








GOVT. POLYTECHNIC COLLEGE, BUDGAM (J&K)

Recognised by the J&K Government, Approved by AICTE and Affiliated with J&K Board of Technical Education



SURVEYING LABORATORY

DEPARTMENT OF CIVIL ENGINEERING

S. No	Equipment	Description	Quantity
1		<p><u>Total Station</u></p> <p>A total station is a surveying instrument that uses electronics to measure distances and angles. It combines the functions of a theodolite, transit level, and electronic distance meter (EDM). Total stations are used in modern surveying and building construction.</p>	2
2		<p><u>Electronic Theodolite</u></p> <p>Electronic Digital Theodolite is a precision instrument for measuring angles in the horizontal and vertical planes. Theodolites are mainly used for surveying applications, and have been adapted for specialized purposes in fields like meteorology and rocket launch technology.</p>	2
3		<p><u>Ranging Rod</u></p> <p>A ranging rod (or range rod) is a surveying instrument used for marking the position of stations, and for sightings of those stations, as well as for ranging straight lines.</p>	30
4		<p><u>Prismatic Compass</u></p> <p>A prismatic compass is a navigation and surveying instrument which is extensively used to find out the bearing of the traversing and included angles between them, waypoints (an endpoint of the course) and direction.</p>	5
5		<p><u>Plane Table</u></p> <p>A plane table (plain table prior to 1830) is a device used in surveying site mapping, exploration mapping, coastal navigation mapping, and related disciplines to provide a solid and level surface on which to make field drawings, charts and maps.</p> <p>Accessories : Drawing Board, Spirit level, Trough Compass, Plumbing Fork, Plumb Bob & Tripod.</p>	5

6



Digital Theodolite

3

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7



Steel Rack

4

Steel racks are one of the most common forms of racks found in the market today. These racks are durable, convenient and safe. They are perfect for heavy duty items owing to their solid build and durable coating. Pallet racks are ideal for storing large items while using only a little amount of space.

8



Measuring Tape – 30 metre

3

30 Meter Steel Top Line Measuring Tape is a great tool for measuring distances. It is made of steel and has a 30 meter range. Freemans has developed the ultimate performance measuring tape to meet the needs of today's professional engineers and technicians.

9



Measuring Tape – 3 metre

3

A tape measure, or measuring tape is a type of hand tool typically used to measure distance or size. It is like a much longer flexible ruler consisting of a case, thumb lock, blade/tape, hook, and sometimes a belt clip. A tape measure will have imperial readings, metric readings or both.





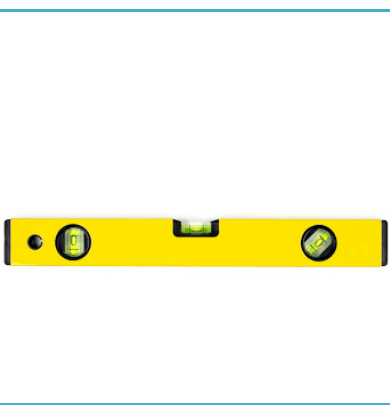
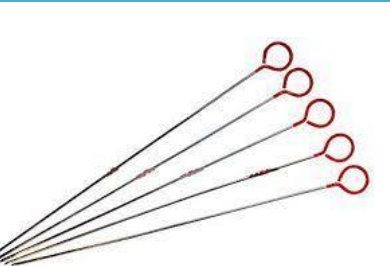
10



Optical Square

5

An optical square is a hand instrument used by surveyor's to lay off right angles that are multiples of 90° or of 45° . They normally comprise of two optical glass penta prisms in a sturdy housing. Used for placing points on a line, offset measurements, setting out curves or determining horizontal plans.

<p>11</p>		<p><u>Line Ranger</u> 5</p> <p>Line Ranger is an optical instrument used in surveying to locate an intermediate point in a straight line between two endpoints.</p>
<p>12</p>		<p><u>Measuring Chain – 30 m</u> 3</p> <p>A 30-meter metric chain is a measuring instrument used in surveying to measure distances up to 30 meters. It is made up of 100 links, each 0.3 meters long.</p>
<p>13</p>		<p><u>Measuring Chain – 20 m</u> 3</p> <p>A 20-meter metric chain is a measuring instrument used in surveying and engineering to measure distance. It is also known as a surveyor's chain, engineer's chain, or Gunter's chain.</p> <p>A 20-meter metric chain has 100 links, each 20 centimeters long. The total length of the chain is 20 meters or 2,000 centimeters.</p>
<p>14</p>		<p><u>Tilting Level</u> 1</p> <p>A tilting level is a modified Dumpy level that can slightly tilt its telescope. The telescope has a horizontal pivot located at the vertical axis. The tilting level can be used for optical tooling and alignment applications.</p>
<p>15</p>		<p><u>Sprit Level</u> 7</p> <p>A spirit level, also known as a bubble level, is a tool used to determine if a surface is level or plumb. Spirit levels can be used for a variety of projects, including: DIY projects, House decoration, Water and electricity installation, Surveying, Photographic work, Carpentry, Metalworking.</p>
<p>16</p>		<p><u>Arrows – Steel</u></p> <p>A surveying arrow is a pointed metal marker used to mark the ends of a chain or tape during measurement. Arrows are also known as chaining pins or marking</p>

pins

17



Wooden Pegs

Surveying pins are used to mark the position of a point, line or feature on the ground. They're also known as surveyors' pins or surveyors' stakes in some parts of the world. Surveying pins made from wood, come in a variety of shapes and sizes.

18



Surveyor's compass

Also known as a circumferentor, is used to measure horizontal angles and the bearing of a line of sight. It's also used to determine the horizontal direction of a line with reference to the direction of a magnetic needle.

19



Auto Level

An optical instrument used to establish or verify points on the same horizontal plane. It's also known as a self-leveling level or builder's auto level.

20



Levelling Staff

A levelling staff, also known as a level staff or levelling rod, is a rectangular rod with graduations used to determine the difference in height between points. It is used with a levelling instrument.