



SRI VENKATESWARA COLLEGE OF ENGINEERING & TECHNOLOGY

R.V.S. NAGAR, CHITTOOR - 517127

DEPARTMENT OF CIVIL ENGINEERING

MECHANICS OF SOLIDS LABORATORY EQUIPMENT LIST

S.NO.	Name of the Equipment	QTY	Rate (Rs - Ps)	Total Amount (Rs -Ps)
1.	Universal Testing Machine 400KN Capacity model UTN-40 Extra accessories for the above:	1	2,52,935.00	2,52,935.00
	a) Shear Test Attachment with dies for 5,8,12,16&20mm Diameter round jobs.	1 Set	12,350.00	12,350.00
	b) Extension meter model EM-1 maximum extension 3mm Resolution 0.01mm Gauge length 30-120mm Diameter of Specimen 1-20mm thickness maximum width 20mm.	1	21,940.00	29,940.00
	Universal testing machine FIE make 400 KN capacity Digital			
	i) Load Cell (Pressure Transducer) : to read load strain gauge type with accuracy of 1% as per BIS 1828 (Part – I) – 2005 with 20000 counts from 0 to maximum load capacity			
	ii) Encoder : to measure displacement – rotary type giving linear motion with least count 0.04mm			
	iii) Control panel : Electronic measuring console with RS232 serial port to give digital and graphical out put	1	2,61,060.00	2,61,060.00
	iv) Soft ware : Menu driven , windows type for both out in puts and out puts results especially for tensile strength , ultimate load , yield point , cross head travel / extension on line graph etc.			
2.	Impact Testing Machine FIE Impact Testing Machine Model	1	51,825.00	51,825.00
3.	Torsion Testing Machine: FIE Torsion Testing Machine 6kg M Capacity Model tt-6.	1	96,560.00	96,560.00

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S.NO.	Name of the Equipment	QTY	Rate (Rs - Ps)	Total Amount (Rs -Ps)
4.	Hardness Tester Saroj Rock Well Cum Brinell Hardness tester Model RAB- 250.	1	24,935.00	24,935.00
5.	Spring & Wire Testing Machine KMI Spring Testing Machine 2500N Capacity Model 1.3D with one set of Grip for testing in Tension Wire & Fixture for testing in compression.	1	58,730.00	58,730.00
6.	Compression Testing Machine Electrical cum hand operated capacity of 200KN with three pressure gauges loading unit Pillar model with 12 concrete cube moulds	1	1,38,400.00	1,38,400.00
7.	Simple supported & Fixed beam load frame for deflection test with wooden beams, wooden supports, dial gauges (L.C.0.01mm, travel length 25mm) with magnetic base & weights	1	16,794.00	16,794.00
Grand Total			9, 35,529.00	9, 35,529.00



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DEPARTMENT OF CIVIL ENGINEERING

FLUID MECHANICS & HYDRAULIC MACHINES LABORATORY EQUIPMENT LIST

S.NO.	Name of the Equipment	QTY	Rate (Rs --Ps)	Total Amount (Rs -- Ps)
1.	Triple closed circuit apparatus for verification of Bernoulli's theorem.	1	30,360.00	30,360.00
2.	Triple closed circuit apparatus for determination of coefficient of discharge velocity & contraction of orifice and coefficient of discharge of mouthpieces.	1	34,320.00	34,320.00
3.	Triple closed circuit apparatus for determination of coefficient of discharge of notches.	1	32,160.00	32,160.00
4.	Triple closed circuit pipe friction apparatus for determination of frictional losses in pipelines.	1	30,360.00	30,360.00
5.	Triple closed circuit calibration testing for measuring discharge of water through a Venturimeter and orifice meter.	1	38,280.00	38,280.00
6.	Triple closed circuit Single speed centrifugal pump test rig.	1	38,280.00	38,280.00
7.	Triple closed circuit Pelton turbine test rig.	1	1,35,120.00	1,35,120.00
8.	Triple closed circuits apparatus for measuring force due to impact of water on vanes of different speeds.	1	32,520.00	32,520.00
9.	Francis turbine test rig with 15HP kirloskar pump test panel switch, starter & energy meter, pipeline, manometer and a fiberglass lined M.S. reservoir tank.	1	1,000,00.00	1,000,00.00
10.	Reciprocating pump test rig with 1HP kirloskar motor, Suguna pump panel board with switch. Fiberglass lined M.S. reservoir tank.	1	24,640.00	24,640.00
11.	Closed Circuit /Multi Stage (Two stage)/ Multi Speed/ Centrifugal Pump Test rig	1	72,600.00	72,600.00
12.	Closed Circuit apparatus for measuring losses in pipelines due to Bends, Elbows, Sudden Expansion and Sudden Contraction	1	37,500.00	37,500.00
13.	Open Channel apparatus for study of Hydraulic Jump(2.5m)	1	99,600.00	99,600.00
14.	Turbine flow meter test rig	1	28,125.00	28,125.00
	Grand Total		7,33,865.00	7,33,865.00



