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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 |
| **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 |

**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 |