









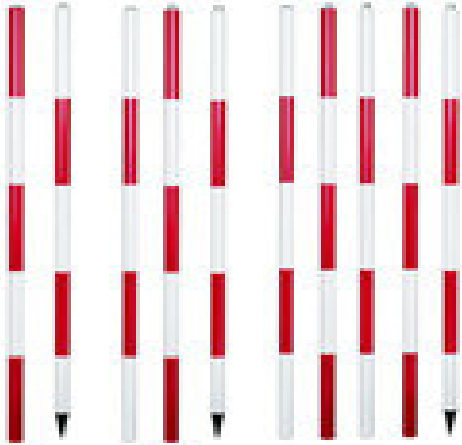
**TECHNICAL SPECIFICATION OF ITEMS**




**(A) Surveying & Advance Surveying Lab –**

S. No	Items & Fig.	Quantity	Specification		
1.	Dumpy Level & Accessories  	04	IMAGE	Erect	
			MAGNIFICATION	24x	
			LENGTH OF TELESCOPE	300 mm	
			OBJECTIVE APERTURE	40 mm	
			STADIA RADIO	02:40:00 AM	
			FIELD OF VIEW	1° 30'	
			RESOLUTION	0.01 cm at 100 mt	
			PLATE BUBBLE SIZE	12mm X 87.5 mm	
			SENSITIVITY	45°/2 mm	
			CIRCLE DIA METER	75 mm(magnetic )	
			CIRCLE GRADUATION	1 div=1°	
2.	Vernier Transit Theodolite & Accessories  	03	Telescope	Model – 20	Model – 10
			Image	Erect	Erect
			Length	178 mm	178 mm
			Magnification	25X	25X
			Effective Aperture	38mm	38mm
			Field of View	2.6 M at 100M	2.6 M at 100M
			Short Focus	1.5M	1.5M
			Stadia Ratio	1:100	1:100
			Stadia Constant	0	0
			Resolving	4"	4"

			<p>Power</p> <table border="0"> <tr> <td>Circle Diameter</td> <td>HZ113m m, V100 mm</td> <td>HZ113m m, V100 mm</td> </tr> <tr> <td>Graduation</td> <td>20'</td> <td>10'</td> </tr> <tr> <td>Vernier Reading</td> <td>20"</td> <td>10"</td> </tr> <tr> <td>Plate Level Sensitivity</td> <td>45" / 2mm</td> <td>45" / 2mm</td> </tr> <tr> <td>Vertical Circle Level</td> <td>1' / 2mm</td> <td></td> </tr> </table>	Circle Diameter	HZ113m m, V100 mm	HZ113m m, V100 mm	Graduation	20'	10'	Vernier Reading	20"	10"	Plate Level Sensitivity	45" / 2mm	45" / 2mm	Vertical Circle Level	1' / 2mm	
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3.	Prismatic Compass & Accessories	04	<p>Consists of a brass or aluminum circular box with a diameter of 100/125 millimeter. Aluminum circle consists of a needle graduated to 30 min. (0. 50) Graduations can be magnified by sliding the prism fitted with colored glasses having a sighting slit at the top.</p> 															
4.	Surveyor's Compass 6" & Accessories	03	<p>Offering the best quality Survey Compass with Stand. This Survey Compass is made by high quality material and it has perfect finish.</p>															

			<p>Survey Compass made of Gun / Non magnetic Metal in a Leather case with Teak wood tripod Stand. Size of compass 100 mm. Dia As per IS specification.</p>
5.	<p>Line Ranger</p> 	04	<p>Our expertise enables us to develop a broad range of measuring and survey equipment and instruments such as Line Rangers. Manufactured using high grade metal and alloys, these line rangers can be availed in standard as well as customized sizes and specifications. Used for various testing and measuring activities by our clients, our range can be availed at most descent prices.</p>
6.	<p>Cross Staff Aluminum</p> 	03	<p>Made of wood with pole size 4" X 4". OR <b>Open Cross Staff</b>: made up to a metallic head having four metal arms provided with two pairs of verticals lid giving two lines of sight at right angle made up of either gun metal / brass or any alloy that cannot rust. The base is provided with hollow conical socket at the centre that can be Mounted on the top of wooden staff. (fitted with a pointed iron shoe at the bottom) Cross Staff Head( export quality) Open type having four vanes at right angles with pole having strong iron shoe at the bottom supplied in wooden box. <b>Aluminium</b> size 100 mm size 150 mm <b>Brass</b> size 100 mm size 150 mm</p>
7.	<p>Optical Square</p> 	03	<p>Consists of Brass / suitable metal hollow box having open face about 6 x 3 cms. and closed face about 2 x 3 cm. and deep about 4cm to 5cm. provided with a brass handle about 8cm. in length. Two mirrors fixed at an angle of 45 degree to the inclined sides of the box. Circular type made up of brass &amp; fitted with double reflecting mirror right &amp; left to 90, in case.</p>