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DEPARTMENT OF CIVIL ENGINEERING

SURVEYING LABORATORY EQUIPMENT LIST

S.No	Item	Qty	Rate	Amount (Rs.)
1	Engineer's Survey Chains : 20 Mts			
	Chain having 100 links, confirming to ISI Specifications, made of GS wire 8 SWG having strong Brass handles at the both ends & metallic tallies at every two links, tied with nylon Belt. + 10 arrows	2	450	900
2	Engineer's Survey Chains : 30 Mts			
	Chain having 150 links, confirming to ISI Specifications, made of GS wire 8 SWG having strong Brass handles at the both ends & metallic tallies at every two links, tied with nylon Belt. + 10 arrows	10	500	5000
3	Gunter Chain : 66 Feet			
	having 100 links measurement as per British unit size made of GS Wire 8 SWG having strong Brass handles at the both ends & metallic tallies, tied with nylon Belt.	1	700	700
4	Revenue Chain : 33 Feet			
	Made of GS wire 8 SWG having strong Brass handles at the both ends & metallic tallies, tied with nylon Belt.	1	700	700
5	Ranging Rod : 3 Meters			
	Made of conduit pipe 20 SWG of 31 mm Dia, Alternately painted Orange & White. The bottom end of the Ranging Rod shall be fitted with well pointed solid MS shoe. The Rod is detachable in 3 Pieces & Packed in a nice cover.	50	300	15000
6	Ranging Rod : 4 Meters			
	Made of conduit pipe 20 SWG of 31 mm Dia, Alternately painted Orange & White. The bottom end of the Ranging Rod shall be fitted with well pointed solid MS shoe. The Rod is detachable in 4 Pieces & Packed in a nice cover.	10	400	4000
7	Cross Staff :			
	Cross Staff made of Aluminum with size of 100 mm X 100 mm X 50 mm having 5 mm depth cross slots, Nicely Polished Accurately machined divided in 4 equal squares complete with strong solid MS Pole - Dia 5/8".	10	500	5000
8	Prismatic Compass :			
	Prismatic Compass, made of full brass and aluminum circle, accurately machine graduated to 0.5 degree with agate stone bearing fitted with automatic lifter, with sliding lenestic prism fitted with Red & Green filter glasses and reflecting mirror. Nicely p	10	1100	11000
9	Surveyor's Compass :			
	Surveyor's Compass made of full brass with 2 folding sight vanes, fixed aluminum graduated dial, properly machine graduated to 0.5 degree, fitted with 2 cross bubbles placed in Leather cover Size : 100 mm dia, with Telescopic Aluminum Tripod	2	1450	2900

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10	Plane Table :			
	Made of well seasoned pine wood, with highly polished strong batons at the back fitted with brass screws & washers. A strong circular Brass Plate is fitted at the Back of Plane table for clamping on the Highly Polished Teak wood tripod, fitted with strong	10	3950	39500
	Accessories : (One Each)			
a	Alidade:- Made of Brass sheet, heavy, quality, be-well edged and accurately graduated fitted with strong brass vanes on the ends, chromium plated, size 600mm			
b	Magnetic Compass : Rectangular Pattern, made of full Brass, Graduated with properly magnetized needle having agate stone bearing to rest free point, Nicely painted size 150 mm			
c	Engineer's Level (Spirit Level) : Made of Brass size 150 mm			
d	Plumbing Fork : Made out from Brass sheet heavy pattern, nicely spray painted			
e	Plumb Bob : - Made of Brass, bright buff polished			
f	Canvas cover :- Made of Water proof canvas for plane table board & Stand			
11	Telescopic Alidade			
	Made of Brass sheet, heavy, quality, be-well edged and accurately graduated fitted with strong brass vanes on the ends, chromium plated, size 600mm with 225 mm Telescope.	1	2500	2500
12	Aluminum Leveling Staff : Size 4 Mts	10	900	9000
13	Aluminum Leveling Staff : Size 5 Mts	2	1100	2200
14	Dumpy Level: Engineer's Level conforming to ISI specification No. 5090-1967. Telescope internal focusing type, mounted on vertical Axis. A spring loaded slow motion for its fine setting in altitude, Provided with gratitude having stadia line and red by Eye- pieces with coated objective, with the following specifications along with Aluminum Telescopic tripod stand of high quality.	10	4250	42500
	Bubble: The tubular bubble shall be so mounted that it is adjustable both parallel and in line of sight of the telescope with reflector. A Circular Bubble provided on the plain surface of the instrument for quick pre-leveling			
	Vernier : The Horizontal circle is provided with a vernier and setting knob for accurate alignment to an accuracy of 6 min.			
	Gradient Adjustment: Instrument fitted with graduated drum should be adjusted for gradient or elevation and depression.			
	Technical Data			
	Stadia : 1 : 100			
	Reading : Direct (Erect)			
	Telescope Length : 225 mm			
	Bubble : 30 sec per 2 mm			
	Horizontal Circle : 360 Degrees			
	Vernier : 6 minutes			
	Telescope Power : 26 x			
	Objective : 40 mm			
	Wooden/ Plastic carrying Box to place the dumpy level and canvas cover to place the stand.			
15	Dumpy Level: With Invert Image & with the specifications as listed in item No.14	1	3800	3800
16	Transit Vernier Theodolite: Erect image theodolite having accuracy of 20 seconds, with Optical Plummet & hook for plumb bob.	10	8500	85000

