



VALLURUPALLI NAGESWARA RAO  
VIGNANA JYOTHI INSTITUTE OF  
ENGINEERING AND TECHNOLOGY



January-March  
**2024**  
**DEPARTMENT OF MECHANICAL  
ENGINEERING**





## Editor's desk



Greetings to Faculty, students and Friends!

It gives me immense pleasure to bringing out this issue of our Department News Letter. First of all, I would like to express gratitude to Lord for guiding and inspiring each and every one of us do our best. I would like to thank each and everyone in the department for their contribution, either directly or indirectly. Due regards to management, principal Director and head of the department for their kind co-operation and support in every activity of the department. The news letter covers the various department activities like student achievements, Faculty Achievements guest lectures, industrial visits, faculty research contributions during January-March 2024. Looking forward to come up with a greater number of activities in the next issue with the co-operation of everyone of you.

Wish you happy reading. You are welcome to give your suggestions for improvement.

Thanks & Warm regards

Dr. Ajay Kumar Kaviti

Associate Professor



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## MESSAGE FROM HEAD OF THE DEPARTMENT



Dear Faculty and Student Friends,

I am Happy to inform you that our department organized a ADAMS short term Training Program in association with M/s SOLIZE India Technologies Pvt.Ltd., Banglore. Mr. Goutham R.K, Application Engineer is the resource person for the training program during 22nd-25th January 2024. Eminent Personalities have delivered the lecture and shared their knowledge and experience. Our faculty members participated in faculty development programs, NPTEL certification courses to enhance their learning skills to benefit the students. Some faculty members actively participated in research activities like reviewing the well reputed international journals. I am happy to share that we conducted a “Hands on experience” on “HVAC” for 3rd years on 22-03-2024. By Mr. Kuppu swamy, Technical assistant, from Blue star Industry Limited. Guest lectures and industrial visits are also regularly organized to give exposure to the present needs of industry. Few of our faculty members Published research papers in reputed journals which are indexed in SCI and Scopus. Let’s all strive a bit more and go beyond our comfort zone to achieve higher peaks.

With best wishes



## STUDENTS EDITORS



### **Dear faculty and fellow students!**

I had privilege of serving as the editor of our department news letter this year. It's been an incredible journey filled with challenges, triumphs, And, above all a deep passion. Ever since I can remember, I have been fascinated by the power of words to inform, inspire, and connect. As an editor I have strived to uphold that values by collecting content that resonates with our diverse student body and captures the essence of our department experience. Being an editor isn't just about crafting compelling-it's also about collaboration, creativity and continuous growth.

Thank you for your unwavering support and readership. Your enthusiasm fuels our passion and I'm grateful for the opportunity to serve as editor.

Best regards,

SREENIDHI KANDURI,

III year Mechanical



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### **Dear faculty and Department members,**

I want to express my gratitude for the opportunity to be a part of editing our department's newsletter. It's been an incredibly rewarding experience to contribute to showcasing the diverse range of activities and achievements with our department. Being involved in editing the newsletter has allowed me to gain valuable insights into the remarkable work being done by our faculty and students. It's inspiring to witness the dedication and passion that everyone brings to their respective roles, whether it's in academics, research, or extracurricular activities,

I'm thankful for the chance to play a role in highlighting these accomplishments and sharing them with our departmental community.

It's truly an honor to be a part of a team that values communication and celebrates the achievements of its members.

Warm regards,

GEETIKA GLADYS,

III Year Mechanical





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**Department Faculty meeting conducted on 02-02-2024.**

Agenda:

- 1.NAAC Related works
- 2.Industrial Visit
- 3.Special Interest Groups
- 4.FDP/Workshop/STTP etc.
- 5.Mentoring
- 6.Major Project Review
- 7.Alumni
- 8.Other Matter