8.	<p>Measuring Chain 30 Meter</p> 	05	<p>Measuring Chain consisting of a fixed number of straight links of galvanized mild steel wire 4mm in diameter. The end of each link are bent into a loop and connected together by means of three circular shape rings. The joints of the rings made be open or welded preferably welded. The ends of the chain are provided with brass handles. The handle is linked with a swivel joint to the chain. The length of each linked is 200 mm. each meter is provided with circular brass ring &amp; each five meter length is provided wit brass talltes of requisite shapes each chain should be provided with 10 nos of M.S.Arrows of 4 mm diameter bar and 40 cm. Height Refer : IS 1492-1970 i) 20 meter chain ii) 30 meter chain</p>																					
9.	<p>Electronic Distance Meter</p> 	01	<table border="1" data-bbox="1096 835 1544 1037"> <thead> <tr> <th></th> <th>Low</th> <th>High</th> </tr> </thead> <tbody> <tr> <td>Accuracy</td> <td>5mm + 10ppm</td> <td>1mm + 1ppm</td> </tr> <tr> <td>Range</td> <td>1 km</td> <td>5 km</td> </tr> <tr> <td>Cost</td> <td>\$10,000</td> <td>\$40,000</td> </tr> <tr> <td>Data Storage</td> <td>none</td> <td>7500 pts.</td> </tr> <tr> <td>Magnification</td> <td>10X</td> <td>30X</td> </tr> <tr> <td>Run-time</td> <td>3 hrs.</td> <td>6 hrs.</td> </tr> </tbody> </table>		Low	High	Accuracy	5mm + 10ppm	1mm + 1ppm	Range	1 km	5 km	Cost	\$10,000	\$40,000	Data Storage	none	7500 pts.	Magnification	10X	30X	Run-time	3 hrs.	6 hrs.
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10	<p>Ranging Rods</p> 	15	<p>Circular / Octagonal Ranging Rods preferably circular with 3 to 5 cm diameter made up of either seasoned solid bamboo stick or metal conduit pipe of length 2 to 3 meters, with conical metallic shoe fitted at bottom &amp; fully painted with 20 cm. long colour bands of either of the following combinations. <b>Salient Features</b> a) Black &amp; White - size 2 meters b) Red &amp; White - size 3 meters</p>																					
11	<p>Metallic Tape 30 Meter</p>	05	<p>Tape consists of 12 to 15 mm wide</p>																					

			<p>strip of either Yarn coating or linen or cloth / or plastic coating. having very fine brass or copper or bronze wires. Woven into it to prevent it from elongation and twisting  Graduated in metric system. Each meter length is divided into decimeter and centimeters. It is available in various length. 30 meter length is in common use. The tape is available in a leather / suitable cover with a winding device. The Zero end of the tape is provided with a metal ring. 10 meters 15 meters 20 meters 30 meters 50 meters</p>
12	<p>Plane table surveying &amp; Accessories</p> 	04	<p>Plane Table Outfit are suitable for maps preparation and recording topography in various engineering surveys. This outfit consists of a plane table board with a fitted tripod. These outfits can work complete with standard accessories namely Trough compass, Telescopic alidade, Spirit level, Canvas cover, Plumbing Fork etc.</p>
13	<p>Leveling Staff</p> 	04	<p>Made of Aluminium body  Telescopic in 3 PCS, 4 meter in length packed in canvas cover, graduated in meters, dm, cm, and mm with background and black strips. 5 mm thick with suitable locking arrangement  Made of Aluminium body / Metallic Body folding in 2 PCS, 4 meter in length graduated in meters, dm, cm and mm. with white background and black strips. 5mm thick with suitable folding &amp; locking arrangement.  Improved soap with pattern is made of best quality well seasoned teak wood, Telescopic in three pieces, brass fitting and glued, thus greatly increasing its strength, stability and durability,  Accurately machine divided and engraved to read 5 mm. painted and polished.  Size 4 meters. Long  Size 5 meters. Long  Size 6 meters. Long.</p>
14	<p>Tachometer &amp; Accessories</p>	04	<p><b>Specification:</b>  5 digits 18 mm(0.6")white backlight LCD  Accuracy: <math>\pm(0.05\%+1\text{digit})</math>  Sampling Time: 0.5sec(over 120RPM)  Range Select: Auto-Switch</p>