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17	Transit Vernier Theodolite: Invert image theodolite having accuracy of 20 seconds, with Optical Plummet & hook for plumb bob.	1	8200	8200
18	Planimeter : Stenlay type planimeter in metric division packed in Rexene covered wooden box, size : 710 mm.	1	675	675
19	Box Sextant	1	1250	1250
20	Fiber Tapes Free man Brand 30 Mtrs	10	295	2950
21	Hammer Half pound weight with Company Handle	10	65	650
22	Metallic Pegs Dia 18 mm MS Rod of Length 15 cm to 30 cm	100	0	0
23	<u>NTS355 SOUTH TOTAL STATION</u> Having 30x Magnification, 1" Least Count and 2" Accuracy, Distance Measuring Range of 1.8Km. with Single Prism, Alphanumeric Key Board (Dual Display) 17000 POINTS INTERNAL MEMORY, Road Alignment Programme along with all standard accessories:- Battery Charger (01 No.), Batteries (01 Nos.), Operation Manual (01 No.), Tool Kit (01 No.), Carrying Case (01 No.), Plumbob (01 No.), Data Downloading Cable (01 No.) Data Downloading Software (01 No.), PRISM with HOLDER & TARGET (01 No.), PRISM POLE (01 Nos.) & HEAVY DUTY ALUMINUM TRIPOD (01 No.)	3	1,04,000.00	3,12,000.00
24	<u>NL 28X AUTOMATIC LEVEL</u> Having 24x Magnification, Accuracy +2mm Image Erect, Effective Objective Aperture 42mm, Min. Focus 0.4m, Field Of View 1 deg. 20 minute, Multiplication Constant 100, Additive Constant 0, Compensator Range +15', Compensator Setting Accuracy +0.6" including Tripod, Leveling Staff, Toolkit, Operation Manual, Carrying Case, Plum bob.	3	8,840.00	26,520.00
25	<u>Distance Meter (Leica Disto X310</u>	1	13,500	13,500
26	<u>Electronic Theodolite (South) with Aluminium Tripod</u>	1	45,114	45,114
27	<u>Clinometer</u>	02	850	1,700
28	<u>Abney Level</u>	02	1,450	2,900
29	<u>Pentagraph</u>	02	2,400	4,800
30	<u>Line Ranger</u>	02	450	900
Grand Total				Rs.6,50,859/-

