

# SHRIRAM RESEARCH INSTITUTE

( A Unit of Shriram Tilak Dhar Research Foundation)

## WHERE SCIENCE IS A PASSION



### MATERIAL SCIENCE DIVISION

BUILDING MATERIALS  
RUBBER & PLASTICS  
METALS & MINERALS  
PETROLEUM PRODUCTS  
PAINTS & INKS  
GENERAL CHEMICALS  
PAPER & PAPER PRODUCTS  
WOOD & WOOD PRODUCTS  
PESTICIDES, INSECTICIDES & FERTILIZERS  
SPECIAL SERVICES

### RESEARCH & DEVELOPMENT

METHOD DEVELOPMENT  
PRODUCT DEVELOPMENT  
SOLUTIONS TO INDUSTRIAL PROBLEMS  
TECHNICAL CONSULTANCY

## ASD

### ANALYTICAL SCIENCE DIVISION

FOOD & FARM SCIENCE  
DRUG & PHARMACEUTICALS  
MICROBIOLOGY

## ESD

### ENVIRONMENT SCIENCE DIVISION

ENVIRONMENTAL ASSESSMENT AS PER  
REGULATORY REQUIREMENTS  
INDUSTRIAL GASES  
HOSPITAL HYGIENE REQUIREMENTS  
WATER AND SOIL

## MSD

## R&D

## CD

### CALIBRATION DIVISION

THERMAL  
MECHANICAL  
ELECTROTECHNICAL  
SPECIAL INSTRUMENTS

### SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(SOUTHERN REGIONAL BRANCH)  
FOUNDATION STONE LAID  
ON MONDAY, JULY 24, 1989

BY

PROF. M.G. K. MENON  
SCIENTIFIC ADVISER TO PRIME MINISTER AND  
MEMBER, PLANNING COMMISSION

### SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(SOUTHERN REGIONAL BRANCH)

INAUGURATED

FRIDAY, JUNE 26, 1992

BY

PROF. C. N. R. RAO

DIRECTOR, INDIAN INSTITUTE OF SCIENCE, BANGALORE.



## **SIR SHRIRAM**

**(27th April, 1884 – 11th January, 1963)**

### **About Founder :**

An eminent and public spirited philanthropist, an outstanding industrialist and one of the trend setting far-setting leaders of the Indian business community, Lala Shri Ram, the enigmatic visionary behind the institution, was born on April 27, 1884. The first son of Madan Mohan Lal and Chando Devi, Lala Shri Ram got his early education from a Municipal Primary School in Bazaar Sita Ram. He matriculated in March, 1900 and later enrolled for the course of Intermediate Arts at Hindu College.

### **About Institute :**

Shriram Institute (SRI- B) is an independent, self-sustainable and not for profit Institute dedicated to Industrial Research and Quality Certification facilities at Bengaluru, Delhi and Gurugram. SRI is a global leader in the field of Scientific Research and Analysis in India which is duly recognized by various Government & Private Organizations.

### **Strength of Shriram Institute (Bengaluru) :**

- ✍ Existence of over 39 years.
- ✍ State-of-the-art facilities at Bengaluru.
- ✍ Equipped with high end instruments.
- ✍ Technically competent team.
- ✍ Accurate analysis compliance as per the standards.
- ✍ Strong customer focus.
- ✍ Reliability and integrity assured.
- ✍ High quality and timely service.
- ✍ One stop solution for all customer needs.
- ✍ Trusted by top Industries in India.
- ✍ Signed MoU with prominent Universities for joint Research and Training program.
- ✍ Failure analysis, Root cause analysis, Technical Consultancy, Product development followed by method validation of all materials.