Memory: Max. value, Min. value, Last value  
 Can store 96s data  
 Time Base: 6MHz Quartz crystal  
 Detecting Distance: 50~500mm  
 Power Consumption: Approx 55mA  
 Measuring range: 2.5~99999RPM  
 Resolution: 0.1RPM  
 (2.5~999.9RPM)  
 1RPM (over1000RPM)  
 Total Test Range: 1~99999  
 Frequency Range: 1~1666.6Hz  
 Resolution: 0.01Hz  
 Time Base Accuracy: 10x10<sup>-6</sup>(0~50°C)  
 Power: 3x1.5V AA battery

15 Auto level & Accessories



04

**Automatic Level**  
 Features  
 High resolution 32X telescope.  
 Horizontal tangent system with magnetically-damped compensation structure.  
 Excellent shockproof function with patent  
 Totally sealed structure for use in any weather  
 Exclusive closed magnetic field, magnetically - damped compensator  
 Reflector -type circular vial observation  
**Specification** Image - Erect  
 Magnification - 32X Effective  
 Objective Aperture - 42mm Field of view - 1°20' Minimum Focus - 0.4m  
 Multiplication constant - 100  
 Additive constant - 0 Compensator range - ±15 Compensator setting accuracy - ±0.3" Sensitivity of bubble - 10'/2 mm Horiz. circle-reading - 1° or 1 gon Standard deviation for 1 km double run levelling - 1mm Net Weight - 1.85 kg Center Screw type - M16&5/8"


16 Total station & Accessories




01



**Specifications of Total Station:**

Telescope	Image - erect Magnification - 30x Shortest distance - 1.7m
Distance Measurement	Laser class - class I - prism Class 3 r / reflector less Reflector less - 150 m (white 7odak) Range - 3 kms -


	single prism. Accuracy – 2 mm+2 ppm (prism) 3 mm+3 ppm (reflectorless) Measuring time: 1. 2 sec Accuracy: 1 mm	
	Angle Measurement	Accuracy: 2", 3", 5"
	Compensator	Dual axis compensator
	Optical plummet	Magnification : erect
	Laser plummet	Laser spot: adjustable laser class: class 2
	Display	Dual lcd display, 8 lines x 24 character, circular level
	Battery	Ni-mh battery
	Memory	Internal memory- 16000 pts
	Programs	Nez, stakeout, resection, rem / m/m / area / resection / setting out etc.

**(B)Concrete Lab –**



S. No.	Items	Quantity	Specification
1.	CTM 100 Ton Hand Operated cum electrical operated   <p style="text-align: center;">HAND - OPERATED      ELECTRICAL - OPERATED</p>	01	<ul style="list-style-type: none"> <li>• Force Accuracy: +/-1%</li> <li>• Test Force Range (KN): 40~1000</li> <li>• Loading speed(KN/S): 1~10</li> <li>• Pressure plate size(mm): 220</li> <li>• External Dimension(mm): 910*580*1800</li> </ul>
2.	Compaction Factor Apparatus for concrete testing	02	It consists of two rigid conical hoppers and a cylinder mounted on a rigid metal frame. The lower openings of the hoppers are fitted with hinged trap-doors having quick release catches. A circular metal plate is provided to cover