**GEO TECHNICAL ENGINEERING LABORATORY**
EQUIPMENT LIST

S.NO.	Name of the Equipment	QTY	Rate (Rs --Ps)	Total Amount (Rs -- Ps)
1.	Liquid limit Device (Motorised) Conforms to IS :2720 Complete with a revolution counter and motor to give 120 R.P.M. Wired for 230V,sph,50Hz.	1 No	Rs.7,500-00	Rs.7,500-00
2.	Consolidation Apparatus(Three Gang) The odeometer outfit Conforms to IS:2720 It comprises of: A loading frame of 20Kg/cm ² capacity with a loading yoke and lever arm (lever ratio 1:10) complete with the counter balancing adjustments. A fixed ring consolidation cell for a 60mm.diameter*20mm.thick specimen, complete with two porous stones, pressure pad cutting ring and an acrylic tube, water reservoir with tubing and connectors is provided .it also includes a dial gauge of 0.002mm*5 mm travel , a set of weights to give a stress intensity of10Kg./cm ² on a 60mm.diameter specimen ,comprising of 7*0.05Kg/cm ² ,5*0.1Kg./cm ² ,6*0.2Kg./cm ² , 6*0.5Kg./cm ² and5*1Kg. /cm ² . It comprises of three units mounted on a single frame.	1 No	Rs.1,13,550-00	Rs.1,13,550-00
3.	Loading Frame (Motorised) Bench type – 50kN capacity with a single speed of 1.25 mm. / min. wired for 230V.,sph. 50Hz.	1 No	Rs.34,690-00	Rs.34,690-00
4.	Universal sample extractor, Hand Operated (Vertical) It comprises of: Adapter plates and plunger plates for 37.5mm,75mm, 100mm and 150mm.diameter specimens. A stand to obtain 3 nos. 37.5mm.diameter specimens from a 100mm.diameter specimens from a 100mm diameter specimen.	1 No	Rs.18,980.00	Rs.18,980.00
5.	Universal sample extractor,Hand Operated (Horizontal) For 50mm.diameter samples with suitable adaptor for 37.5mm, diameter sample.	1 No	Rs.6,300-00	Rs.6,300-00

6.	Standard test sieves, 200 mm dia, 700/- Each Sieve Spun Brass frame. (4.75 mm, 2.36 mm, 1.18 mm, 600 Mic, 425 Mic, 300 Mic, 150 Mic, 75 Mic. Pan and Lid)	02 Sets.	7,000/-	14,000/-
7.	Pycnometer Test is performed as per IS: 2720 (Part-III). Suitable for determination of specific gravity of sand and fine gravel. The apparatus consists of a glass jar of 1 kg capacity, complete with brass cone, rubber seal and screwed cap.	6	600/-	3,600/-
8.	Shrinkage Limit Apparatus The apparatus conforms to IS: 10077, and the test is performed as per IS: 2720 (Part VI). The set consists of :- i) 75 mm square Prong Plate made of 3 mm thick acrylic sheet with three metal prongs. ii) 75 mm square Plain Plate made of 3 mm thick acrylic sheet. iii) Stainless Steel Shrinkage Dish 45 mm in dia, 15 mm deep. iv) Glass cup with ground edge, 50 mm to 55 mm dia, 25 mm deep. v) Flexible Spatula with 80 mm long, 20 mm wide blade.	1	1,800/-	1,800/-
9.	Field Density Kit IS:2720 (Part XXIX) The kit consists of :- i) Cylindrical core cutter 100 mm inner dia x 130 mm long with bevelled cutting edge and having wall thickness of 3 mm. ii) Steel dolley 100 mm inner dia x 25 mm high. iii) Rammer with steel rod for driving the core cutter.	2	2,400/-	4,800/-
10.	Sand Pouring Cylinder (Small) The apparatus is suitable for field density estimation of fine and medium grained soils, as per IS: 2720 (Part XXVIII). It consists of: i) Sand Pouring Cylinder 115 mm internal dia with conical funnel and shutter. ii) Calibrating Container, 100 mm inner dia and 150 mm deep with flange 50 mm wide. iii) Metal tray 300 mm square x 40 mm deep with a 100 mm dia hole at the centre.	2	3,000/-	6,000/-
11.	CBR Mould of 150 mm IS x 175 mm high with clamping lugs completed with extension collar and perforated base plate made of gun metal.	3	8,000/-	24,000/-
	A cutting collar to fit mould body.	1	1,000/-	1,000/-
	A penetration piston assembly of 50 mm diameter and a bracket for the dial gauge.	1	450/-	450/-
	A perforated swell plate of 148 mm diameter with an adjustable stem and lock nut.	1	1,100/-	1,100/-