## Environment Science Division (ESD)

### Functional Areas of Environment Division

- The Environment section of SRB, provides services in multi-disciplinary areas to support wide spectrum of stake holders
- Delivers accurate and reliable primary scientific data through targeted projects and helps decision-makers develop systems that promote sustainable development and environmental protection.
- Wide experience in execution of mega projects in the area of environment all over the country. More than 100 projects have been successfully executed during last 33 years.
- Laboratory is recognized by the Ministry of Environment MoEF-CC

#### Ambient Air Monitoring

1. Ambient Air Quality Monitoring as per Latest CPCB Guidelines and NAAQS standards.
2. DG Set, Boiler and Stationery Source Emission Studies as per IS 11225 and other standards.
3. Validation of Air Pollution Control Devices (ESPs, Dust Collectors, Bag Filters etc).
4. Work Zone & Indoor Air Quality studies as per ASHRAE / OSHA / NIOSH / ISA / ANSI Specifications.
5. Metrological studies including wind speed, wind direction, relative humidity, rainfall and other climatic parameters.

#### Compressed Air Monitoring

1. Compressed Air as per ISO 8573.
2. Nitrogen testing as per EP/ USP.
3. Other Industrial Gases Testing.
4. Medical Oxygen.
5. Bio gas monitoring.

## Indoor Air Monitoring

1. PM 10, PM 2.5, SO<sub>2</sub>, NO<sub>2</sub>, VOC (NH<sub>3</sub>, O<sub>3</sub>, HCL, Pb), CO, CO<sub>2</sub>, O<sub>2</sub> etc. methods
2. Particle Count
3. Air Flow
4. HEPA filter Integrity
5. Air volume and velocity
6. HVAC System

## Water and Wastewater Studies

1. Wastewater monitoring for compliance for discharging into Inland Surface water, Public Sewers and On Land for Irrigation as per MOEF/CPCB Regulations.
2. Construction Water.
3. Swimming Pool Water.
4. Boiler and Blow down Water.
5. Cooling Tower Blow Down water.
6. Water Testing for construction activities.
7. Wastewater Monitoring of ETP and STP Inlet and Outlet.

## Hazardous Waste Studies

1. Classification and characterization of Solid waste into Hazardous or Non-hazardous.
2. Renewable Gas Production Studies from Waste.
3. Study on Waste / Used Oil as per MOEF Guidelines.
4. Leachability Studies with respect to Toxic Metals.
5. STP / ETP sludge analysis and reporting.
6. Studies related to Electronic Wastes.

## Soil Studies

1. Contamination Site Studies with respect to Toxic Metals, Organic Compounds and Total VOCs.
2. Soil Chemical Analysis for Agriculture purpose and Other Activities.
3. Macro and Micro Nutrients in Soil.
4. Organic Matter and C:N Ratio.
5. Soil Classification based on Particle Size.

## Noise and Light Monitoring

1. Ambient and Indoor Noise Monitoring.
2. Monitoring of Acoustic Enclosure for insertion loss of noise.
3. Lux Monitoring.

# Calibration Division (CD)

## Calibration Services Offered - Thermal Field

### Facilities at Lab

- Digital Temperature Indicator with probe
- Glass Thermometer
- Digital Thermometer
- Resistance Temperature Detector (RTD)
- Platinum Resistance Thermometer (PRT)
- Temperature Gauges
- Thermocouples with/without indicator
- Temperature & Humidity indicators
- Thermo Hygrometer
- Data Loggers
- Transmitters
- Temperature Bath
- Dry well Blocks

### Facilities at ONSITE

- Hot Air Ovens
- Thermal chambers
- Humidity chambers
- Stability chambers
- Deep Freezer
- Refrigerators
- Water Bath
- Incubators- Non medical purpose
- Autoclaves- Non medical purpose
- Multi position-spatial mapping / Validation for Temperature parameter
- Muffle furnace
- Temperature Bath
- Dry well Blocks
- Thermocouples with/without indicator
- Vacuum Ovens
- Gas Chromatograph – Oven
- HPLC Column Oven
- LC –MS Oven

