

**COMPARATIVE STATEMENT FOR PROJECT: 193198- INTRODUCTION OF NEW TECHNOLOGIES IN EXISTING TECHNICAL INSTITUTES OF TRIBAL DISTRICTS**  
**LIST OF EQUIPMENT'S FOR CIVIL TECHNOLOGY (GPI JALAKAMELA, GPI BARA AND GPI CHAGHMALAI SW)**  
**DATE OF TENDER OPENING 09-03-2022**  
**CIVIL TECHNOLOGY (CONCRETE TECHNOLOGY)**

Item No.	Name of Items	Smart Tech Multan							Anmol Scientific, Lahore							KBL Lahore									
		C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model
		40	5	5	2	4	4	60		40	5	5	2	4	4	60		40	5	5	2	4	4	60	
1	<b>VICAT APPARATUS, ASTM-C187</b> (for initial and final setting time of cement ) Hand operated Vicat apparatus, formed of a metal frame. Ø 10 mm sliding plunger weighing 300 gm and a graduated scale. Complete with needle Ø 1.13 mm. for initial setting time, final setting time needle, glass plate Ø 120 mm <b>Accessories:</b> 1. Needle Ø 1 mm for initial setting time. 2. Needle Ø 1.13 mm for final setting time. 3. Glass plate Ø 120mm. 4. Vicat Mould ASTM.	40	0	5	0	4	4	53	Pakistan Model: T1004 Smart Tech	40	0	5	0	4	4	53	AN-CE-897 PAK	40	0	5	0	4	4	53	KBL
2	<b>LE- CHATELIER'S APPARATUS: BS 4550</b> (For soundness of cement) LE CHATELIER WATER BATH, Made of stainless steel and incorporates a 1000 W heater enabling the water to reach boiling point within 25 minutes. Regulation of temperature through hydraulic thermostat from +5 to 100°C. Complete with resistance-tray, cover and thermometer. Allow to realize different tests simultaneously. Power supply: 220 V. 50 Hz. LE CHATELIER MOULD, Ø 30 x 300 mm. Long. LE CHATELIER GLASS PLATES (2), 50 x 50 mm. LE CHATELIER CLIP to hold the glass plates	40	0	5	0	4	4	53	Pakistan Model: SMT-SLC-171 Smart Tech	40	0	0	0	4	4	48	AN-YR-7 PAK	40	0	5	0	4	4	53	KBL
3	<b>LE CHATELIER FLASK, ASTM C188; BS 4550</b> (Relative density of hydraulic cement). Graduated from Ø to 1 ml. and from 18 to 24cm <sup>3</sup> Capacity: 250 ± 0.05 cm <sup>3</sup>	40	0	0	0	4	4	48	Smart Tech Origin: Pakistan	40	0	5	0	4	4	53	AN-196-6PAK	40	0	5	0	4	4	53	Jinhua China
4	<b>FLEXURAL/COMPRESSION TESTING MACHINE,</b> 300 KN. Capacity, ASTM C 190 With motorized hydraulic power pack fitted with adjustment of the load gradient, rapid approach device and relive valve. The frame is assembled seamless, with electronic display of load. Accuracy: ± 1%. Power supply: 220-240 V. 50 Hz.	40	0	5	0	4	4	53	CANGZHOU LOVELY TECHNOLOGY CO., LTD. Origin: China Model: YES-300B	40	0	0	0	4	4	48	AN-CE-8 PAK	40	0	5	0	4	4	53	KBL