	A circular spacing disc of 148 mm diameter x 47.7 mm diameter high complete with a removable T handle.	1	675/-	675/-
	A metal tripod for the dial gauge.	1	450/-	450/-
	Surcharge weight annular 2.5 kg, 147 mm diameter	1	650/-	650/-
	Surcharge weight slotted 2.5 kg, 147 mm	1	650/-	650/-
	Proving ring 10 kN capacity.	1	14,000/-	14,000/-
	Dial gauge 0.01 mm x 25 mm travel	1	2,400/-	2,400/-
12	Permeability Apparatus IS: 2720 (Part-17), IS 11209 Compaction Permeameter Mould 1000 ml capacity, clamped between top and bottom drainage plates having recess for porous stones. Supplied along with a false bottom plate for use during compaction of soil in the permeameter and extension collar.	1	18,000/-	18,000/-
13	Laboratory Permeability Apparatus IS: 2720 (Part-17), IS 11209 It comprises:- i) Compaction Permeameter Mould 1000 ml capacity, clamped between top and bottom drainage plates having recess for porous stones. Supplied along with a false bottom plate for use during compaction of soil in the permeameter and extension collar. ii) Stand pipe panel, with three glass tubes of 6 mm, 10 mm and 20 mm dia, one meter long, supplied with wooden meter scale and 3 meter rubber tubing.	1	22,000/-	22,000/-
14	Unconfined Compression Apparatus (Motorized, Proving Ring Type) Load Frame Motorised with a single speed of 1.25 wired for 230 V, 50 hz. (5000 Kg.(50 kN) Capacity The unconfined compressive strength test performed as per IS : 2720 (part X). i) Screw jack with frame and dial gauge holder ii) Set of upper and lower platens, 150 mm dia. iii) Proving Ring Adapter. Supplied complete with proving ring and dial gauge.	1	55,000/-	55,000/-
15	(spl) Direct Shear Apparatus, 3 speed, Motorised IS : 2720 (Part XIII) IS:11229 It comprises :- i) Shear box assembly, 60 mm square, complete with a U-bracket, guide pins and spacing screws, made of brass. ii) Gripper assembly consisting of two plain grid plates, two perforated grid plates, one base plate and one loading pad, all made of brass. iii) Two porous stones, each 6 mm	1	75,000/-	75,000/-

	<p>thick, fitting the shear box</p> <p>iv) Shear box housing of brass, complete with two ball roller strips.</p> <p>v) Loading unit with normal loading of 8 kg/cm² on 60 mm square specimen.</p> <p>vi) Specimen cutter for a specimen size of 60 mm x 60 mm x 25 mm.</p> <p>vii) The unit is provided with a turret type gear box to get 3 different constant rates of strain and arrangements to carry out residual shear strength tests.</p> <p>Supplied complete with 1 No. proving ring and 2 Nos. of dial gauge of 0.01 x 25 mm.</p>			
16	Direct shear mould with accessories (without loading frame)	2	5,000/-	10,000/-
17	<p>TRIAxIAL CELL FOR 38/50 MM * 76/100 MM HIGH SPECIMEN.</p> <p>Suitable for lateral pressure upto 10.5 kg/cm² the cell has four take off position drilled in the base for cell pressure and for top and bottom drainage. Fitted with 3 no volume change valves and one dead end plug. Supplied complete with one loading pad, two porous stones, one sheath stretcher, one split sand former, 10 latex rubber sheaths and four sealing rings for 38 & 50 mm dia samples.</p>	1	24,000/-	24,000/-
18	<p>Laboratory Vane Shear Apparatus, Motorized</p> <p>Torque head is electrically driven by a small reduction geared motor with a strain rate of 6° per minute approximately.</p> <p>ii) A set of four springs, one each of 2 kg cm, 4 kg cm, 6 kg cm and 8 kg cm.</p> <p>iii) A vane of size 12.0 x 24.0 mm long with a vane rod.</p> <p>iv) Specimen container to take a specimen of 50 mm dia x 75 mm high.</p> <p>v) Wooden carrying case for the complete apparatus.</p>	1	24,000/-	24,000/-
19	<p>Sieve Shaker, Motorised</p> <p>Having a sturdy cast iron body, the shaker has an inclined sieve table which can accommodate a maximum of seven sieves of 200 mm dia. An adjustable top clamping plate is provided to hold the sieves. The table has a gyratory motion in addition to up and down jolting action. The operating gear assembly is enclosed in an oil bath fitted with a transparent oil level indicating window. Suitable for operating on 220 v, 50 Hz, single phase supply.</p>	1	32,000/-	32,000/-
20	<p>High Speed Stirrer</p> <p>The test is performed as per IS:2720 (Part- IV).The unit comprises of :-</p> <p>i) A mechanical stirring device, fitted with a motor which rotates a vertical shaft having a stirring pedal at a speed</p>	1	12,000/-	12,000/-

