
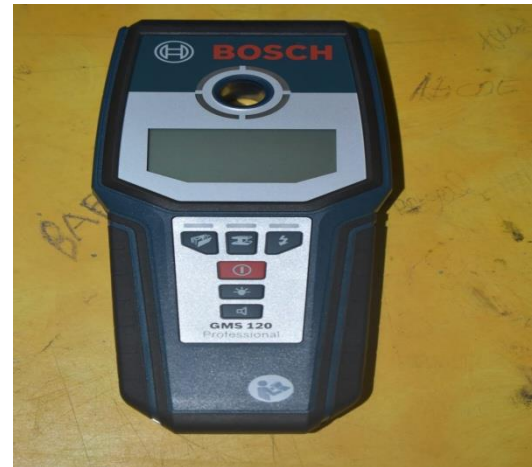

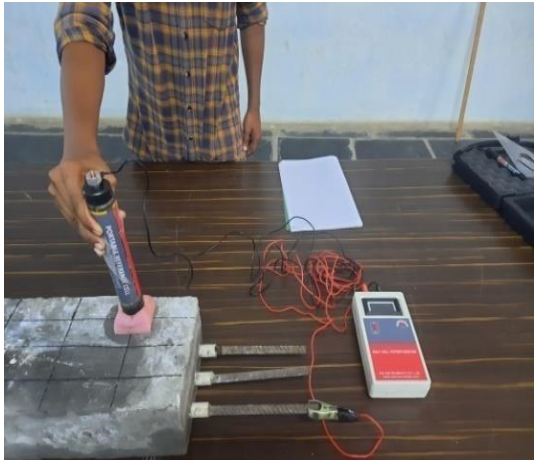






Project Laboratory



The departmental laboratories are sufficiently equipped to carry out B. Tech, M. Tech and research projects. Depending on the area of specialization, student(s) are assigned laboratories where they undertake their respective projects with the guidance of their supervisors/laboratory in-charges. Students are required to do mini project and major projects. They are allowed to do projects outside the campus to get industrial exposure and also are allowed to do In-house projects under the guidance of department faculty. The Project Laboratory offers the students, opportunity to gain valuable hands-on experience with the state- of-the-art environment where students become proficient in both the technical and creative skills needed in the field of Civil Engineering. The Project Laboratory has a key role in promoting practical learning experience and is a place where they develop creative proposals, and execute their final year projects.



| S.No | Name of the Equipment | Description | Image |
|------|---|---|--|
| 1 | Ultra Sonic Pulse Velocity Meter | An ultrasonic pulse velocity test is an in-situ, Non destructive test to check the quality of concrete and natural rocks. In this test, the strength and quality of concrete or rock is assessed by measuring the velocity of an ultrasonic pulse passing through a concrete structure or natural rock formation. |  |
| 2 | Professional Detector (Bosch GMS – 120) | This allows a user to detect steel that is placed up to 4-5 inches deep in cured concrete or Hardened concrete. |  |



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|------|----------------------------|---|--|
| 3 | Self compacting Equipments | These equipments are used for finding fresh concrete properties of self compacting concrete. |  |
| 4 | Half cell potentiometer | It is used for assessment of the durability of RCC and helps in Diagnosing reinforcement corrosion. |  |



| S.No | Name of the Equipment | Description | Image |
|------|--------------------------|--|--|
| 5 | Accelerating curing Tank | It is used for curing concrete and to get early compressive strength in concrete |  |
| 6 | Strain Gauges | Strain gauges are devices that are commonly used by engineers to measure the effect of external forces on an object. They measure strain directly, which can be used to indirectly determine stress, pressure, Deflection, Torque and many other measurements. |  |



| S.No | Name of the Equipment | Description | Image |
|------|------------------------|--|---|
| 7 | Load framing apparatus | Load frames testing utilizes a high stiffness support structure against which the test forces can react. |  |
| 8 | Rebound Hammer | A Schmidt hammer, also known as a Swiss hammer or a rebound hammer or concrete hammer test, is a device to measure the elastic properties or strength of concrete or rock, mainly surface hardness and penetration resistance. |  |



| S.No | Name of the Equipment | Description | Image |
|------|--------------------------------------|--|---|
| 9 | Air entrainment Detector | It is used to determine entrapped air content of fresh concrete |  <p>The image shows an air entrainment detector, which is a mechanical device used to measure the air content of fresh concrete. It consists of a cylindrical stainless steel chamber with a blue base and a blue top. A vertical glass tube with a scale is attached to the top, and a pressure gauge is mounted on the side. A blue hose is connected to the top of the chamber.</p> |
| 10 | Lateral Extensometer with Dial Gauge | Essential equipment for measuring the elongation of specimen. It used in tensile test and sense the elongation when testing is processing & to find elastic modulus of concrete material |  <p>The image shows a lateral extensometer, which is a device used to measure the elongation of a specimen during a tensile test. It has a blue frame with two vertical arms and a horizontal base. A dial gauge is attached to the top of the frame, and a black base is visible at the bottom.</p> |