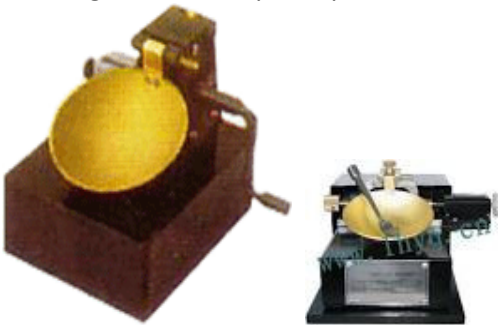

		<p>the top of the cylinder. Supplied complete with one plasterer's trowel and one tamping rod, 16mm dia x 600mm long, one end rounded.</p>
<p>3.</p>	<p>Beam Deflection testing Machine electrically operated</p> 	<p>01</p> <p><i>Nett dimensions and weight:</i> 2000 mm x 580 mm x 550 mm; 43 kg <i>Packed dimensions and weight:</i> 0.63 m<sup>3</sup>; 120 kg (approximately) <i>Deflection indicators:</i> Digital Indicators with sockets for connection to VDAS® <i>Load cell supports:</i> Fitted with digital indicators with sockets for connection to VDAS® <i>Five test beams supplied:</i></p> <ul style="list-style-type: none"> <li>• 3 steel: 3.2 mm, 4.8 mm and 6.4 mm thick (nominal)</li> <li>• 1 brass: 6.4 mm thick (nominal)</li> <li>• 1 aluminium: 6.4 mm thick (nominal)</li> </ul> <p>All beams are of nominal dimensions 19 mm wide x 1350 mm long</p> <p><b>SM1004a Specimen Beams:</b> <i>Nett dimensions and weight:</i> 600 mm x 15 mm x 310 mm; 3.5 kg <i>Packed dimensions and weight:</i> 0.036 m<sup>3</sup>; 4 kg (approximately) <i>Ten test beams supplied:</i></p> <ul style="list-style-type: none"> <li>• 4 steel (1 tapered)</li> <li>• 1 brass</li> <li>• 1 steel and brass compound</li> <li>• 2 aluminium (1 with channel cross-section)</li> <li>• 1 hardwood</li> <li>• 1 aluminium and wood compound</li> </ul> <p>All beams are of different dimensions and cross-section</p>
<p>4.</p>	<p>Rebound Hammer Test Apparatus &amp; Accessories</p>	<p>01</p> <p>Rebound Hammer – a spring-loaded steel hammer which when released strikes a steel plunger in contact with the concrete surface.</p> <p>Test anvil – a 6 inch diameter</p>






			<p>by 6 inch long high-carbon steel cylinder hardened to Rockwell 65-67 C.</p> <p>Abrasive stone – silicon carbide of medium grain texture.</p>
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**©Soil Lab –**



S. No.	Items	Quantity	Specification
1.	<p>Determination of bulk unit weight dry unit weight of soil in field by core cutter method as per IS Code</p> 	01	<p>:It consists one each of :</p> <p>Cylindrical core cutter made of steel, 127.3 mm long and 100mm internal diameter. Steel Dolley, 25 mm high with a lip to enable it to be located on top of the core cutter. Rammer with detachable steel rod.</p> <p>Spare, Optional Extra and Accessories:</p> <ol style="list-style-type: none"> <li>1) Cylindrical core cutter 100 mm I.D. x 175 mm long.</li> <li>2) Cylindrical core cutter 100 mm I.D. x 175 mm long.</li> <li>3) Cylindrical core cutter 100 mm I.D. x 175 mm long.</li> <li>4) Dolley.</li> <li>5) Test form pad of 50.</li> </ol>
2.	<p>Determination of bulk unit weight dry unit weight of soil in field by Sand replacement method as per IS Code</p> 	01	<p>SAND REPLACEMENT METHOD:</p> <p>Three sizes Available.</p> <p>10cm (Small Size) 15cm (Medium Size) 20cm (Large Size)</p> <ol style="list-style-type: none"> <li>1. 10cm (Small Size) :- Sand Replacement Method. Consists of Sand Pouring Cylinder, one calibrating container 10 cm dia &amp; a square tray of 30 cm x 30 cm</li> </ol>


