SVKM'S

SHRI C.B.PATEL

RESEARCH CENTRE

Instrumentation & Analytical Services

INFORMATION BROCHURE

At a Glance

Shri C. B. Patel Research Centre for Chemistry and Biological Sciences (CBPRC), established in 1991 under Shri Vile Parle Kelavani Mandal (SVKM), Currently the centre is offering reliable analytical and instrumentation-based services. The Centre supports academic researchers, students, and industry professionals through access to well-maintained equipment, standardized procedures. CBPRC is committed to providing accurate, timely, and quality-driven analytical support while fostering a professional environment that enables research, training, and scientific advancement.

ACCREDITATIONS & REGULATORY RECOGNITIONS

DCGI - Independent Ethics Committee

Registered under the Drugs Controller General of India (DCGI) for the review and approval of Bioavailability/Bioequivalence (BA/BE) studies.

DSIR - Scientific & Industrial Research Organization (SIRO)

Recognized by the Department of Scientific & Industrial Research (DSIR), Government of India, as a SIRO since 1994.

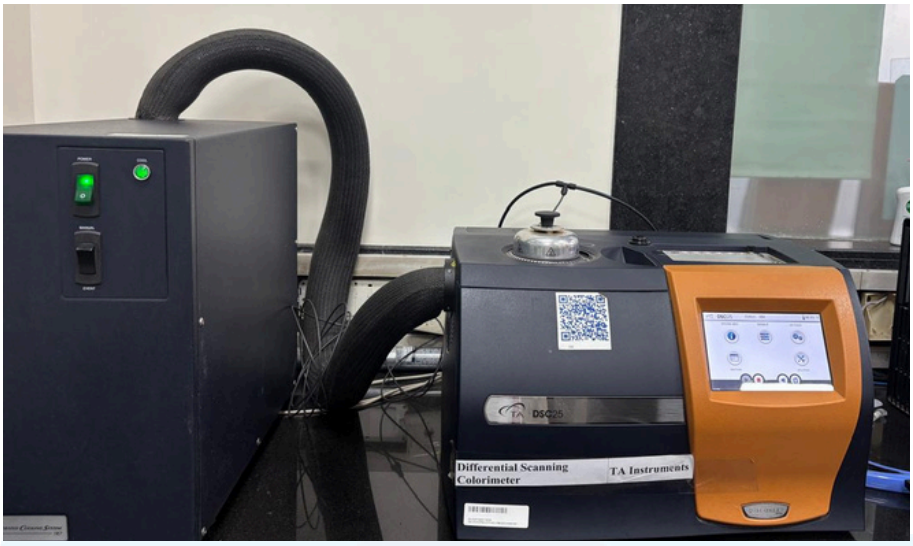
U.S. Department of Health & Human Services (HHS)

Registered with HHS under for ethical review of human volunteer studies.

ANALYTICAL SERVICES OFFERED

1. Differential Scanning Calorimeter (DSC)
2. Texture Analyzer
3. Fluorescence Spectrophotometer
4. UV-Visible Spectrophotometer
5. Microbial Water Testing

1. Differential Scanning Calorimeter (DSC)



Make: TA Instruments

Model: Discovery DSC25

Facility Status: Working

PRINCIPLE

Measures how much heat a material absorbs or releases as it is heated, cooled, or kept isothermally by comparing the heat flow into a sample with that into an inert reference. When the sample undergoes physical or chemical transitions such as melting, crystallization, glass transition, curing, or degradation, it either absorbs energy (endothermic) or releases energy (exothermic), creating a measurable difference in heat flow between the sample and reference. These variations are recorded as a heat-flow curve against temperature or time, allowing precise determination of transition temperatures, enthalpy changes, and the overall thermal behavior of the material.

KEY SPECIFICATIONS

- Temperature range: −90 °C to 725 °C
- Cooling: RCS90 system
- Modes: Conventional & Modulated DSC (MDSC®)
- Accuracy: ±0.1 °C
- TRIOS® software for analysis

FOR EXTERNAL USERS

Category	Charges (₹)
Educational Institutes	600
R&D Labs	900
Industries	1500

Scan to download the requisition form

An 18% GST will be added to the total applicable charges.

