

PLASTICS MATERIALS:

Title: Plastics Materials for End Use Applications

Duration: 08 hours

Proposed date: 23.02.2024

Fee: Rs.5,000/- per person Plus GST 18 %

Co-ordinator: Mrs. T.Bharani
96293 60251

Curriculum: Studies on General Properties and applications of Advanced Plastics and Polymeric Materials.

Thermoplastic Elastomers - Polyurethane Elastomers, Polyolefin Elastomers, Styrene Elastomers, PEEK

Polymer Blends & Alloys - Properties and Applications of Parameters for Compatibility PVC - Nitrile rubber, PP, EPDM and ABS - PVC

ADDITIVE MANUFACTURING:

Title: Additive Manufacturing Techniques

Duration: 16 hours

Proposed date: 14.03.2024 to 15.03.2024

Fee: Rs.10,000/- per person Plus GST 18%

Co-ordinator: Mrs.S.Soundarya
75988 66883

Curriculum: Introduction to Additive Manufacturing - Classification of Additive Manufacturing processes - Advantages and limitations of Additive Manufacturing - Liquid

Based Additive Manufacturing - Solid Manufacturing - Powder Based Additive Manufacturing - Conversion of **CAD** to STL - Part Orientation - Post Processing & Applications of Additive Manufacturing.

CERTIFICATE COURSES:

CIPET: SARP - ARSTPS also conducts special certified Practical Courses on **New Product Development / Additive Manufacturing** using FDM / SLS / SLM / SLA / Vacuum Casting.

Special Features of Training programme:

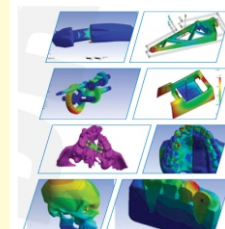
- Blend of Theory & Practical sessions
- Live Projects
- Customised curriculum for industries as per their requirements
- State of art facilities

For Further Details Please Contact :

The Director & Head
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SHORT TERM COURSE Annual Calendar 2023 - 24 (Q3 & Q4)



CAD /
CAM /
CAE



3D
Printing



Testing



FATIGUE

NVH



CIPET: SARP - ARSTPS

Advanced Research School for Technology and Product Simulation

Department of Chemicals and Petrochemicals,
Ministry of Chemicals & Fertilizers

Govt. of India

Thiru-Vi-ka Industrial Estate, Guindy,
Chennai - 600 032.





CIPET: SARP-ARSTPS PROFILE

Central Institute of Petrochemicals Engineering & Technology (CIPET) is an **ISO 9001-2015 QMS**, **ISO / IEC 17020:2012 (NABCB)**, **ISO/IEC 17025:2017 (NABL)** accredited Premier National Institution devoted to Skill Training, Technology Support, Academic & Research & Development (STAR) activities for the last five decades. **CIPET** operates on hub and spokes model with its Head Office at Chennai and 46 locations spread across the length & breath of the Country.

CIPET: SARP - ARSTPS offers high-end solutions for complex & critical engineering problems and are working with a range of companies / R&D labs in the field/area of defence components, automotive, consumer products, health care, heavy engineering & telecom to solve the most challenging Research / Technical issues. The exclusive focus of this R&D laboratory is - Development of light weight technology products by Additive Manufacturing Technology. Reverse Engineering, Design, Simulation & Tooling and Testing of products.

REVERSE ENGINEERING:

Title: Reverse Engineering with 3D Scanners in New Product Development

Duration: 16 hrs. / Two days

Proposed dates : 23.11.2023 to 24.11.2023

Fee: Rs.10,000/- per person Plus GST 18%

Coordinator: Dr. S.Rajkumar (+91 98412 62565)

Curriculum: Introduction & Basics of 3D Scanning Techniques - Data Acquisition and Pre - processing - Point Cloud Processing - Mesh Creation and Surface Reconstruction: CAD Modeling from 3D Scans - Parametric Modeling and Design Optimization - Quality Control and Inspection.

Case Studies: Future Trends and Challenges - 3D printing from CAD modeling Design for additive manufacturing - Case studies - Interactive Workshops and Practical Projects in 3D Scanning

ADVANCED TOOLING IN MOULD DEVELOPMENT

Title: Rapid Tooling

Duration: 16 hrs. (2 days)

Proposed dates: 21.12.2023 to 22.12.2023

Fee: Rs.10,000/- per person Plus GST 18%

Coordinator: Mr. C.Santhanakumar (+91 94449 45810)

Curriculum : Introduction to rapid tooling - Difference between rapid tooling and conventional tooling - Development of mould inserts with Rapid Prototyping - Classification: Soft tooling, Hard tooling- Fabrication processes - Conformal cooling of mould elements - Silicon moulds for Vacuum Casting - Applications.

PRODUCT VALIDATION & TESTING

Title: Mechanical Testing of Plastics

Duration: 16 hours (2 days)

Proposed date: 18.01.2024 to 19.01.2024

Fee: Rs.10,000/- per person Plus GST 18 %

Coordinator: Mr.M.F. Antony 99444 24697

Curriculum:

1. Introduction to Plastic Materials Property and Structure.
2. Introduction to Tensile, flexural, Hardness and Impact Properties of plastic Materials.
3. Fatigue and Tribological Properties of Plastic Materials.
4. NVH Testing of Plastic Products.

Laboratory Session:

1. Sample Preparation & Mechanical Testing of Plastics
2. Practical Session on Fatigue Testing Machine
3. Practical Session on Wear Testing Machine
4. Practical Session on NVH Testing Machine

PRODUCT DESIGN & DEVELOPMENT:

Title: Plastic Product development with CAD/CAE

Duration: 16 hrs. (2days)

Proposed dates: 08.02.2024 to 09.02.2024

Fee: Rs.10,000/- per person Plus GST 18%

Coordinator : Dr. S.Rajkumar (+91-9841262565)

Curriculum: Product Development Process - Plastic materials - Moulding process Product Design features - Wall thickness Rib, Bosses, Gusset Undercuts Draft - Holes - Tolerance Molded in threads - Structural Considerations - Long & Short term loading - Design for Assembly - Press fits - Snap fit - Welding - Insert Moulding Post Moulding Process.

Principles & Methodical approach for Product Design - Material selection. Process selection - Tooling Aspects of Product Design Case studies.