			<p>with a central hole of 10 cm diameter. Relevant Standard : IS : 2720(Part-XXVIII)</p> <p>2. 15cm (Medium Size) : Sand Replacement Method. Consisting of Sand Pouring Cylinder container metal tray hole in the centre.</p> <p>3. 20cm (Large Size) : Sand Replacement Method. with calibrating container of 250mm internal depth, one metal tray 450 mm square and 50 mm deep with a 200 mm dia hole in the centre.</p>
<p>3.</p>	<p>Determination of Liquid limit &amp; plastic limit of given soil sample as per IS Code</p>  	<p>01</p>	<p><b>Plastic limit</b> The complete set consists of one each:- 1.Glass plate 20 cm x 15 cm having ground ends and one side frosted. 2.Brass or stainless steel rod 3 mm dia x 150 mm long. 3.Flexible spatula. 4.Set of 6 moisture containers. 5.Porcelaine basin 150 mm dia. 6.Plastic wash bottle 500ml.</p> <p><b>Liquid limit</b> It consists of a brass cup held on an adjustable bracket. The cup can be adjusted for a fall of 1 cm and can be raised and dropped on a rubber base of standard hardness by cam action. Complete with one casegrande grooving tool, one ASTM Grooving tool and a heigh gauge block</p>
<p>4.</p>	<p>Determination of Grain size distribution of given soil sample as per IS Code</p>	<p>01</p>	<p>The apparatus consists of a sliding panel which moves up and down by means of a screw allowing Anderson pipette fixed to it to be raised or lowered vertically. A sedimentation tube is held by a laboratory clamp</p>

		<p>provided on the stand below the pipette. The depth of immersion is measured by a scale graduated in mm at the side of the sliding panel. Supplied complete with Anderson pipette 10 ml. at the side capacity made from glass, and a sedimentation tube also of glass of 500 ml capacity and 50 Nos Test forms.</p> <p>Accessories &amp; Spares :</p> <ol style="list-style-type: none"> <li>1) Sedimentation pipette (Anderson pipette) 25ml.</li> <li>2) Sedimentation tube 1000ml.</li> <li>3) Sedimentation pipette 10ml.</li> <li>4) Sedimentation tube 500ml.</li> <li>5) Test forms pad of 50.</li> </ol>
<p>5.</p>	<p>Determination of Shear strength of soil using direct shear test. (Motorized)</p> 	<p>01</p> <p>Specifications : The apparatus comprises of the following:</p> <p><b>Loading Unit:</b>Supplied with load yoke with direct and lever system for applying load. Normal stress capacity 8 kg/sq.cm. Load is applied either directly or through a counter balanced detachable lever. Provision is made for the load to be applied either through a steel ball recessed in the loading pad or direct through a boss on the pre calibrated loading yoke, the loading unit is provided with V strips and roller strips for frictionless movement of shear box housing.</p> <p><b>Shear Box Assembly</b> :Comprising Direct Shear box in two halves for a square specimen size 60 x 60 x 25 mm one pair of plain gripper plates, one pair of perforated gripper plates, one pair of porous stones, one top loading pad. Shear box housing: Accommodates the Direct Shear Box assembly. Complete with two ball roller strips. Specimen Cutter: For cutting 60 x 60 x 25 mm specimen from larger samples. Set of weights to give a normal stress of 3 kg/sq.cm. through lever as follows: To give Kg/sq.cm. Qty. 0.05 4</p>

			<p>Nos. 0.1 1 Nos. 0.2 1 Nos. 0.5 3 Nos. 1.0 1 Nos.</p> <p>Complete set as above but without proving ring.</p> <p><b>Salient Features</b></p> <p>Essential Accessories : High sensitivity compression proving ring cap 200 kg One Consolidation dia gauge 0.01 mm x 25 mm and one strain dial gauge 0.01 mm x 25 mm and one strain dial gauge 0.01mm x 25 mm.</p> <p>Optional Extras : Additional set of weights to give a normal stress of 5 kg/cm<sup>2</sup>. Soil Sampler for 60 mm x 60 mm specimen and test form pad of 50. Spares: Porous stone for 60 mm x 60 mm size sample available in pairs.</p>
6.	<p>Determination of Shear strength of soil using Laboratory Vane shear test. (motorized)</p> 	01	<p>Soft and sensitive soils whose shear strength is less than 15 KN/m<sup>2</sup>, the results are dependent on operator's skill. Even pushing the sample tubes in soil may cause some disturbance.</p> <p>Experience shows that carefully controlled compression test results can be related to figures obtained by pushing a small vane in the soil and rotating it at a controlled rate and measuring the force, required for maximum resistance. Vane Shear Test can be conducted in a laboratory or in the field</p>
7.	<p>Determination of MDD &amp; OMC by standard Proctor test on given soil sample as per IS Code</p>	01	<p>Instrument consists one each of : Compaction Mold, gun metal/ M.S., 150 mm ID X 127.3 mm height volume 2250cc. complete with collar and base plate. Rammer 4. 89 kg x 450 mm controlled fall for heavy compaction test according to IS 2720 (Part - VIII). Note: instead of gun-metal molds, steel molds are also available.</p>