2. Texture Analyzer

Make: Brookfield (AMETEK)

Model: CTX

Facility Status: Working

PRINCIPLE

The Texture Analyzer (Brookfield CTX) operates by applying controlled compression, tension, or adhesion forces to a sample and measuring its response. As the probe interacts with the material, the instrument records force–distance and force–time data, enabling quantitative evaluation of mechanical and textural attributes such as firmness, hardness, cohesiveness, elasticity, adhesiveness, and fracturability. These measurements help characterize how a material behaves under different mechanical stresses, making the instrument useful for food, pharmaceutical, cosmetic, and material testing applications.

KEY SPECIFICATIONS

- Load Cell: 5 kg
- Resolution: 0.1 g
- Travel distance: 280 mm
- Software: TexturePro CT (21 CFR Part 11 compliant)
- Probes: Spreadability fixture, mucoadhesion jig, tensile grips

FOR EXTERNAL USERS

Category	Charges (₹)
Educational Institutes	1000
R&D Labs	1500
Industries	2000

An 18% GST will be added to the total applicable charges.

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3. Fluorescence Spectrophotometer

Make: : Agilent Technologies

Model: Cary Eclipse

Facility Status: Working

PRINCIPLE

Fluorescence Spectrophotometer measures the light emitted by a sample after excitation at a specific wavelength. When molecules absorb light, they transition to an excited state; their return to the ground state results in fluorescence emission. By analyzing excitation and emission spectra, the system enables sensitive detection and quantification of fluorescent compounds. It is widely used for dye analysis, biomolecular studies, environmental monitoring, and material characterization.

KEY SPECIFICATIONS

- Wavelength Range: 190 nm to 900 nm
- Kinetics Application: Time-based fluorescence measurements
- Temperature-Controlled Measurements: Equipped with a temperature controller for variable-temperature fluorescence

FOR EXTERNAL USERS

Category	Charges (₹)
Educational Institutes	250
R&D Labs	700
Industries	1000

An 18% GST will be added to the total applicable charges.

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4. UV–Vis Spectrophotometer

Make: Shimadzu

Model: UV-1900i

Facility Status: Working

PRINCIPLE

The UV–Vis Spectrophotometer operates based on the absorption of ultraviolet and visible light by a sample. When light passes through a solution, certain wavelengths are absorbed depending on the molecular structure. By measuring absorbance or transmittance, the instrument enables quantitative determination of compounds, kinetics monitoring, spectral scanning, and purity analysis. UV–Vis spectroscopy is widely used in pharmaceuticals, chemistry, biochemistry, environmental analysis, and material science.

KEY SPECIFICATIONS

- Wavelength Range: 190–1100 nm
- Measurement Modes: Absorbance, Transmittance, Kinetics

FOR EXTERNAL USERS

Category	Charges (₹)
Educational Institutes	200
R&D Labs	400
Industries	600

An 18% GST will be added to the total applicable charges.

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5. Microbial Water Testing

Method: Most Probable Number (MPN)

Facility Status: Available

PRINCIPLE

The Most Probable Number (MPN) method is a statistical technique used to estimate the concentration of viable microorganisms, particularly coliform bacteria, in water samples. The method involves serial dilution of the sample, inoculation into selective media, and observation of gas or color change indicating microbial growth. Based on the pattern of positive tubes, the MPN index is determined using standard MPN tables. This method is widely accepted for drinking water, processed water, and environmental monitoring.

KEY SPECIFICATIONS/PARAMETERS

- Analysis Performed: - Total Coliform Count (MPN Method)
- Sample Type: Potable water, borewell water, RO/processed water, laboratory water, surface waters
- Interpretation based on permissible limits

FOR EXTERNAL USERS

Category	Charges (₹)
Educational Institutes	2500
R&D Labs	3500
Industries	4000

Scan to download the requisition form

An 18% GST will be added to the total applicable charges.

Connect with us

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