	of 8000 to 10,000 r.p.m. ii) Dispersion cup made of brass. iii) Baffle for use with dispersion cup.			
21	Sampling tube (steel) 38 mm diameter x 200 mm long.	6	600/-	3,600/-
22	Proving Ring 1000 kg capacity	1	14,000/-	14,000/-
	Proving Ring 500 kg capacity	1	14,000/-	14,000/-
	Proving Ring 200 kg capacity	2	13,000/-	26,000/-
	Proving Ring 100 kg capacity	2	13,000/-	26,000/-
23	Split Spoon Sampler, with Liner Similar to HS34.80 except that the inner diameter of split barrel is increased to accommodate a brass liner. Supplied with one liner, 35 mm I.D. and 38 mm O.D	1	6,800/-	6,800/-
24	Auger outfit (Helical Type) for 38 mm Diameter Holes Complete with one meter long extension rod, steel handle and tee piece.	1	2,200/-	2,200/-
25	Auger Outfit (Post Hole type) with 100 mm Diameter Auger Head Complete with one meter long extension rod, handle and a tee piece.	1	2,500/-	2,500/-
26	I S Proctor compaction apparatus (Light) Compaction Mould 100 mm internal dia x 127.3 mm height, 1000 ml volume complete with collar and base plate, all made of gun metal tie rods of mild steel and wing nuts for clamping.	3	4,000/-	12,000/-
	Compaction rammer, light, made of mild steel 2.6 kg weight, 50 mm dia compaction face, and 310 mm controlled free vertical fall.	2	2,000/-	4,000/-
27	Compaction rammer, heavy, made of mild steel 4.89 kg weigh, 50 mm dia compacting face, 450 mm controlled free vertical fall.	1	2,400/-	2,400/-
	Grand Total			6,42,095.00



ENVIRONMENTAL ENGINEERING LABORATORY
EQUIPMENT LIST

S.NO.	Name of the Equipment	QTY	Rate (Rs --Ps)	Total Amount (Rs -- Ps)
1.	Micro Controller based pH meter with temperature probe, combined electrode (CL – 51B)	1	7,200.00	7,200.00
2.	Nephelometer/ Turbidity meter.	1	11,900.00	11,900.00
3.	Dissolved Oxygen Analyser: with Magnetic Probe (GI-631), DO Probe and Temperature Probe.	1	11,900.00	11,900.00
4.	Conductivity Meter with Conductivity Cell (CC 03)	1	12,500.00	12,500.00
5.	µp based UV-VIS Spectrophotometer with RS 232 interface and two Quartz Cuvettes	1	1,07,000.00	1,07,000.00
6.	<p><u>KEMI HOT AIR OVEN-BOTTOM HEATED (THERMOSTATIC –EGO GERMAN MAKE)</u> Double wall chambers inner made of SS and outer of Mild Steel sheet duly powder coated with 2½” thick glass wool insulation. Temperature is controlled by an imported thermostat with an accuracy of +/-1°C and working temperature of above 50°C to 250° C and without thermometer. HOT AIR OVEN : Thermostatic : KEMI</p>	1 Unit	21,500-00	21,500-00
		1 Unit	25,900-00	25,900-00
7.	<p><u>KEMI B.O.D INCUBATOR [COOLING INCUBATOR]</u> Most versatile for Biochemical Oxygen Demand determinations. These Cooling Incubators are designed especially for close control of incubation /storage temperatures.</p>	1 Unit	57,800-00	57,800-00

These are used for BOD test, storage of sensitive cultures, vaccines etc; culture of bacteria microorganism and plant life; serum incubation studies and immunological work etc. There is provided illumination inside the working chamber with the help of CFL. Double wall construction, inner made of SS and outer M.S beautifully powder coated with adjustable trays. The instrument is having CFC free refrigeration and heating system with powerful Air circulation for creating positive airflow throughout the working chamber. The unit having a temperature range from 5 ° C to 60 ° C with an accuracy of +/- 0.5 ° C. Temperature is controlled by Kemi make Micro Processor Digital Temperature Controller cum Indicator.

[B] Inner chamber S.S.

Mo del No.	Volu me	Inner Chamber [W X D X H]	Capacit y	No. of shelv es
KB OD- 6S	150 Ltrs	490 x 460 x 1010 mm	6 Cft.	3

8.

KEMI MUFFLE FURNACE
 Rectangular electric furnace with light weight and fast heating system, the body made of thick mild steel sheet duly powder coated with iron angles. The maximum temperature of 1000°C and working temperature of 900°C, controlled by Energy Regulator, fitted with Pyrometer and thermocouple with ceramic wool insulation.

Model No:	Chamber Size	Watts
KMF-2	5"X5"X10"	2.5K.W

Including Micro Processor based Digital Temperature Controller.

1 Unit

19,900-00

19,900-00

9.

