**Hydraulic UTM with PC Based control and measurement system**

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|  | **Name of the equipment:**  Hydraulic UTM with PC Based control and measurement system  **Make & Model:**  Make: Hydraulic engineering and instruments & Model: HL-590.25  **I-Stem Registration ID-**  ………………  **Category of Instrument**  (Advanced Manufacturing facility / Characterization and Testing / Computational Facility / Bioscience and Technology / Sample preparation)  **Types of Analysis / Testing**  Compression, Tension, bending etc  **Application:**  It has to be planned based on the need  **Description of Instrument**  This machine is designed to evaluate the mechanical properties of materials by conducting various tests, including tensile, compression, bending |

**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](https://www.istem.gov.in/) | | **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** | |
| **Faculty In-charge:**  Dr. Jayachandran K  **Email ID:**  [jk@nitc.ac.in](mailto:jk@nitc.ac.in)  **Phone number:**  +91944226441 | **Technical Staff:**  Noushad K K (TA) [noushadkk@nitc.ac.in](mailto:noushadkk@nitc.ac.in)  Jeyeshkumar (TA)  [jeyesh@nitc.ac.in](mailto:jeyesh@nitc.ac.in)  Nithya B S (TA) [nithyabs@nitc.ac.in](mailto:nithyabs@nitc.ac.in) | | **Department**  CED  **Office Email ID**  [cedoffice@nitc.ac.in](mailto:cedoffice@nitc.ac.in)  **Location**  Structural laboratory, Department of Civil engineering  **Lab Phone No**  04952286840 | |

**Features, Working Principle and Specifications**

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| **Features of the equipment**   * Easy cross head movement on the two pillars to adjust the gap with easy operation for specimen as per requirement. * Easily changeable Hydraulically operated Grips for Tension test. * Fully Computer Controlled operation with User friendly Software. * Controlling on both Load (kN/sec)/stress (N/mm2/sec), Displacement (mm/sec) or Strain Control basis. * Facility to study Post failure behaviors of specimens. * Inching/Release operation to set Sample. * Auto release facility after specimen failure. | **Unique features/Measurement capabilities, if any**   * Fully Automatic Servo Controlled Universal Testing Machine with hydraulically operated open crosshead and front loading jaws |
| **Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)**   * **PC-based digital control system** for precise operation and data acquisition | **Measurement/Sample specifications:**   Universal testing machine for concrete typically have a load capacity upto 1000 kN, |

**Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions**

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| * The particular focus on concrete specimens such as cylinders, beams, or cubes   **Test Specimen Sizes:**  Concrete cylinders (e.g., 150 mm x 300 mm or 100 mm x 200 mm).  Concrete cubes (e.g., 150 mm or 100 mm sides).  Concrete beams (usually 150 mm x 150 mm x 700 mm, 100 x 100 x 500 mm or custom sizes).   * Steel sample – subject to suitable grip availability for the given diameter |

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

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
| 1000/- per hour | 2000/- per hour | 3000/- per hour | 4000/- per hour |