



# SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution)

Sree Sainath Nagar, A. Rangampet, Tirupati – 517102.

## DEPARTMENT OF MECHANICAL ENGINEERING

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### Report on Guest Lecture

### ***"Materials characterization and its methods "*** ***on 07<sup>th</sup> June, 2022***

#### ***Organized by***

#### ***Indian Welding Society - Student's Forum***

"Material characterization allows researchers to identify the structure of a material, how this structure refers to its macroscopic properties, and how it will act in certain technological applications." Definitions of what constitutes "material characterization" can vary. While there are those that use the term to refer to any process in which materials are analyzed, including bulk thermal analysis and density testing, this article outlines the material characterization techniques applied in the study of the microscopic properties of materials. which make "material characterization" show enormous potential in the fields of medicine, aerospace, nuclear, petrochemical industries etc. The objectives are as listed below.

- To describe about the concepts of material characterization in materials mechanisms which will make the students to understand the science behind the process and nature behavior of the material.
- To intimate the need of analyzing the phases present in the a material characterization.
- To gain knowledge on auxetics meta materials and its applications.

With this objective, a guest lecture on "Materials characterization and its methods " was organized in the department of mechanical engineering on 07<sup>th</sup> June 2022. Mr. A. Mohan Kumar, Technical Engineer, Lawrence and Mayo, Bangalore, Karnataka, was the resource person. The program started with the felicitation to the speaker.

Mr. A. Mohan Kumar presented a lecture on "material characterization", in which Mr. A. Mohan Kumar explained the concepts of material characterization, types, mechanisms, metallurgical concepts, and phase transformation occurring during loading operations, welding phase transformations as well as the current importance in various application sectors. Moreover, Mr. A. Mohan Kumar highlighted the need and growth made in microscopy study, which refers to the application of microscopes to study various materials and surfaces, is one of the principal methods of material characterization and scientific research by and large. Microscopes employ a wide range of different methods to generate magnified images of materials and surfaces. Finally, Mr. A. Mohan Kumar concluded by exploring the applications and future scope in material characterization employable to various industries.



***Guest lecture delivered by Mr. A. Mohan Kumar, Technical Engineer, Lawrence and Mayo, Bangalore.***

Mr. A. Mohan Kumar gave awareness in the students with real life applications in the areas of micro and macro structure characterisation of materials in future technology. Finally, he hallowed the students and recommended to shape their career in the right path for long term sustainment in the modest competitive world.

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