KEMI WATER BATH RECTANGULAR (RING TYPE) THERMOSTATIC [EGO GERMAN MAKE]
 Double walled construction outer made of MS duly powder coated and inner chamber with Top Lid made of SS. The gap between the walls insulated with glass wool and supplied without thermometer. Fitted with imported thermostat [EGO GERMAN MAKE] and working temperature from

1 Unit

8,000-00

8,000-00

	ambient +5°C to 80°C having an accuracy of +/-1° C with concentric rings											
	<table border="1"> <thead> <tr> <th>Model No:</th> <th>Size</th> <th>Capacity</th> <th>Watts</th> </tr> </thead> <tbody> <tr> <td>KWB-220</td> <td>355x405x100 mm (12holes of 75mm dia)</td> <td>15Ltr</td> <td>2000 W</td> </tr> </tbody> </table>	Model No:	Size	Capacity	Watts	KWB-220	355x405x100 mm (12holes of 75mm dia)	15Ltr	2000 W			
Model No:	Size	Capacity	Watts									
KWB-220	355x405x100 mm (12holes of 75mm dia)	15Ltr	2000 W									
10.	<p><u>KEMI HOT PLATE –RECTANGULAR (With Energy Regulator)</u> Heavy MS Body beautifully powder coated with SS or MS Top, fitted with Energy Regulator and Rotary Switch supplied complete with cord and plug to work on 220/230VAC[Temperature - 250°C - 300°C approx]. S.S Top</p> <table border="1"> <thead> <tr> <th>Model No:</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>KHPE-3SS</td> <td>300mm x 450mm</td> </tr> </tbody> </table>	Model No:	Size	KHPE-3SS	300mm x 450mm	1 Unit	7,000-00	7,000-00				
Model No:	Size											
KHPE-3SS	300mm x 450mm											
11.	<p>Floculator : (Jar Testing App.) Kemi Make It is used in water treatment plants to estimate the dosing of alum and such other coagulation. All these stirrers are connected to the gear chain assembly by collect check arrangement, regular speed 25 to 300 RPM Size : 1/8HP, 0-300RPM, 6nos Multi Spindle</p>	1 Unit	23,900-00	23,900-00								
12.	<p>C.O.D. Apparatus : Guna OR Inlab Make The unit consists of a compact rectangular box section of light metal alloy, housing the heating elements and built in energy regulator controls. The flexible and elastic heating elements ensure closer contact with the flask surface even distribution of heat over the contact surface which minimizes the leakage of glassware. High thermal insulation of glass wool backing the heating elements, minimizes the heat loses # Every flask recess is provided with a pilot lamp and a regulator. The built in energy regulators, where provided felicitate good control Temp. # Unit supplied with two vertical and one horizontal rods, neon lamp indicators, with clamps, borse heads and borosil glassware 1. Size : 250ml -3test x 3regulator – 600W</p>	1 Unit	7,800-00	7,800-00								
13.	<p>Chloroscope : with chlorine Test Kit For estimation chlorine in water Scale : 0.1,0.2,0.5,1.0 & 2.0ppm</p>	1 Unit	1,000-00	1,000-00								
14.	<p>Lovibond Comparator-2000 With 1 pair of square 13.5mm Cells</p>	1 No	7,200-00	7,200-00								
	Grand Total			3,30,500.00								

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R.V.S. NAGAR, CHITTOOR - 517127
DEPARTMENT OF CIVIL ENGINEERING

GEOLOGY LABORATORY ITEM LIST

Sl. No.	Description of the Item	Qty.	Unit Rate Rs. Ps.	Total Amount Rs.
1	Mineral Specimens	46	270	12420
2	Rock Specimens	46	270	12420
3	Physical Mineralogy collection:			
	a) Hardness Collection: Set of 9 Minerals	1 set	990	990
	b) Lustre collection: set of 10 Minerals	1 set	990	990
	c) Cleavage Collection: set of 10 minerals	1set	990	990
	d) Fracture Collection: set of 6 minerals	1 set	990	990
	e) Tenacity Collection: set of 4 Minerals	1 set	990	990
	f) Streak Collection: set of 10 minerals	1 set	990	990
	g) Feel Properties; set of 10 minerals	1 set	990	990
	h) Form & Structure: set of 50 minerals	1 set	12500	12500
4	Streak Plates	25	50	1250
5	Plastic Specimen Trays	120	30	3600
	Grand Total			Rs.55,751