**2.Minutes of the Faculty & Staff Meeting:**

- ➔ **Preparedness for Upcoming NAAC Visit:** HoD discussed the status and readiness for the upcoming NAAC visit to the institute.
- ➔ **Industrial Visit:** Two industrial visits are scheduled to be conducted in the month of February 2024.
- ➔ **Special Interest Groups:** HoD informed all the faculty to opt for their special interest groups as per their area of research and interest. In each group a maximum of 4 members are allowed.
- ➔ **Guest Lectures /FDP/Workshop/STTP:** HoD Discussed and asked the faculty to conduct or participate in Guest Lectures /FDP's /Workshop's /STTP's on regular basis.
- ➔ **Mentoring:** Discussed about the students mentoring and asked faculty to carry students mentoring with more seriousness. The I, II, III & IV B.Tech. students having less than 75% attendance are called by HoD and asked them to be regular classes and makeup attendance otherwise they will not be eligible for fee reimbursement offered by the state government and to get promotion to the next semester.
- ➔ **Major Project Review:** HoD discussed with the faculty that the major project reviews to be conducted with all seriousness on 22nd – 24th February 2024.
- ➔ **Alumni:** It is discussed to completed alumni registrations to the extent possible in the month of February 2024.
- ➔ **Other Matter:** NIL





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### Department Faculty meeting conducted on 13-03-2024.

Agenda:

- 1.Mentoring
- 2.RIGs Information
- 3.B.Tech. Class work
- 4.JNTUH-FFC Visit
- 5.Publications
- 6.Research and consultancy
- 7.FDP/Workshop/STTP etc.
- 8.Industrial Visit
- 9.Training and Placement
- 10.Technical Staff training programs
- 11.NBA Visit
- 12.Other Matter

### **Minutes of the Faculty & Staff Meeting:**

- ➔ **Mentoring:** Discussed about the students mentoring and asked faculty to carry students mentoring with more seriousness. The I, II, III & IV B.Tech. students having less than 75% attendance are called by HoD and asked them to be regular classes and makeup attendance otherwise they will not be eligible for fee reimbursement offered by the state government and to get promotion to the next semester.
- ➔ **Research Interest Groups:** HoD discussed in the meeting every research interest group should meet weekly once minimum and also publish two papers per year in reputed journals. B.Tech. Class work: HoD discussed with the faculty that the concerned subject teachers should identify the students with attendance less than 75% in their respective subjects, should take the initiative and call parents of these students to create awareness among parents and students to ensure that the students attend classes regularly and makeup their attendance.
- ➔ **JNTUH-FFC Visit:** HoD discussed in the meeting that any time the JNTUH-FFC committee may come for visit the department should be ready for the same.
- ➔ **Publications:** Faculty are informed to publish research articles in reputed indexed journals.  
Research and consultancy: HoD informed faculty that all eligible faculty must submit at least one project proposal to concerned funding agencies and do consultancy work.
- ➔ **FDP/Workshop/STTP etc.:** HoD Discussed and asked the faculty to conduct/ participate FDP/Workshop/STTP in regular basis.



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- ➔ **Industrial Visit:** Two industrial visits are scheduled to be conducted in the month of April 2024.
- ➔ **Training and Placement:** HoD asked and discussed with the T & P coordinators of the department about the status of the T & P programs being conducted at present for the benefit of the students.
- ➔ **NBA Visit :** HoD discussed on a day NBA visit to automobile engineering department on 17th march 2024.
- ➔ **Other Matter:** Faculty are informed to guide internships also with the allotted student batches for field projects.

### Faculty Achievements:

- ➔ Mr. L. Sandeep Raj, Assistant Professor/ME has been Selected as Editorial Board Member, International Journal of Empirical Research-Methods, Guinness press, 16192 Coastal Highway Lewes, DE 19958, USA on 28/01/2024.
- ➔ Kuruva Krishna Murthy, Assistant Professor, has Reviewed the Journal Paper on “Coexistence of passive vortex-induced vibration sand active pitch oscillation triggered by a square cylinder attached with a deformable splitter plate”, Journal of Physics of Fluids on 19th March 2024.





