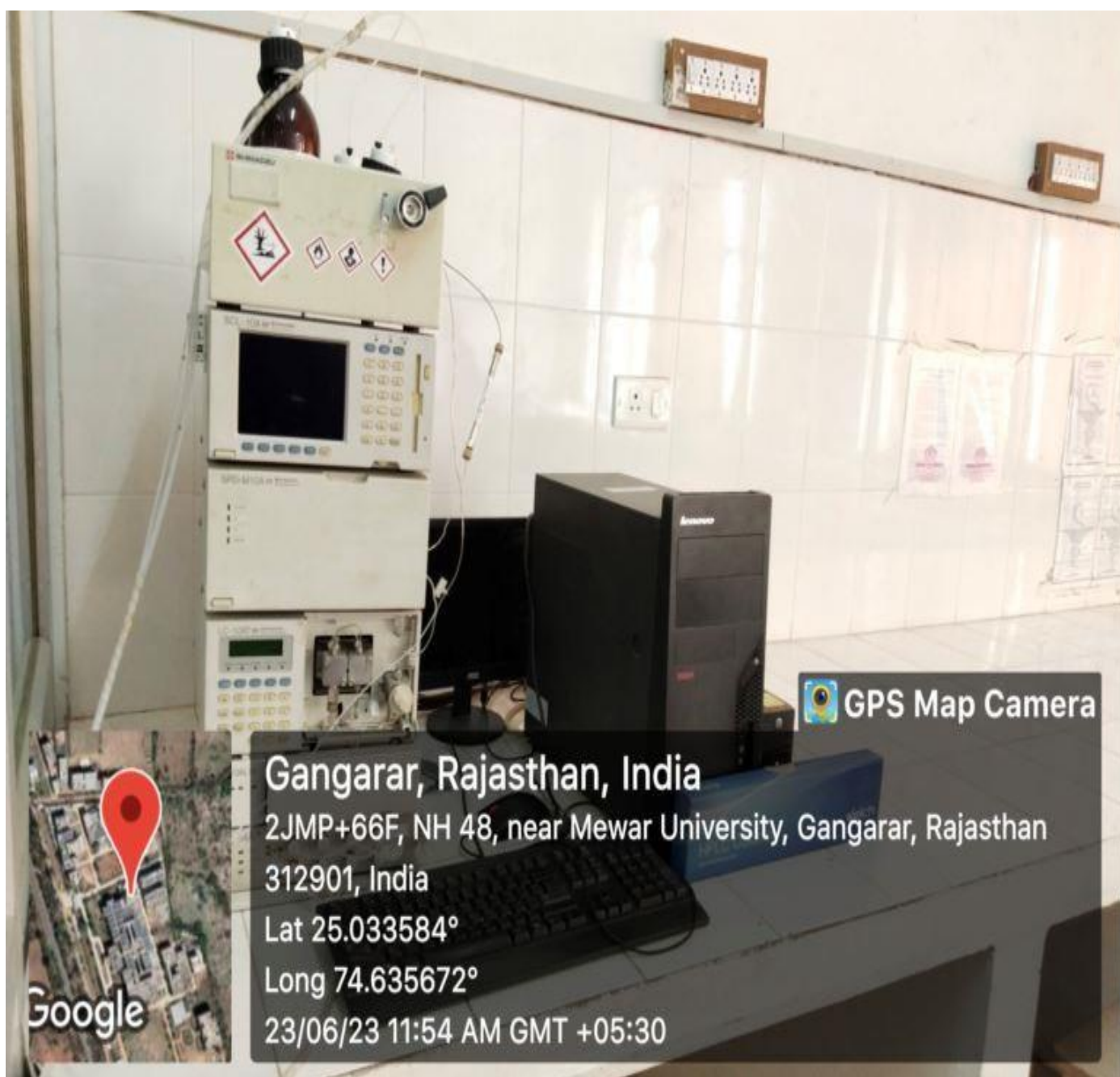


Central Instrumentation Centre

The Central Instrumentation Lab of Mewar University has a range of high-end instruments for research in science and technology to higher level. These instruments and facilities help the faculties, research scholars and students to carry out globally competitive research in basic, applied and medical sciences.



