

UV/VIS Spectrometer

Photo of Instrument:



Instrument Name	UV/VIS spectrometer
Instrument Model & Serial No.	Lambda 650
Instrument Make	PerkinElmer
Category of Instrument	Analytical Instrument
Description of Instrument	An ultraviolet-visible (UV-Vis) Spectrophotometer falls under the category of analytical instruments used to measure the absorption or transmission of ultraviolet and visible light by a sample for quantitative analysis and qualitative analysis of substances.
Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)	<p>Technical Description</p> <p>*Light Source: Typically includes a deuterium lamp for UV region (190-400 nm) and a tungsten-halogen lamp for visible region (400-800 nm).</p> <p>*Monochromator: Separates light into individual wavelengths.</p> <p>*Detector: Converts light intensity into an electrical signal. Common detectors include photomultiplier tubes (PMTs) or charge-coupled devices (CCDs).</p> <p>Specifications</p> <p>*Wavelength Range: Typically covers the range from 190 nm to 900 nm, spanning both UV and visible regions.</p> <p>*Wavelength Accuracy: Often within ± 0.3 nm to</p>

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	<p>±0.5 nm</p> <p>*Wavelength Resolution: Typically around 0.1 nm to 2 nm.</p> <p>*Photometric Accuracy: Typically within ±0.002 Abs at 1 Abs.</p> <p>*Photometric Range: Often covers a dynamic range of absorbance from -4 to +4 Abs.</p> <p>*Bandwidth: Adjustable bandwidth options, allowing users to select from narrow to wide bandwidths depending on the application.</p> <p>*Scan Speed: Fast scan speeds for rapid data acquisition.</p>
<p>Application of Instrument</p> <p>(Limited to Major 4 or 5)</p>	<ul style="list-style-type: none"> • Quantitative Analysis • Qualitative Analysis • Pharmaceutical analysis • Food and Beverage analysis • Environmental analysis
<p>Type of Sample Required for Analysis/Testing (Quantity, Pre-Preparation, State etc.)</p> <p>Guidelines for Sample Submission – User Instructions</p>	<p>Accommodates various sample types, including solutions, solids, and films, with compatible accessories.</p>
<p>Types of Analysis/Testing</p>	<ul style="list-style-type: none"> • Quantitative analysis • Qualitative analysis • Purity analysis
<p>Faculty In-Charge Name / Email / Contact</p>	<p>Prof. Shiny Joseph shiny@nitc.ac.in 04952285404</p>
<p>Technical Staff Name / Email / Contact</p>	<p>Muhammed Munaver Muhammedmunaver@nitc.ac.in 04952285484</p>
<p>Location of Instrument</p>	<p>Instrumentation lab</p>
<p>Other Details</p>	

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User Charges:

S.NO.	Type of Analysis/Testing	Internal - within Department of NITC	Internal - Other Departments NITC	External Academic Educational Institutes	National Labs	Industry
1	Quantitative analysis Qualitative analysis Purity analysis		200	400	400	800

Slot Booking and Payment Work Flow:

- Discuss the slot availability with the technical staff in the instrumentation lab of chemical engineering department.
- Collect the request form.
- Payment should be at the accounts section of the institute.
- Get the request form signed from the faculty in charge.
- Submit the request form and samples in the instrumentation lab.