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- ➔ Dr. N. Kiran Kumar, Associate Professor/ME received a grant &quot; Development of double core sandwich composite structures using 3D Printed flexible core for enhancement of impact energy absorption for Automobile and naval applications &quot;; received the Project under SERB-CRG scheme, worth of Rs.54.43 Lakhs, Sponsored by Science and Engineering Research Board, A Statutory Body Established through an Act of Parliament: SERB Act 2008 Government of India.
- ➔ Dr. K. Ajay Kumar, Associate Professor/ME published a patent on “NANO-POROUS STRUCTURE FABRICATED THROUGH A NODIZATION AND COPPER ELECTROPLATING FOR ENHANCED SOLAR DESALINATION” Application Number: 202441005506 A, filed on 09/02/2024.
- ➔ Dr. K. Ajay Kumar, Associate Professor/ME published a international patent on “ECO-FRIENDLY SOLAR DESALINATOR” Application Number: WO 2023/242656 A1 filed on 09/02/2024.
- ➔ Dr. Gembali Srinivasa Gupta, Professor/ME has applied the project titled Development of computational design infrastructure based on ab-initio calculations for A3B precipitate strengthened alloys” to ISRO RESPOND- BASKET 2023 on 7th February 2024 worth of Rs. 21.18 Lakhs.
- ➔ Dr. G. Srinivasa Gupta, Professor, has Reviewed the Journal Paper on “Vibration analysis of perforated functionally graded circular plates”, Elsevier on 23rd February 2024.
- ➔ Dr Yeole Shivraj Narayan, Professor, has Reviewed the Journal Paper on “Experimental Investigation and Multilayer Perceptron-Based Modeling of MRR and Kerf Width in AWJ Machining of AZ31 Magnesium Alloy”, Springer Nature - International Journal on Interactive Design and Manufacturing (IJIDeM) on 25th February 2024.
- ➔ Dr Yeole Shivraj Narayan, Professor, has Reviewed the Journal Paper on “Stress-dependent topology optimisation of lightweight prosthetic limb”, Springer Nature - International Journal on Interactive Design and Manufacturing (IJIDeM) on 27 th February 2024.

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### **Students Achievements:**

- ➔ 2019 Batch passed out students Anumolu Gopichand, 19071A0304, Kotha Aditya Pramod, 19071A0389, Gundalwar Nikhil Swamy 19071A0384 (ATLAST Motor Corp.) team won 1st prize at Entrepreneur Organisation Global student entrepreneur awards at Navi Mumbai section held on 21.01.2024.



- ➔ R. RAMPRASAD, Roll Number 19071A03A5 has got All India Rank – 102 in GATE-2024
- ➔ MEDAGAM SRAVANI, Roll Number 20071A0333 has got All India Rank – 223 in GATE-2024





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### **Departmental Achievements:**

- ➔ A batch of students have received best paper presentation award in second International Conference on Multidisciplinary Research & INNOVATION (ICMRI) 2024 organized by department of mechanical engineering, Radhakrishna Institute of Technology and Engineering, Bhubaneswar, Odisha, India & RSP conference Hub, Coimbatore, Tamil Nadu, India on 27/03/2024 & 28/03/2024.
- ➔ Department has got one patent granted and one published.
- ➔ The Department of Mechanical engineering received three grants worth Rs. 79.41 Lakhs.
- ➔ 15 Projects applied to DST & ISRO RESPOND with worth of 393.84 Lakhs.

