




ANNAMACHARYA UNIVERSITY
CIVIL ENGINEERING DEPARTMENT

Name of the Lab: Surveying Lab

Name of the Lab in-charge: Mr. S. Venkata Vara Prasad



S.No.	Equipment Photo	Name of the Equipment	Specifications	Price
1.		Total Station	<ul style="list-style-type: none"> • Electronic theodolite + EDM + microprocessor • Angle accuracy: 2"–5" • Distance range: 3–5 km with prism, 300–500 m without prism • Dual side LCD • Data storage with USB • Rechargeable battery: 6–8 hours backup 	Rs. 4,40,000/-


2.		Theodolite	<ul style="list-style-type: none"> • Vernier/Digital • Least count: 20" (vernier), 1"–5" (digital) • Telescope magnification • Field of view: 2° • Accuracy: $\pm 5''$ 	Rs. 1,10,880/-
3.		Auto Level	<ul style="list-style-type: none"> • Magnification: 30times of original • Accuracy: ± 2 mm/km double run • Automatic compensator • Working range= $\pm 15'$ • Objective aperture: ~ 36 mm • Min. focus distance: 0.3–0.5 m. 	Rs. 1,00,000/-



4.		Dumpy Level	<ul style="list-style-type: none"> • Optical levelling instrument • Magnification: 25times of original • Accuracy: ± 3 mm/km double run Rigid telescope • Min. focusing distance: 0.5 m. 	Rs. 81,000/-
5.		Levelling Staffs	<ul style="list-style-type: none"> • Length: 5 m • Graduated in meters (E-pattern) • 4 sections • Lightweight aluminium. 	Rs. 7200/-



6.		Tripod stands	<ul style="list-style-type: none"> • Aluminium • Adjustable height: 1.8 m • Telescopic legs with pointed shoes • Flat head fitting. 	
7.		Compass	<ul style="list-style-type: none"> • Graduation: 0–360° (WCB) and 0–90° (QB) • Least count: 30'–1° • Needle: 100–150 mm • Magnetic damping. 	<p>Surveyor's: Rs. 25,000/-</p> <p>Prismatic: Rs. 21,000/-</p>

8.		Plane Tables	<ul style="list-style-type: none"> • Board size: 600 × 750 mm • Wooden • Mounted on tripod 	Rs. 29,925
9.		Tapes	<ul style="list-style-type: none"> • Types: Cloth • Lengths: 5m and 30m • Graduated in cm & m • Width: 16 mm; • Accurate for linear measurements. 	Rs. 8,885/-

10.		Chains	<ul style="list-style-type: none"> • Types: Metric • Length: 20 m and 30 m • 100 links of 20cm • Material: Galvanized steel wire (4 mm) • Brass handles and tallies. 	Rs. 18,000/-
11.		Arrows	<ul style="list-style-type: none"> • Steel wire (3 mm thick) • Length: 400 mm • One end bent into a ring for handling • Used for marking chain lengths. 	Rs. 1,400/-

12.		Ranging rods	<ul style="list-style-type: none">• Length: Standard lengths are 2 m, 3 m, or 4 m (most common is 3 m).• Diameter: Approximately 30 mm (3 cm).• Material: Made of seasoned wood, bamboo, or light metal (aluminium/steel tubing).• Markings: Painted with alternating bands of black and white or red, white, and black, each band usually 20 cm to 30 cm wide to make it visible at a distance.	Rs. 7,500/-
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13.	 	Cross staff	<ul style="list-style-type: none"> • Height: Fixed to a pole about 1.2 m to 1.5 m long for comfortable handling. • Material: Made of brass, gunmetal, or aluminium. • Sighting: Slits or sights are about 5–8 mm wide. 	Rs. 8,000/-
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<p>14.</p>	 	<p>Plane Table Accessories</p>	<ul style="list-style-type: none"> • A simple straightedge (about 50–60 cm long) with sight vanes at ends. • Made of brass or steel, fork shape holds the plumb bob below. • Small compass in a trough-shaped box, 100–150 mm long, with a magnetic needle. • Small tubular or circular bubble level, detachable, kept on the table during leveling. 	<p>Rs. 36,000/-</p>
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