| S.No | Name of the Equipment | Description | Image |
|------|---|--|--|
| 11 | Longitudinal Compressometer with dial gauge | Evaluating deformation and strain characteristics of concrete cylinders while undergoing compression testing & to find elastic modulus of concrete material. |  |
| 12 | Concrete Drum Mixer | Used to Mix the fresh concrete Uniformly and quickly. |  |



| S.No | Name of the Equipment | Description | Image |
|------|---|--|--|
| 13 | Muffle Furnace | <p>Muffle furnace is used for high temperature testing applications such as loss-on-ignition. It can also be used to expose samples to a temperature or a specific period of time to allow subsequent characterisation of physical changes or mechanical properties of organic and inorganic solids.</p> |  |
| 14 | Biochemical Oxygen Demand(B.O.D) Incubation Chamber | <p>It is especially used for determining levels of organic matter and nitrogen in waste water samples. The BOD incubator provides the required temperature for the growth of micro organisms and allows performing Bio chemical oxygen Demand on water and sewage.</p> |  |


| S.No | Name of the Equipment | Description | Image |
|------|---|--|--|
| 15 | Chemical Oxygen Demand (COD) Incubation Chamber | Measures the amount of oxygen required to chemically oxidize the organic material and inorganic nutrients, such as Ammonia or Nitrate, present in water. |  |
| 16 | Water analysis Kit | Water analysis Kit is used to find chloride, Iron and Hardness properties of water in the field. |  |

| S.No | Name of the Equipment | Description | Image |
|------|--|---|--|
| 17 | California Bearing Ratio Test (C.B.R Test) | It is a penetration test meant for the evolution of sub grade strength in the design of pavements. |  |
| 198 | Beam Deflection Apparatus | It is used for determination of the elastic modulus for beams of different materials, through studies of continuous beams with any type of loading. |  |

| S.No | Name of the Equipment | Description | Image |
|------|-------------------------------|--|---|
| 19 | Marshall Mix Design Apparatus | It is used to measure the resistance of cylindrical bituminous mix specimens to plastic flow under loading on the lateral surface. |  A blue, heavy-duty mechanical testing machine used for Marshall Mix Design. It features a central vertical column with a horizontal loading arm and a specimen holder. The machine is mounted on a sturdy base. |
| 20 | Water Absorption Test | It gives an idea on the internal structure of aggregate, concrete cubes and cylinders, bitumen |  A blue, rectangular testing apparatus used for water absorption tests. It has a glass-enclosed upper section and a lower section with a digital display. A sign on the wall above it reads: "Specific Gravity & Water Absorption Test Apparatus is used for measuring Density Range: 200-2000mm Size of the sample: 6, 9 mm Electronic Digital Balance: 5 kg". |

| S.No | Name of the Equipment | Description | Image |
|------|---|--|---|
| 21 | Stripping Point of bitumen | Determine the presence of water molecules in adhesion between the bitumen and aggregates. |  <p>The image shows a 'FILM STRIPPING DEVICE' which is a black rectangular box with a large blue circular opening in the center. Inside the circle, there are four blue strips of material. On the left side of the box, there is a red switch labeled 'OFF' and 'ON' and a red indicator light. The text 'FILM STRIPPING DEVICE' is printed vertically on the left side of the box.</p> |
| 22 | Total Station survey Equipment. (Pentax A-205NE) | It is a surveying instrument combination of Electromagnetic Distance Measuring Instrument and Electronic Theodolite. The Instrument can be used to measure horizontal and vertical angles as well as sloping distance of object, widely used in construction activities, Alignment of Highway and Railway works and also in mine survey works. |  <p>The image shows a yellow and grey Pentax A-205NE Total Station surveying instrument. It has a large black lens in the center, a digital display screen at the bottom, and a carrying handle at the top. The instrument is mounted on a base with adjustment screws.</p> |

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|------|-----------------------|---|--|
| 23 | Auto level | It is an Optical Instrument used to establish or verify points in the same horizontal plane. It is used in used in surveying and building with a vertical staff to measure height differences and to transfer, measure and set heights quickly. |  |
| 24 | Staad Pro | It is one of the popular software that is used for analyzing & designing structures like – buildings, towers, bridges, industrial, transportation, and utility structures. |  |

| S.No | Name of the Equipment | Description | Image |
|------|-----------------------|---|--|
| 25 | Primavera | It is an project management software that is used for scheduling,risk analysis, planning, tracking and integrates with other enterprise software. |  <p>The image is a promotional graphic for Oracle Primavera Software. It features the Oracle logo in red at the top left, followed by the text 'Primavera Software' in a large, bold, black font. Below the text, there are two 3D charts. On the left is a 3D bar chart with four bars of increasing height, colored blue, green, orange, and red. The bars are labeled with percentages: 20%, 40%, 70%, and 90% respectively. On the right is a 3D pie chart with four slices of varying sizes, colored blue, green, orange, and red. The slices are labeled with percentages: 40%, 90%, 80%, and 20% respectively. The entire graphic is set against a light gray background with a subtle gradient.</p> |