### **Guest Lecture:**

#### ***HOD/ME:***

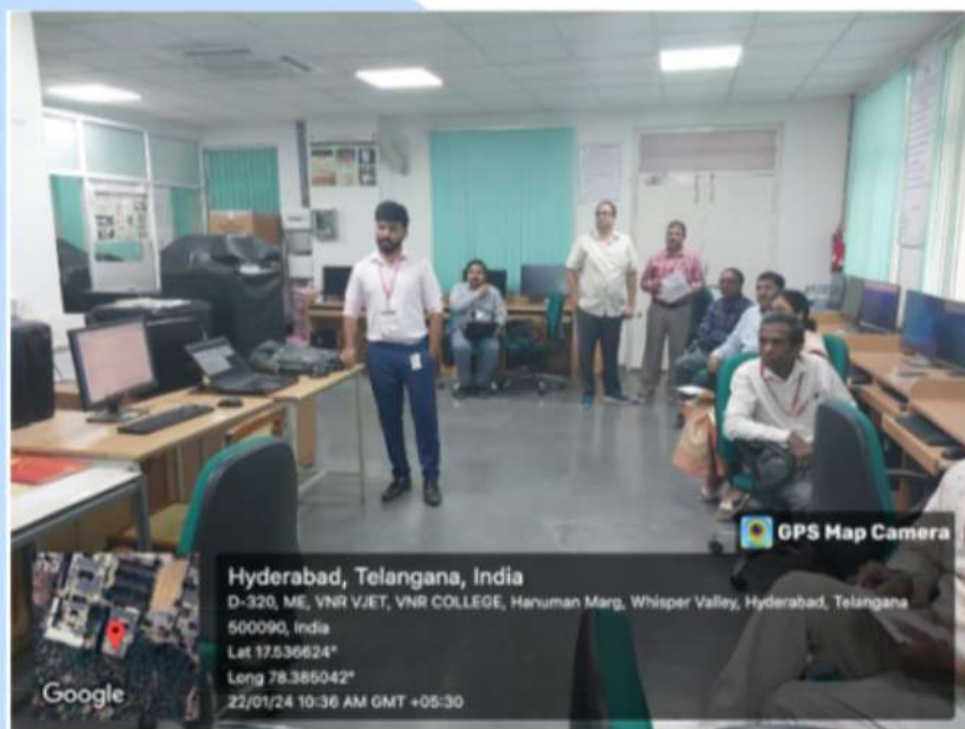
- ➔ ADAMS Short Term Training Program is organized by Department of Mechanical Engineering in association with M/s SOLIZE India Technologies Pvt. Ltd., Bangalore. Mr.Goutham R.K, Application Engineer is the resource person for the training program during 22nd – 26th January 2024. Total of 7 faculty and 4 B.Tech. students has attended the program.





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- ➔ Dr. N. Shiva Kumar, assistant Professor/ME has attended the AICTE Training and Learning (ATAL) Faculty Development Program on “Metal Additive Manufacturing” Organised by Faculty of Science & Technology, ICFAI Foundation for Higher Education Hyderabad during 25 th to 30 th December 2023
- ➔ Mrs. V. V. Durga Sahithi, Assistant Professor /ME has attended the Faculty Development Program on “Machine Learning Applications for Mechanical Engineers” organized by CVR COLLEGE OF ENGINEERING, Hyderabad, TS during 18th – 23 rd December 2023.
- ➔ Dr. Ch. Priyadarsini Assistant Professor /ME has attended the Faculty Development Program on “Machine Learning Applications for Mechanical Engineers” organized by CVR COLLEGE OF ENGINEERING, Hyderabad, TS during 18th – 23rd December 2023.
- ➔ Dr. Ch. Priyadarsini Assistant Professor /ME has presented paper in the International Conference on “Nanotechnologies (ICNEF – 2023) in Emerging Fields” organized by Vardhaman College of Engineering, Hyderabad, TS during 29 th – 30 th December 2023.
- ➔ Dr. K. Aruna Prabha, Assistant Professor /ME has presented paper in the International Conference on “Nanotechnologies (ICNEF – 2023) in Emerging Fields” organized by Vardhaman College of Engineering, Hyderabad, TS during 29th – 30th December 2023.
- ➔ Dr. Ch. Priyadarsini, Assistant Professor /ME has presented paper in International Conference on “Recent Advances in Materials and Manufacturing (ICRAMM 2023)” organized by Velalar College of Engineering and Technology, Erode, Tamil Nadu during 29 th – 30 th December 2023.





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→ The following faculty were attended the Short Term Training Program on “ADAMS” organized by Department of Mechanical Engineering, VNRVJIET, Hyderabad, TS during 22nd – 26th January 2024.

Total of 7 faculty and 4 B.Tech. students has attended the program.

1. Dr. G. Srinivasa Gupta Professor/ME
2. Dr. N. Kiran Kumar Associate Professor/ME
3. Mr. H. Naresh Assistant Professor/ME
4. Mr. Ch. Naveen Reddy Assistant Professor/ME
5. Mrs. Ch. Rajeswari Assistant Professor/ME
6. Dr. E. Venkata Ramana Professor/ME
7. Mr. S.Bhanu Murthy Assistant Professor/ME
8. Ms. P. Soumya B.Tech. Student/ME
9. Mr. P. Kranthi B.Tech. Student/ME
10. Mr. M. Sathwik B.Tech. Student/ME
11. Mr. A. Naga Shiva Sai B.Tech. Student/ME

→ Department of Mechanical Engineering has conducted a Guest Lecture on “Nano Bioscience” on 7 th February 2024 by Brian Rodriguez, Professor, university college of Dublin, Ireland. Total 98 students attended the guest lecture.







