeks whole-hearted voluntary support of all Ministries/Departments, Offices, Public Sector Banks and Undertakings, etc. in providing greater impetus to Hindi in their day to day work, consistent with the Constitutional and statutory obligations cast upon each one of us and the targets indicated in the Annual Programme for the year 2021-22.

The Department of Official Language, Ministry of Home Affairs, has recently requested all Secretaries to Government of India / Heads of various Government Organizations that when they chair their senior officers' meeting every month they should also review the progress of Government work in Hindi and discuss the implementation of various provisions of Official Language Act and Rules in their organization. Also, the Joint Secretary (Administration) / Administrative Head in the Organization should be entrusted with the responsibility of implementation of official work in Hindi and chair the Official Language Implementation Committee meeting every quarter of the year.

**Courtesy: Annual Programm-2021-22,
for Offical Language Implementation, issued by DOL, MHA, GoI**

ADVANCEMENT OF BULLET RESISTANT PRODUCTS USING CURRENT TECHNOLOGIES

**Bhagwan Singh Meena, DM (Armouring Dept.),
& Col Ashwani Kumar (Retd.), AGM (I/c Armouring Dept.)**

Keywords: - BR JACKET, UHMWPE, CERAMIC, AK-47, SLR, GRAPHNEN COATING

INTRODUCTION OF ARMOUR PRODUCTS AT MIDHANI:

Mishra Dhatu Nigam Limited (MIDHANI) has been manufacturing Personal protection Products (BR Jacket, BR Helmet & BR Vest), Group Protection (BR Shield, BR Morcha, BR Briefcase etc) ,Vehicle Armouring (Tata-407, Scorpio, Fortuner etc) & Hepttr Armouring (Mi-17 Hepttr) since last many years and has been supplied to many prestigious customer such as Indian Army, OFB, CAPFs, State Police etc.

WHAT IS ARMOUR:

- Role of Armour is to protect a person, structure, or device
- Achieved by absorbing the kinetic energy of the projectile
- Energy may dominantly be absorbed by plastic deformation and/or fracture processes
- Fragments as a result of the fracture process should not cause damage to what is being protected and should be arrested by another layer at the back
- Armour plate may have to fulfill two roles: a protective role and structural role
- Both roles can be fulfilled by having sufficient strength at high strain rate and appropriate thickness to provide both protection and structural requirements of the Platform (Integral Armour /Structural Armour)

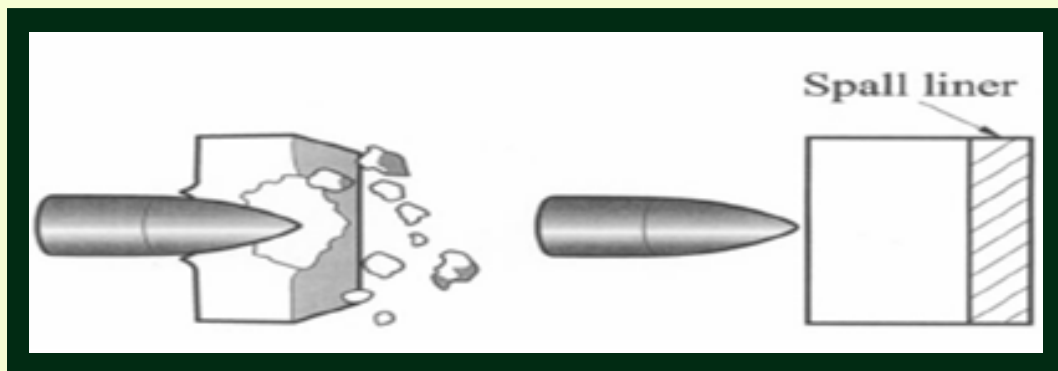


Fig-1: Ballistic Firing Mechanism

In order to manufacture above products various types of raw material is being used such as Ultra High Molecular Weight Polyethylene (UHMWPE), Kevlar, Ceramic (Monolithic or tiles of SiC, B4C & Al2O3), Armour Steel, Spall Liner etc depending on the customer requirement and protection level.

ADVANCEMENT OF BULLET RESISTANT JACKET:

Bullet Resistant Jacket (BR Jacket) is a product of body armour that helps to absorb the impact and reduce or stop penetration to the torso from firearm and designed to protect the wearer's vital organs from injury caused by bullets or fragments of grenades. Multiple layers of Composite material (Ceramic+UHMWPE) are being used to manufacture Bullet Resistant Jacket as per protection level (Fig. 1) criteria defined by user.