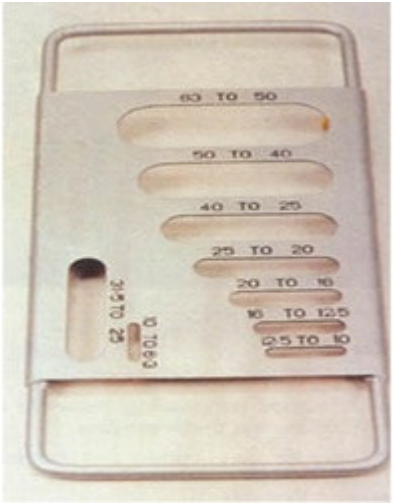

			
<p>8.</p>	<p>Determination of CBR value of given soil sample.</p> 	<p>01</p>	<p>Mechanical screw loading jack, 10,000 kg. capacity with U-bracket and swivel head. Penetration piston, 50 mm dia. threaded at the upper end. Extension rods consisting of 2 lengths 5 cm. 2 lengths 10 cm., 1 length 30 cm., 1 length 50 cm., and 1 length 100 cm., used as spacers between the proving ring and penetration piston. The lengths are machined from steel tubing. Connector set, has eight connectors for coupling the penetration piston and proving ring assembly either directly or through extension pieces. Dial gauge support of seamless pipe construction. It stands 30 cm high and 45 cm wide at the base. Provided with a quick release screw type clamp capable of sliding and locking anywhere along 2 meter length of the bridge. Supplied with annular metal weight 5 kg., 250 mm dia with 53 mm dia central hole, Slotted metal weight 5 kg., 215 mm to 250 mm dia with 53 mm dia slot, 2 Nos. Slotted metal weights, 10 kg., 215 mm to 250 mm dia with 53 dia slot 2 Nos.</p> <p>Accessories : Dial guage 0.01mm x 25mm. High sensitivity Proving Ring 5000kg. capacity with calibration chart and carrying case.</p>
<p>9.</p>	<p>Determination of Shear strength of soil using unconfined compressive strength. (motorized)</p>	<p>01</p>	<p>Consists of a spring operated load frame with arrangements for loading 38 mm x 76 mm samples, one set of four load springs of stiffness 0.2 kg, 0.4 kg, 0.8 kg, and 1.6 kg/mm, a calibrated mask and one set of 50 charts, in a metal carrying case.</p> <p>Spares &amp; Accessories : Charts,</p>

