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| A white rectangular object with a rectangular object on it  AI-generated content may be incorrect. | **UV/VIS SPECTROPHOTOMETER****Name of the equipment:** UV Visible Spectrophotometer**Make & Model:**Perkin Elmer Lambda 35**I-Stem Registration ID-** **………………3220813** **Category of Instrument**Analytical Chemistry**Types of Analysis / Testing*** Absorbance & transmittance measurements
* Quantitative analysis of solutions

**Application:** * Water quality analysis (nitrates, phosphates, heavy metals)
* Chemical concentration determination
* Environmental pollutant monitoring
* Pharmaceutical & biochemical assays

**Description of Instrument**A double-beam UV/VIS spectrophotometer for accurate optical measurements in environmental, chemical, and biological research. |

**Booking Details**

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| **Book through I-STEM:** <https://www.istem.gov.in/>**Slot Booking Link**I-STEM Slot Booking link for External User | **Booking available for**Internal and External Both**Requisition form for** [Internals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf)[Externals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf) |

**Contact Details**

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**Features, Working Principle and Specifications**

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| **Features of the equipment*** Double-beam optics for high stability & accuracy
* Wavelength range: 190–1100 nm
* Large sample compartment for various cuvette sizes
* User-friendly UV WinLab software for data analysis
* Automatic wavelength calibration & validation
 | **Unique features/Measurement capabilities, if any*** High photometric accuracy (±0.003 A at 1 A)
* Programmable scanning speeds (5–3000 nm/min)
* Built-in diagnostics for performance verification
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| **Instrument Technical Description and Major Specifications***(This Specifications Limited to Major 5)** Wavelength Range: 190–1100 nm
* Bandwidth: 1 nm (fixed)
* Photometric Accuracy: ±0.003 A (at 1 A)
* Light Source: Tungsten halogen (VIS) & Deuterium lamp (UV)
* Detector Type: Silicon photodiode
 | **Measurement/Sample specifications:** * Sample Type: Liquid (aqueous/organic solutions)
* Cuvette Compatibility: 10 mm standard (quartz/glass/plastic)
* Absorbance Range: 0–3 A (recommended: 0.1–1.5 A for best accuracy)
* Concentration Range: Must be within Beer-Lambert law linearity
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**Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.)**

* Quantity: 2–3 mL (minimum for cuvette filling)
* State: Liquid (homogeneous, no bubbles/particulates)
* Pre-Preparation:
	+ Filter turbid samples
	+ Degas if bubbly
	+ Solvent Matched Blank Required
	+ pH adjustment may be needed for certain analytes
* Type of Samples Analyzed: Solutions (e.g., DNA, proteins, dyes)

**Guidelines for Sample Submission – User Instructions**

* Provide solvent blanks for baseline correction.
* Label samples clearly with concentration/solvent details.
* Avoid overloading absorbance (>1.5 A may require dilution).
* Maximum Samples per Run: 1 (manual)
* Minimum Analysis Time: 1–5 minutes per sample.

**User Charges Rs. (GST Extra)**

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
| 500/- per hour | 1500/- per hour | 1500/- per hour | 3000/- per hour |