

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHA VIDYALAYA (University U/S 3 of UGC Act 1956) Accredited with "A" Grade by NAAC Department of Mechanical Engineering

CENTRE FOR COMPOSITE SCIENCE & TRIBOLOGY

REQUISITION FORM

Name	:
Category	: Student/Faculty/Research Scholar/Industry
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(Demand Draft is drawn in favour of "The Registrar, SCSVMV")

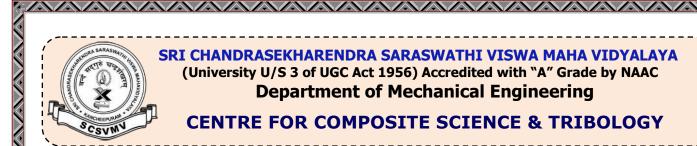
Signature of the Guide / Head

Signature of the User

Note:

- 1. Stir casting Rs.1500 / Sample
- 2. Compression moulding Rs.1800 / Sample
- 3. Inverted Metallurgical Microscope Rs.500 / Sample (4 Images)
- 4. USB Microscope Rs 500 / Sample (4 Images)

For further details please contact: **Dr. A. Arunpremnath**, Associate Professor Phone: **9994346132**, Mail id: **arun_premnath@kanchiuniv.ac.in** Web: www.kanchiuniv.ac.in



CENTRE FOR COMPOSITE SCIENCE

The Composite Laboratory aims to serve as a spot for advanced research in the area of Materials Engineering. The centre provides facilities for synthesis, fabrication and testing of conventional materials, alloys, composites materials and Nano-Materials for researchers and industries.

STIR CASTING

The equipment is used for Aluminium & Magnesium research purposes in which the user can melt the metal, preheat the Nano / Micro particles, drop it to the melt and stir it at high speed. Once the mixing is complete, just by a button press the composite/melt is poured into the die / mould of desired shape. A special provision for inert gas supply is available for the furnace to control unwanted atmospheric reaction.

Make: Capital Lab Tech Specifications

Capacity of the furnace: 1 kg Temp range : 500°C To 1000°c Temperature control : Digital Temperature controller cum Indicator Variable Stirrer Speed arrangement with Digital Indicator – 100 to 500 RPM Cylindrical Die Inner Size : 32mm x 100mm Length Additional feature : inert gas supply to avoid unwanted atmospheric reaction. Charges: 1500 per sample

FEATURES:

Stir Casting is a liquid state method of composite materials fabrication, in which a dispersed phase (ceramic particles, short fibers) is mixed with a molten matrix metal by means of mechanical stirring. Stir Casting is the simplest and the most cost effective method of liquid state fabrication

• Consultancy Charge: ₹ 1500 / Sample

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Compression Moulding is a closed-mould composite manufacturing process that uses matched metal moulds with the application of pressure. In the compression external moulding process, an engineered composite layup is placed in the open mould cavity, the mould is closed, and consolidating force is applied. The pressure remains on the mould throughout the cure cycle, which usually occurs in an oven. The combination of heat and pressure produces a composite part with low void content and high fiber volume fraction—a near net shape finished component. Compression moulding often vields composite parts that have the optimal mechanical properties possible from the particular combination of constituent materials

Make: Sridevi Hydraulics <u>Specifications</u> Temperature range: 10°C to 500°C Pressure: 10 to 1000 bar Die type : rectangular Die size : 200 mm x 400mm x 15 mm

Operated by : PLC

Charges: 1800 per sample

COMPRESSION MOULDING



FEATURES:

Compression molding is a common process used for both thermoplastic and thermoset stock shape materials. Compression molding is accomplished by placing the plastic material (can be a granular or pelletized form) in a mold cavity to be formed by heat and pressure.

• Consultancy Charge: ₹ 1800 / Sample

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INVERTED METALLURGICAL MICROSCOPE

Inverted metallurgical microscopes are suitable for metallography, precision engineering, engineering institutes and industries. The microscope is suitable for samples even polished from only one side



Make: Metavis <u>Specifications</u> Objective: 4X to 40X Eye piece: WF 10X / 18mm Reduction lens : 0.6x Stage size : 180mm x 165mm Charges : 3 Image without sample preparation per specimen Charge : Rs. 500

FEATURES:

It can be used in industrail as well as scientific research & Teaching applications. Inverted design of IM 310L enables it to be used for samples polished from only one side thus eliminating the necessity of preparing moulds.

• Consultancy Charge: ₹ Rs.500 / Sample (4 Images)

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USB MICROSCOPE CAMERA WITH POLARIZER

The AM4115ZT Dino-Lite Edge delivers higher image quality with a state-of-the-art lens design, providing matchless image quality with stunning sharpness, less aberration, and less vignetting throughout the whole magnification range



FEATURES:

Make: Dino-Lite Edge Model: AM4115ZT **Specifications Magnification Range 10x - 220x Resolution 1280** \times 1024 pixels Megapixels 1.3 MP Dimensions 10.5cm (L) x 3.2cm (D) (4.13" x 1.26") Weight 100g (3.7 oz) **Charges : 3 Image without sample preparation** per specimen Charge : Rs. 500

The freely adjustable polarizer helps to reveal more detail or to enhance the contrast on the surface by reducing or eliminating the reflections. This model also includes the adaptable cap design, which is a detachable and interchangeable front cap design used in the Dino-Lite Edge series aimed at satisfying various applications. Different caps have been developed for better adaptability for more applications. Simply removing the cap would yield more working distance which brings added convenience in the higher magnification range, or have better accessibility to the full range of magnification.

Consultancy Charge: ₹ Rs.500 / Sample (4 Images)

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