ARTICLES

Threat Level	Ammunition	Impact Velocity, m/s	Bullet weight, g
1	9 × 19 mm, SM, MP-5, Carbine)	430 ± 15	7.4 - 8.2
2	7.62 × 39 mm, AK 47, MSC	710 ± 15	7.45 - 8.05
3	7.62 × 51 mm, NATO ball, SLR/BAR	840 ± 15	9.4 - 9.6
4	5.56 × 45 mm, INSAS	890 ± 15	3.5 - 4.0
5	7.62 × 39 mm, AK 47, HSC	700 ± 15	7.45 - 8.05
6	7.62 × 54R, API	830 ± 15	10.3 - 10.5

Fig.2 BIS 17051: 2018 Protection Level and Ammunition

As MIDHANI has been supplying BR Jackets to various customers and continuously get feedback from customers and also the development of new technologies in the field of BR Jacket considering these above it is understood that Weight, flexibility, reliability and protection level are the main important points to

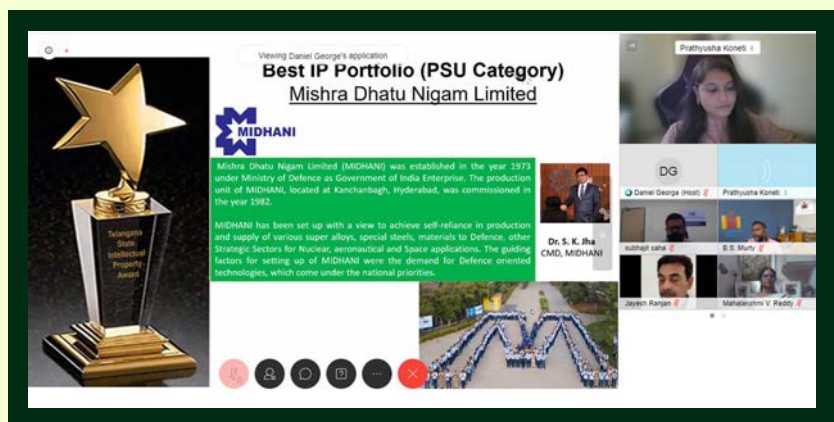
be addressed for increasing the performance of the product. Accordingly, MIDHANI has already started working on research and development to address the above important points using current technological advancement in the world and subsequently has done significant work in the above-desired field. Currently, BR Jackets are being manufactured as per BIS 17051: 2018 standard and MIDHANI is also following the same standard during the manufacturing of the product.

Recently MIDHANI has developed a new MIDHANI KAVACH product (BR Jacket) using a coating of graphene nanoparticles on composite panels made of multiple layers of UHMWPE bonded with Ceramic tiles and significant improvement has been found on strength of Composite panels which is also been confirmed by ballistic testing conducted at NABL accredited lab and results were found to be satisfactory. The development reduces the weight of Bullet Resistant Jacket by 20% and significant Back Face Signature (BFS) compared to existing Jacket which is remarkably good achievement compared to existing BR Jackets as per BIS 17051: 2018 standard. IPR for this new development by MIDHANI Armouring team is already been filed and it is under evaluation process.

AWARDS

MIDHANI conferred with the "Telangana State Intellectual Property Award" for the Best IP Portfolio in the PSU category by CII and Telangana State Global Linker on 26.04.2021.

Since inception of IPF Cell till April 2021, MIDHANI has been granted 5nos. patents, 57 nos. trademark and copyright 19nos.



Mail Box

FEEDBACK

Special Edition on Awards; Jan-Mar 2021

It is very nicely designed and edited. All the updates that are not aware of can be learned from this. Adding a technical article is a very good idea. It will improve the technical knowledge of the employees and good recognition to authors. Conducting quizzes on the journal will encourage to read and get more knowledge.

Thanks & Regards

K. RAM REDDY

ASSISTANT MANAGER, R&D

The Concept of e-Magazine is very much appreciated as the availability of MIDHANI Information is handy and can be referred at any time. MIDHANI MANTHAN has pulled all the consolidated information /occasions of MIDHANI to the notice of each and every employee of the company. The effort put in by your team is excellent. Best wishes to the team for future magazines.

Best Regards

CH. SRAVANTHI

SR. MGR. (STORES)

I firstly congratulate all the editorial team for their relentless efforts in collecting and publishing MIDHANI MANTHAN magazine highlighting almost every aspect of MIDHANI work culture. It is welcoming to see the progress of MIDHANI in various fields put together. It definitely helps in improving the morale of employees knowing all the achievements of MIDHANI.

Warm Regards

S. NITESH

MANAGER, CAPITAL MAINTENANCE

Congratulations to Editorial Board and Editorial Panel for coming up with a special initiative of publishing MIDHANI MANTHAN Magazine. The concept, design and topics covered in the Magazine are very good and encouraging.

Special thanks to MIDHANI Management for encouraging such a new initiatives.

THANKS & REGARDS

KAPIL KUMAR AGARWAL

COSTING (F&A)

Great work of publishing MIDHANI MANTHAN. Provided information and updates on 'Where does MIDHANI stand today' in various aspects in the industrial world.

Thanks & Regards

VENKATESH MEKA,

DM, PAG & METHODS

**EDITORIAL BOARD HEARTILY CONGRATULATES
ALL THE EXECUTIVES, NUS, AND NON-EXECUTIVES
FOR PROMOTIONS.**



ALL THE BEST FOR FUTURE ENDEAVORS!!!