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- ➔ Dr. Valiveti Sivaramakrishna, Assistant Professor /ME has presented paper in the 5 th International Conference on Advances in Mechanical Engineering (ICAME 2024)” paper titled “Investigations on the Effect of Graphene Oxide Nano Lubricant on the Performance of Vapour Compression Refrigeration System”, organized by Department of Mechanical Engineering, SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, SRM Nagar, Kattankulathur, Chengalpattu District - 603203. Tamil Nadu, Indiaduring 20-22, March 2024.
- ➔ DR. V. SIVARAMAKRISHNA, Assistant Professor, participated in Refresher Course on &quot;ROBOTICS&quot; held from 19/02/2024 to 02/03/2024 and successfully completed with A Grade organized by University Grants Commission Malaviya Mission Teacher Training Centre (MMTTC) & JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD, Hyderabad, Telangana State (India).
- ➔ L. Sandeep Raj, Assistant Professor/ME attended IUCEE Regional Symposium organized by Anurag University in their University campus. 5 other colleagues form our institute also joined him. Dr. Veena Kumar (University of Maryland), Dr. Aditya Lohri (George Mason University), Dr.Krishna Vedula (IUCEE) were the resource persons on 16 th March 2024.
- ➔ Department of Mechanical Engineering conducted an interactive session for II, III B.Tech. Students & Faculty in A P J Abdul Kalam Auditorium at 10:00 on 18th March 2024. Total 141 students and 10 faculty attended the meeting. Resource Person is Dr. Y. Sreenivas Rao, Distinguished Scientist & Director General (Naval Systems & Materials), DRDO, Visakhapatnam, Andhra Pradesh.





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- Department of Mechanical Engineering conducted “Hands on Experience on HVAC” for III B.Tech. Professional Elective students on 22-03-2024. By Mr. Kuppu Swamy, Technical Assistant, Blue Star Industry Limited.
- Total 54 students attended the session.



### FACULTY PUBLICATIONS AND JOURNALS:

| <b>Faculty Name, Designation &amp; Department</b> | <b>List of Authors in the order that appears on the paper</b>                    | <b>Full title of the paper</b>   | <b>Journal/conf erence name</b>   | <b>Volume, Issue, Page No.</b>       | <b>Month/ Year of publication</b> | <b>ISSN / ISBN No.</b> | <b>Indexed in Web of Science /Google Scholar /Scopus</b> |
|---|--|--|---|--------------------------------------|-----------------------------------|------------------------|--|
| Mrs. N. Srilatha, Assistant Professor/ME          | Mrs. N. Srilatha, Balla Srinivasa Prasad   | Metallurgical Microstructure Evolution of Friction Drilling with Al6061-T6 at Various Regions of Bushing Formation | Journal of Mines, Metals and Fuels  | 2237-2244;                           | 1-11-2023                         | 0022-2755              | --- Scopus<br>---  |
| Dr. M. V. R. Durga Prasad, Professor/ME           | C. Yugeshwar, M V R D Prasad, M. Venkata Ramana                                  | Comparative Machining Performance Analysis between Taguchi's Method and Random Forest Model                        | Indian Journal of Science and Technology  | Volume: 17, Issue: 2, Pages: 171-183 | January 2024                      | 0974-6846              | Web of Science   |
| Mrs. Ch. Priyadarsini, Assistant Professor/ME     | Mrs. Ch. Priyadarsini  | Design and analysis a bottle using CAD AND CAE   | Lambert Academic Publishing (Book   | 978-620-7-45427-3                    | 12-12-2023                        | 978-620-7-45427-3      | Lambert Academic Publishin g                             |
| Dr. V. Sivaramakrishna, Assistant Professor/ME    | Valiveti Sivaramakrishna, Shaik Hussain, Ch. Ravikiran and K. Vijaya Kumar Reddy | Synthesis of biofuel from seeds by modified transesterification-a review   | 6th International Conference on Advancements in Materials and Manufacturing (ICMM 2024) | 16/02/2024                           | ---                               | ---                    | SCOPUS   |
| Dr. B.V.R.Ravi Kumar, Professor/ME                | B.V.R. Ravi Kumar, M. Venkata Ramana, and M.S. Sreenivasa                        | Optimization of Process parameters and Evaluation of Tensile Properties of Friction Stir Welded                    | th International Conference on Advancements in Materials                                | 16/02/2024                           | ---                               | ---                    | SCOPUS   |