## Calibration Services Offered - Mechanical Field

### Facilities at Lab

#### Viscosity:

- Ford cup/ Flow cup
- Zahn cup
- Rotational viscometer– Analog and Digital

#### Pressure:

- Pressure Gauge
- Vacuum Gauge
- Magnehelic Gauge
- Pressure Transducer
- Pressure Transmitter

#### Mass:

- Analytical Weights

#### Force:

- Proving Ring
- Push pull gauge

#### Volume:

- Glass Pipette
- Glass Burette
- Micropipette
- Graduated Pipette
- Dispenser
- Measuring Cylinder
- Volumetric Flask
- Conical Flask
- Beaker
- Centrifuge Tube
- Dean and Stark apparatus
- Clevenger apparatus
- Syringe
- Specific gravity bottle / cup

### Facilities at ONSITE

#### Speed:

- Centrifuge
- Lab sifter
- Sedimentation shaker
- Orbital shaker
- Sieve shaker
- Dissolution test apparatus – Stirrer
- Mixer

#### Pressure:

- Pressure Gauge
- Vacuum Gauge
- Magnehelic Gauge
- Pressure Transducer
- Pressure Transmitter

#### Mass:

- Analytical Balance
- Micro Balance
- Weighing Balance

## Calibration Services Offered - Electro-Technical Field

### Facilities at Lab

#### Time :

- Analog / Digital Timer
- Analog / Digital Stop watch

#### Temperature Measuring Devices :

- Temperature controllers

### Facilities at ONSITE

#### Time :

- Analog / Digital Timer in instruments
- Analog / Digital Stop watch

#### Temperature Measuring Devices :

- Temperature controllers

## Calibration Services Offered - Special Instruments

### Facilities at Lab

- Refractometer- Brix : 0 to 50 % & RI : 1.333 to 1.418
- Refractometer (Ethylene glycol) : 0- 90 %
- pH Meter : pH 4 , 7 , 10
- Conductivity Meter 1413  $\mu\text{S}/\text{Cm}$
- Lactometer : 0 to 40
- Butyrometer : 0 to 100%
- UV Visible Spectrophotometer

### Facilities at ONSITE

- pH Meter : pH 4 , 7 , 10
- Conductivity Meter 1413  $\mu\text{S}/\text{Cm}$
- UV Visible Spectrophotometer
- TOC Meter / Analyzer



CONDUCTIVITY METER



pH METER



REFRACTOMETER (ETHYLENE GLYCOL)



REFRACTOMETER ( BRIX & RI)



UV VISIBLE - SPECTROPHOTOMETER



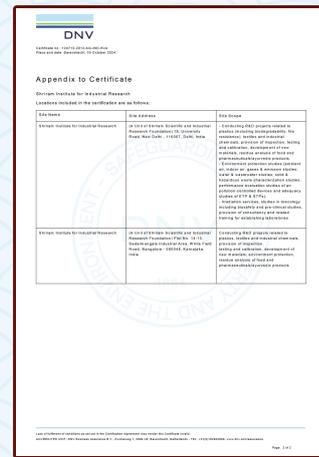
DIGITAL STOP WATCH



DIGITAL TIMER

# Certifications

- Quality Management System (QMS) as per ISO 9001:2015.
- Environment Management System (EMS) as per ISO 14001:2015
- Occupational Health & Safety Management System (OH &S) as per ISO 45001:2018



# Accreditations

- SRI is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), a constituent board of Quality Council of India (QCI) as per ISO/IEC 17025:2017 in the field of Testing (Chemical, Mechanical and Biological) vide Certificate Number TC-5090 and Calibration (Mechanical, Electro Technical & Thermal) vide Certificate Number CC-2083.
- SRI is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), a constituent board of Quality Council of India (QCI) as per ISO/IEC 17025:2017 in the field of Testing (Chemical and Biological) under Integrated assessment for APEDA and FSSAI



# Major Approvals





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