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CONCRETE AND HIGHWAY ENGINEERING LABORATORY ITEM LIST

S.NO	NAME OF THE APPARATUS	Quantity	unit Price (Rs.)	Total Amount (Rs.)
1	Apparatus for aggregate crushing test	1	6750	6750
2	Aggregate Impact testing machine	1	6500	6500
3	Pycnometer	1	600	600
4	Los angles Abrasion test machine	1	85000	85000
5	Deval's Attrition test machine	1	75000	75000
6	Length and elongation gauges	2	1250	2500
7	Bitumen penetration test setup.	1	9500	9500
8	Bitumen Ductility test setup.	1	55000	55000
9	Ring and ball apparatus	1	7500	7500
10	Penskey - Morten's apparatus	1	7500	7500
11	Vicat's apparatus	1	2900	2900
12	Specific gravity bottle. 50 ml	6	150	900
13	Lechatlier's apparatus.	1	2750	2750
14	Slump setup	1	2500	2500
15	Compaction factor setup	1	24500	24500
16	Longitudinal compresso meter	1	15000	15000
17	Rebound hammer(concrete test hammer)	1	55000	55000
18	Cube Moulds:			
	i) 70.6mm	12	1050	12600
	ii) 150 x 150 x 150 mm	6	2150	12900
	iii) Cylindrical(15x30cm)	6	3250	19500
	iv) Beams 10x10x50	6	2750	16500
19	Vibrating Table	1	39000	39000
20	Bitumen Extractor	1	21750	21750
21	Trays of different dimensions:			
	600x450x50mm	6	700	4200
	450x300x40mm	8	600	4800
	300x250x40mm	12	500	6000
22	Density Basket	1	1200	1200
23	IS sieves 125, 100, 90, 80, 75, 63, 52, 50, 45, 40, 38.1, 37.5, 31.5, 26.5, 25, 22.4, 20, 19, 16, 12.5, 10, 9.5, 8, 6.3, 4.75, pan and lid (450 mm dia)	27	600	16200
24	Rebound Hammer (Concrete Test Hammer) N – Type with aluminum body case calibrated in Kgf / Cm (Analog) Range : 10 – 70 N/mm	1	Rs.15,000/-	Rs.15,000/-
25	ACCELERATED CURING TANK (For 6 cube moulds) With Digital Temperature Indicating cum controller operated, With Water Circulation Pump, With Drain Valve, Top Opening door.	1	Rs.35,000/-	Rs.35,000/-

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26	VEE BEE CONSISTOMETER APPARATUS	1	Rs.18,700/-	Rs.18,700/-
27	BLAINS AIR PERMEABILITY APPARATUS	1	Rs.2,700/-	Rs.2,700/-
28	CONCRETE MIXER , Motorised, 230 VAC operated	1	Rs.33,000/-	Rs.33,000/-
29	WHEEL BARROW (TROLLEY)	2	Rs.9400/-	Rs.9400/-
30	SHRINKAGE TEST SET UP	1	Rs.3,933/-	Rs.3,933/-
31	EIGHT CELL CHLORIDE DIFFUSIVITY TEST SETUP	1	Rs.82,935/-	Rs.82,935/-
32	Ultrasonic pulse velocity tester battery operated - Conforming to EN 12504-4 and ASTM C597 Specifications - Microprocessor incorporated -Frequency range: 24 to 150 kHz - Receiver input impedance: 1 M ohm - RS 232 output - Connectable to oscilloscope - Transit time measurement: from 0.1 to 1999.9 microsecond - Pulse rate: from 1 to 10 per second, selectable - Resolution: 0.1 microsecond - Transmitter output: 800V - The tester is supplied complete with two 54 kHz transducers (transmitter and receiver) with 3 m cable, calibration rod, coupling agent (250 cc bottle), nylon carrying case (Make : Controls)	1	Rs.3,00,000/-	Rs.3,00,000/-
33	U Box Test Appratus	1	13,538	13,538
34	L Box Apparatus	1	16,523	16,523
35	V Funnel Apparatus	1	11,270	11,270
36	Flow Table Apparatus	1	13,000	13,000
	Total			Rs.10,69,049.00

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CAD LABORATORY ITEM LIST

S.NO	NAME OF THE APPARATUS	Quantity	Amount (Rs.)
1	BecN Academic Offering – Structural along with SELECT Subscription for 3 Years.	5	Rs.5,00,000/-
	STAAD.PRO & STAAD Foundation Software		
	Micro Station	2	
	MX Road	3	
2	Student License: 70 Licenses of Student Version of STAAD.PRO Software FREE of Use for Civil Department Students valid for 3 Years.	Free	
3	LENOVO NO OS H61/G2020/2GB/500GB/NO & LENOVO 18.5" Wide Monitors	70nos	Rs.12,77,500.00
	TOTAL		Rs.17,77,500.00

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