**FACULTY PUBLICATIONS AND JOURNALS:**

|  |   |   |                                 |  |            |   |                |
|--|---|---|---------------------------------|--|------------|---|----------------|
|  | Rao   | Dissimilar Joints (AA6082:AA5083) using Traditional and Hybrid Tool Pin Profiles  | and Manufacturing (ICAAMM 2024) |  |            |   |                |
| Dr. G. Raghu Babu,<br>Professor/ME           | Rajnish Kler,<br>Padmaja Nimmagadda, J Navarajan,<br>Deepak Chauhan,<br>Gadde Raghu Babu              | Recognition and implementation of the smart manufacturing systems in industrial sectors   | Measurement sensors             | Volume 31,<br>February 2024,<br>100987 | 01-02-2024 | <a href="https://doi.org/10.1016/j.measen.2023.100987">https://doi.org/10.1016/j.measen.2023.100987</a> | Scopus/WOS     |
| Dr.B Satyanarayana,Professor/ME              | Sreedevi Jasthy,<br>Krishnamurthy Ramasubramanian,<br>Radhakrishna Vangipuram,<br>Satyanarayana Bollu | Comparative Analysis of Machine-Learning Algorithms for Accurate Diagnosis of Lung Diseases Using Chest X-ray Images: A Study on Balanced and Unbalanced Data on Segmented and Unsegmented Images | Cureus                          | Volume: 16<br>Issue: 1                 | 31-01-2024 | DOI: 10.7759/cureus.53282   | Web of Science |
| Dr. K. Ajay Kumar,<br>Associate Professor/ME | 1)Dr. Ajay Kumar Kaviti,<br>2)Yerolla Pavan Kumar   | Nano-Porous Structure Fabricated Through Anodization and Copper Electroplating For Enhanced Solar Desalination  | Intellectual Property India     | 202441005506 A                         | 09/02/2024 | published   | ----           |

### FACULTY PUBLICATIONS AND JOURNALS:

|   |  |                                |                             |                    |            |           |      |
|---|--|--------------------------------|-----------------------------|--------------------|------------|-----------|------|
| Dr. K. Ajay Kumar, Associate Professor/ME | 1)Dr. Ajay Kumar Kaviti,<br>2) Pilli Sai Snehith<br>3) Moodepally Mahesh | Eco-Friendly Solar Desalinator | Intellectual Property India | WO 2023/24 2656 A1 | 09/02/2024 | published | ---- |
|---|--|--------------------------------|-----------------------------|--------------------|------------|-----------|------|

|  |   |  |                             |  |            |           |        |
|--|---|--|-----------------------------|--|------------|-----------|--------|
| Dr. V. Siva Rama Krishna, Assistant Professor/ME | Dr. V. Siva Rama Krishna, Shaik hussain, CH Ravi Kiran              | Thermodynamics Basics  | Rest Publisher              | Volume : 1<br>Issue : 168<br>978-81-969420-9-0 | 02/03/2024 | ---       | Scopus |
| Dr. K. Ajay Kumar, Associate Professor/ME        | Dr. Ajay Kumar Kaviti, Mr. Sai Snehith Pilli, Mr. Mahesh Moodepally | ECO-FRIENDLY SOLAR DESALINATOR   | Intellectual Property India | 202241033629                                   | 05/03/2024 | Granted   | --     |
| Dr. K. Ajay Kumar, Associate Professor/ME        | Dr. Ajay Kumar Kaviti, Yerolla Pavan Kumar                          | ELECTROPLATING PROCESS ON ANODIZED ALUMINIUM FOR COPPER DEPOSITION IN NANO POROUS STRUCTURES | Intellectual Property India | No.202441008 061                               | 08/03/2024 | published | --     |

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