		<p>set of 50 Calibrated mask. Spring set comprising one each of stiffness 2 N/mm, 4N/mm, 8N/mm and 16 N/mm Coning toll for 38 mm sample (female) Coning toll for 38 mm sample (male) Tripod stand wooden, for using the instrument in field.</p>
<p>10.</p>	<p>Determination of Shear strength of soil using tri-axial shear test.</p> 	<p>01</p> <p>Specifications : The cell is useful for testing 38 mm dia x 76 mm high soil specimen. Transparent perspex chamber with anvil and loading plunger. The cell is easily opened by releasing four nuts of the tie rods. It is leakproof upto 10 kg/cm. sq. fluid pressure. An oil plug which can also be used as an air vent is provided for introducing a thin layer of oil over water. This provides effective sealing at the plunger for long duration test. The cell is fitted with four sleeve packed valves of no volume change type on the base. These valves are used for cell pressure, pore water pressure, drainage or back pressure. The loading plunger of the cell has a dial gauge rest.  Loading pad made of penspex for 38 mm dia specimes.  Pair of plain discs made of penspex 38 MMdia 6 mm thick.  Pair of porous stones 38 mm dia x 6 mm thick.  Split sand former for 38 mm dia specimen.  Sheath stretcher for 38 mm dia specimen.  One dozen rubber sheaths for 38 mm dia samples.  For synthetic rubber 'O' rings for 38 mm dia specimen.  One plastic drainage tube.</p>
<p>11.</p>	<p>Electric Oven</p>	<p>01</p> <p>Double walled construction fully made of stainless steel. The gap between the two walls filled with glass wool insulation.  Temperature controlled by Microprocessor based digital temp controller with PT 100 as sensor &amp; safety thermostat. Supplied with S. S. wire mesh shelves and</p>

			<p>silicon gasket on doors. Temp Range : 50 °C to 250 °C accuracy +/-2 °C</p> <table border="1" data-bbox="1026 220 1429 619"> <thead> <tr> <th>Chamber size In inches</th> <th>No of Shelves</th> </tr> </thead> <tbody> <tr> <td>12" x 12" x 12"</td> <td>2</td> </tr> <tr> <td>14" x 14" x 14"</td> <td>2</td> </tr> <tr> <td>18" x 18" x 18"</td> <td>3</td> </tr> <tr> <td>18" x 18" x 24"</td> <td>4</td> </tr> <tr> <td>24" x 24" x 24"</td> <td>4</td> </tr> <tr> <td>24" x 24" x 36"</td> <td>5</td> </tr> </tbody> </table> <p>Optional Accessories Forced Air circulating system with fan for better uniformity of Temperature S.S wiremesh shelves Electronic Digital Timer Range 0 to 999 minutes RS 485 for PC communication with Software Meta - Logger Single Channel Data logger with printing arrangement</p>	Chamber size In inches	No of Shelves	12" x 12" x 12"	2	14" x 14" x 14"	2	18" x 18" x 18"	3	18" x 18" x 24"	4	24" x 24" x 24"	4	24" x 24" x 36"	5
Chamber size In inches	No of Shelves																
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18" x 18" x 18"	3																
18" x 18" x 24"	4																
24" x 24" x 24"	4																
24" x 24" x 36"	5																
12.	<p><b>Moisture Tin</b> To determine moisture contents in soil and other material. These are made from aluminium or stainless steel. Sizes available are :</p> <ul style="list-style-type: none"> <li>(a) 25 mm dia</li> <li>(b) 50 mm dia</li> <li>(c) 75 mm dia</li> <li>(d) 80 mm dia</li> <li>(e) 100 mm dia.</li> </ul>	10	<p>To determine moisture contents in soil and other material. These are made from aluminium or stainless steel. Sizes available are :</p> <ul style="list-style-type: none"> <li>(a) 25 mm dia</li> <li>(b) 50 mm dia</li> <li>(c) 75 mm dia</li> <li>(d) 80 mm dia</li> <li>(e) 100 mm dia.</li> </ul>														

**(D) Material Technology –**

S. No	Items	Quantity	Specification
1.	<p>Test on Aggregate Sieve set for Fine &amp; Coarse Aggregate with Sieve Shekar</p>	01	<p>Specifications: Carries upto 7 sieves of 150mm or 200mm diameter. The shaker is driven by a 1/4 h.p. motor through a reduction gear immersed in oil. The sieve table does not rotate but is inclined from the vertical axis and the direction of inclination changes progressively in clockwise direction. If the stop-pin</p>

