

# COMMET

(Congress of Metallurgical - Materials Engineers and Technologists)

{An Half-Yearly News Letter from Metallurgical and Materials Engineering, MGIT, Hyderabad}



(January 2022-June 2022)

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## Foreword by the Head of the Department

Of recent, the world has started coming back to its normal state of affairs as the pandemic period has nearly come to an end. All the activities have been put back in place. The students are getting back to their classrooms physically and interacting with their course instructors. There has been lot of reorganization in the Academic Calendars of all the sections all over. This Hal-Yearly News Letter would critically bring out the activities taken up by the Department during the Semester viz., Organization of National Level Technical Symposia, Invited Lectures, Faculty contributions, Students' Academic, Cocurricular, Extracurricular achievements, and Department-Industry-Academia interaction, Faculty Members' interaction with outside world, and their Technical Publications in reputed Journals of National and International repute, which have the strongest accordance with the Vision and Mission of the Department, Educational Objectives, Outcomes and Specific Outcomes of Metallurgical and Materials Engineering Programme. The Faculty of MME also takes this opportunity to thank the Management, Administration, and whoever have supported directly and indirectly in these achievements.

Looking forward to your valuable and encouraging feedback in order to facilitate

### VISION

The Department inspires and motivates its students to acquire knowledge to develop and serve their discipline with great zeal. It transforms the students into disciplined and talented citizens of impeccable character, fused with hands-on practical training to make them readily employable. Great importance is given to develop social, cultural and environmental consciousness.

### MISSION

The Mission of the Department is to strive towards development and dissemination of knowledge in the field of Metallurgical and Materials Engineering. It aims at reaching the pinnacle of technical excellence with continuous quality improvement. It is destined to train manpower with a capacity to take-up policy formulation and decision making responsibilities.

**Program Outcomes and Program Specific Outcomes**

<b>PO1</b>	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
<b>PO2</b>	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
<b>PO3</b>	<b>Design/development of solutions:</b> 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
<b>PO4</b>	<b>Conduct investigations of complex problems:</b> 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
<b>PO5</b>	<b>Modern tool usage:</b> 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
<b>PO6</b>	<b>The engineer and society:</b> 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
<b>PO7</b>	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
<b>PO8</b>	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice
<b>PO9</b>	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
<b>PO10</b>	<b>Communication:</b> 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
<b>PO11</b>	<b>Project management and finance:</b> 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
<b>PO12</b>	<b>Life-long learning:</b> 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
<b>PSO1</b>	Through understanding of concepts in Metallurgical and Materials Engineering and acquiring skills for the individual development and to meet the industrial requirements
<b>PSO2</b>	Able to Extend the Metallurgical and Materials Engineering knowledge to multiple domains for the development of new products and systems

## **Program Educational Objectives (PEOs)**

### **I. In pursuit of Excellence in Metallurgical and Materials Engineering**

In line with the Mission of our Institute and Department, Educational Objective of our Programme is to prepare quality Metallurgical and Materials Engineering Professionals through a well-balanced instruction programme coupled with exposure to National laboratories and Industries and by providing opportunities for personality development. Thus, the overall objective is to meet the professional requirements of the ever-growing demand for metals and materials.

### **II. Fulfilling the long term Needs of the students – the primary Stakeholders**

Providing a platform to the undergraduate students to interact with scientists and engineers of national and international repute by deputing them to industrial and R&D centers of excellence for carrying out their Project work; organizing Visits and Tours and conducting national and international technical conferences; recommending the students to pursue higher education in National and International reputed Universities.

### **III. Outreaching the prospective Employers**

In order to meet the requirements of the employers, the Programme imparts leadership qualities, effective communication skills, positive approach and ability to work in teams among the students. The Programme also encourages the students to develop professional ethics and continuous learning through participation in appropriate training activities, short courses, and conferences.

### **IV. Creating Environment for Independent and Continuous Learning**

Creating environment for independent and continuous Learning by arranging for expert lectures, encouraging students to deliver short talks, and to write independent assignments for each and every subject and, also, by deputing students to national and international conferences.

## I. Organizational Excellence of the Department

The Department has organized the National Level Students' Technical Conference, METALLON 2022 on June 30, 2022. Dr. M. Vijayalakshmi has been appointed as the Convener for the event. Various Technical competitions viz., Paper Presentations, Technical Quizzes, Crossword, Product exposition, Meta quest, etc. were conducted among the students delegated from various other Technical Institutions. This Technical symposium has received lot of appreciation and positive feedback from all the corners.

## II. Achievements of the Department

### 1. Technical Publications:

S. No.	Title of the Publication	Authors	Publication details
1	Artificial Intelligence Approach to Predict Elevated Temperature Cyclic Oxidation of Fe–Cr and Fe–Cr–Ni Alloys	Dr. M. P. Phaniraj	Oxidation of Metals, Springer
2	Effect of Process Parameters on Filling Ability of Eutectic Al-Si Alloy	Dr. S. Santhi	Indian Foundry Journal, Vol 68, No.2 Feb 2022
3	Calculation of Filling Characteristic of Cast Al–Si Alloy	Dr. S. Santhi	Recent Advances in Manufacturing, Automation, Design and Energy Technologies DOI: 10.1007/978-981-16-4222-7_6

## III Student Centered

### 1. Major Project:

- The Fourth year students have been deputed to various organizations in and around Hyderabad to carry out their Project Work (Stage-1 and Stage-2). All the faculty

members of the Department have been appointed as Internal supervisors to the students. Under the guidance of the supervisors, the students have successfully executed their project work and compiled reports. They have presented their work to the evaluation committee.