HPLC SPECIFICATION

DESCRIPTION	SPECIFICATION
<p>Solvent Delivery - Either high pressure binary delivery system with 2 individual pumps (or) quaternary solvent delivery system with single pump.</p> <p>(Separate quotes required for binary and quaternary delivery systems)</p>	<ul style="list-style-type: none"> • Flow rate: 0.001 mL to 10 mL/min; • Flow rate accuracy $\pm 1\%$ of the set flow rate • Flow rate precision $\pm 0.075\%$ RSD or higher precision • Operating Pressure ≥ 40 MPa; • Automatic Rinsing Kit; • Gradient Mixer; • Reservoir Tray; • Binary delivery System for Binary Gradient Application (or) quaternary delivery System for quaternary Gradient Application; • Gradient accuracy $\pm 1\%$ of the step gradient composition; • Composition precision : 0.1% RSD; • It must have a leak sensor as safety feature; • Number of full length stroke by pump heads for 1ml/min flow ≤ 10 strokes;
Online Degassing Unit	Membrane degassing unit should have minimum three flow lines for binary system (or) five lines for quaternary system.
Auto sampler Injection	<ul style="list-style-type: none"> • Sample injection volume should be variable between 0.1 μl to 100 μl; • Near Zero carry over performance (Less than 0.005%); • Injection volume setting minimum should be 0.1 μl & Sample loss during injection is 0%; • The Carry over must be below or equal to 0.005% before wash; • Injection volume accuracy must be below 1%; • The injection precision should be less than 1% RSD; • Number of samples to be processed automatically random access up to 100 numbers for ≥ 1.5ml vials.
Analytical Columns – 2	<ul style="list-style-type: none"> • C18 Analytical column- 250 x 4.6 x 5 micron one number; • Amino (NH₂) Analytical column- 250 x 4.6 mm, 5 micron column one number; • Guard column and holders of 2 numbers required
Column Oven	<ul style="list-style-type: none"> • Temperature-control method: Forced-air circulation; • Safety measures: Solvent sensor, temperature fuse, temperature upper limit. • Cooling method: Electronic cooling; • Temperature setting range : 15°C to 80°C in steps of 1°C • (Optional- cooling system for column oven can be quoted separately). • Temperature accuracy : $\pm 1^\circ\text{C}$ • The Oven Compartment: Should hold minimum 3 analytical columns • Should have option for the record of column information like number of injections and the composition of the last mobile phase used through column management device.
Dual Wavelength UV-Vis Detector	<ul style="list-style-type: none"> • Wavelength range : 190 to 700nm • Bandwidth : 8nm • Light Source : Deuterium • The flow cell must be temperature controlled from ambient + 5°C to 40°C • Wavelength accuracy : ± 1 nm • Wavelength reproducibility : ± 0.1 nm



Double Beam Spectrophotometer Technical Specifications

Wavelength <ul style="list-style-type: none"> • Range • Accuracy • Repeatability • Resolution • Bandwidth 	150 to 1100 nm ± 0.5 nm ± 0.2 nm 0.1 nm 1-2.0 nm
Photometric <ul style="list-style-type: none"> • Range • Accuracy • Repeatability 	± 3 Abs ± 0.003 Abs at 1.0 Abs ± 0.005 Abs at 1.0 Abs
Baseline Flatness	Within ± 0.003 Abs (excluding noises)
Scan Speed	Fast
Data Interval	Min. possible 0.4 nm
Sample Holder	5-position automatic positioning for sample cuvettes and 1 fixed position for reference cuvette
Source	Tungsten-Halogen and Deuterium lamp
Detector	Photo diode
Measuring Modes	Absorbance; % Transmittance; Concentration; Multi Component Analysis

Operating Modes	Single and multi-wavelength; Scan; Time Scan
Order Cut-off filter	Four glass filters, automatically positioned to eliminate grating spectral order interferences
Automatic calibrations/Optimisations	Source optimisation; Cell optimisations; Baseline, wavelength and electronic calibration
Data processing	Peak Pick/Valley Pick; Zoom (Expansion) of spectra; Averaging of two scans; Subtraction of two scans; Smoothing of spectra
Data Presentation	Display of graphic and tabular data on graphics LCD
Data Storage	For each operating mode five user defined files can be stored using memory backup
Printer Port	Compatible
Computer for the spectrophotometer	RAM 8GB, i5 processor, 1TB hard drive, 3 in 1 card reader (SD, SDHC, SDXC), DVD rider, 25-inch screen LCD

- **Mechanical Workshop**





Chittorgarh, Rajasthan, India

2JMP+675, Chittorgarh, Rajasthan 312901, India

Lat 25.032629°

Long 74.636461°

21/06/23 02:46 PM GMT +05:30

The Mechanical Workshop is equipped with necessary equipment and tools to take up all sorts of mechanical fabrication and repair and reconditioning works of mechanical structures and cabinets. Modification of existing assemblies, new designs and fabrication of mechanical components as desired by research students and faculty are also carried out.

Design and fabrication of all types of mechanical assemblies involving turning, drilling, cutting, welding and grinding works, Repair of existing machines / structures, caters to all Departments, centers and offices of the university and Supports student and faculty research activities.

Machinery available: Machining – 13-Heavy duty cone pulley Lathe, 1-all geared lathe, 1Universal Milling Machine,2-Cutting – Power Hacksaw, manual shear, welding – Electric Arc (250 A), Gas welding cylinders and Torches, drilling – 2-Vertical drilling up to 12mm dia, Grinding – Bench, Angle, Surface grinders Tools and Accessories.

- **Electronic Workshop**



The Electronic Workshop is equipped with necessary Electronic Test & Measurement equipment and tools to undertake maintenance, repair and service works of all types of Electrical, electronics and audio-visual equipment instruments / equipment / appliances & teaching aid. Design and Fabrication Services of instrumentation modules required by students and faculty research work is also provided.

Maintenance of all Sophisticated Instruments of the University, Design and Development of Instruments to meet the research needs of students & Faculty members and Repair & Service of Electronic teaching aid.

Equipment available: Several Test and measuring instruments, Standard Oscilloscopes, 100 MHz Digital Storage Oscilloscope, Function Generators, Microprocessor & Microcontroller Trainer & Development kits and IC Tester