			<p>below the table is removed, the shaker can have a rotary motion. In addition to this gyratory motion of the table, there is an upward &amp; downward movement ensuring that each square cm of the sieve is utilised. A pair of rods and a holder are supplied. The holder can be fixed on the top of the upper most sieve, and thus the sieve set is firmly held. Suitable for operation from 230 volts, 50 cycles phase, A.C. supply. Nett weight approx. 77 kgs.</p>
2.	<p>Flakiness Index Apparatus</p> 	02	<ul style="list-style-type: none"> <li>• Accuracy: <math>\pm 1-3\%</math> or <math>\pm 2.5\mu\text{m}</math></li> <li>• Min. Sample Thickness: 0.3mm</li> <li>• Min. Measuring Area: 6mm</li> </ul>
3.	<p>Elongation Index Apparatus</p> 	02	<ul style="list-style-type: none"> <li>• Dimension (mm): 396 (L) x 84 (W)</li> <li>• Approx. Weight: 1.2 kg</li> </ul>
4.	<p>Crushing Test Apparatus for Aggregate</p>	01	<ul style="list-style-type: none"> <li>• Hand Leand Tamping Road: 7.5 cm diam</li> <li>• Size: 75mm</li> <li>• Cylindrical Container: 150mm mm dia x 130mm to 140mm</li> </ul>



			
5.	<p>Impact Test Apparatus for Aggregate</p> 	01	<ul style="list-style-type: none"> <li>• Drop Height: 300-1500 mm</li> <li>• Specimen Max Weight: 85 kg</li> <li>• Specimen Max Size: 1000×1000×800 mm</li> <li>• Motor power: 0.65 KVA</li> </ul>
6.	<p>Los Angle Electrically Operated Machine</p> 	01	<p>Consists of a hollow steel cylinder, closed at both ends, having an inside diameter of 700mm and inside length of 500mm. The cylinder mounted on a sturdy frame on ball bearings. The opening is closed dust tight with a removable bolted cover in place. A detachable shelf which extends through the drum catches the abrasive charge and does not allow it to fall on the cover. The drum is rotated at a speed of 30-33 RPM by an electric motor through a heavy duty reduction gear. Fitted with revolution counter and push button starter. Supplied complete with a tray for collection of the material. Abrasive charge consists of set of 12 Nos. cast iron spheres or steel spheres (hardened steel balls) approximately 48mm diameter each weigh between 390-445 gram. Complete as above.</p>
7.	<p>Vicat Apparatus &amp; Accessories</p>	03	<ul style="list-style-type: none"> <li>• Vicat Mould: 70mm in dia.</li> <li>• Base Size: 50mm</li> <li>• Top Size: 40mm</li> <li>• Initial Needle: 1.13 mm dia.</li> <li>• Final Needle: 1.13 mm dia.</li> </ul>

			
8.	<p>Tensile Strength Testing Machine</p> 	01	<ul style="list-style-type: none"> <li>• Suitable for tensile tests upto 1200 lbs</li> <li>• Double scale 100 lbs x 1 lb and 50 kg x 0.5 kg</li> <li>• 10 kgs of lead shots</li> <li>• Weights comprising 4 ozs, 8 ozs, 12 ozs and 1 lb. 4 ozs</li> <li>• Second set of weights comprising 125 gms, 500 gms and 750 gms</li> </ul>
9.	<p>Jar Set</p> 	02	Calibrated plastic jar capacity 1000ml
10.	<p>Steel Tray</p>  <p>(a)</p> <p>(b)</p>	01	<p>Steel tray</p> <p>i) (a) Size 3x2 feet</p> <p>ii) (b) Size 3x2 feet</p>
11.	<p>Le-Chatelier Apparatus</p>	02	<ul style="list-style-type: none"> <li>• Material: Metal</li> <li>• Net weight: 30g</li> <li>• Blank Loading: 10mm</li> <li>• Max Expansion Between</li> </ul>

			<p>Pins Under 300g Pressure:  <math>\leq 17.5 \pm 2.5 \text{mm}</math></p>
12.	<p>Slump Test Apparatus</p> 	02	<ul style="list-style-type: none"> <li>• Top Size: 10cms Dia.</li> <li>• Bottom Size: 20cms Dia</li> <li>• Height: 30cm</li> <li>• Graduated Steel Rod: 16mm dia x 600mm</li> </ul>
13.	<p>Cube Test Mould</p> 	01 set	<ul style="list-style-type: none"> <li>• Material: Metal</li> <li>• Dimension: 100 mmx100 mmx100 mm</li> <li>• Cylinder Mould: 150*300mm</li> </ul>
14.	<p>Balance 40kg weight</p> 	01	<ul style="list-style-type: none"> <li>• Least count 10gm</li> </ul>