5	<b>SAND EQUIVALENT APPARATUS ASTM D 2419</b> Set includes :- 1. Plastic measuring cylinders. 4 nos. 2. Weighted foot assembly 1no. 3. Irrigator tube. 1 no. 4. Rubber tubing (1 m) complete with pinch clip. 1no 5. Syphon assembly, with 5 liter polythene bottle 1no. 6. Funnel 1 no. 7. Carrying case. 1 no. 8. Measuring can, 85 cm3 capacity, and 1 no. Accessories: 1. Calcium chloride. 2.5 kg 2. Form aldehyde. 40 % solution, 2.5 liters 3. Glycerol analar. 2.5 liter 4. Mechanical sand equivalent shaker, ASTM METHOD 220-240V AC, 50Hz, single phase	40	0	5	0	4	4	53	Pakistan Model: SMT-SE-587	40	0	0	0	4	4	48	ANCE-7 PAK	40	0	5	0	4	4	53	KBL
6	<b>ELECTROMAGNETIC SIEVE SHAKER,</b> with Standard sieves set ,ASTM C 33-13 Activated by electromagnetic impulses. It is particularly recommended to carry out sieving test where high precision and performance are important. This electromagnetic shaker is of simple and sturdy construction, it is also suitable for wet sieving tests along electronic control panel. The vibrating intensity and the pauses between one vibration and the following one (this is especially indicated for fine material sieving). The sieve shaker can hold up to 10 sieves. Standard sieves set ,ASTM C 33-13 (for fine and Coarse aggregates): Of Ø 200 mm x 50 mm with hole With compatible electromagnetic sieve	40	0	5	0	4	4	53	CANGZHOU LOVELY TECHNOLOGY CO., LTD. Origin: China Model: ZFJ-ii	40	0	5	0	4	4	53	DE-89 PAK	0	0	0	0	0	0	0	Not Quoted
7	<b>CYLINDICAL METAL</b> MEASURES PROVIDED WITH HANDLES ,ASTM C29 ( Forbulk density of aggregate) BULK DENSITY 30 dm3, complete with carrying handles BULK DENSITY 15 dm3, complete with carrying handles BULK DENSITY 10 dm3, complete with carrying handles BULK DENSITY 3 dm3, complete with carrying handles BULK DENSITY 1 dm3, complete with carrying handles STEEL ROD, Ø 16 x 600 mm.	40	0	5	0	4	4	53	Pakistan Model: SMT-SBS- 0097	40	0	5	0	4	4	53	ANC-CE-888 PAK	40	0	5	0	4	4	53	KBL
8	<b>FLAKINESS GAUGE,</b> BS 812 (complete set). To measure the flakiness index of aggregates. Made in galvanized sheet with Set of seven square flakiness sieves made of painted sheet.	40	0	0	0	4	4	48	Pakistan Model: SMT-FGS- 069	40	0	5	0	4	4	53	AN-CE-766 PAK	40	0	5	0	4	4	53	KBL
9	<b>LENGTH GAUGE, BS 812</b> For measuring the length index of aggregates	40	0	5	0	4	4	53	Pakistan Model: SMT-SLG-071	40	0	5	0	4	4	53	AN-CE-999 PAK	40	0	5	0	4	4	53	KBL
10	<b>PYKNOMETER, ASTM C 128</b> (For the determination of specific gravity ofsands and fine aggregates.) SET OF CONE MOULD, FUNNEL AND TAMPER, ASTM C 128 (To determine the absorption of fine aggregate.)	40	0	5	0	4	4	53	Pakistan Model: SMT-SGA- 287	40	0	5	0	4	4	53	AC-CE-333 PAK	40	0	5	0	0	4	49	KBL

11	<b>SLUMP CONE APPARATUS, ASTM C 143</b> 1. SLUMP CONE, made from galvanized plate, Suitable for measuring cohesive of concrete. 2. TAMPING ROD, made from steel. Dimensions: Ø 16 x 600 mm. 3. HOPPER, used for filling the slump cone. Made from aluminum. 4. BASE PLATE, made from galvanized sheet iron with handle. Dimensions: 60 x 40 cm. 5. GRADUATED RULE made from stainless steel. Length: 300 mm.	40	0	5	0	4	4	53	Smart Tech Origin: Pakistan	40	0	5	0	4	4	53	AC-CE-9222 PAK	40	0	5	0	4	4	53	KBL
12	<b>COMPACTING FACTOR APPARATUS.</b> BS 1881 part 103, 5075 This equipment is used for the determination of the compacting factor of concretes with low, medium, and high workability. The apparatus is made from painted steel sheet, and is composed of two hoppers with trap doors, mounted vertically above a cylindrical mould. Tamping rod 16mm in dia. and 600mm length.	40	0	5	0	4	4	53	Pakistan Model: SMT-SCF- 0474	40	0	5	0	4	4	53	ASC-L9 PAK	40	0	5	0	4	4	53	KBL
13	<b>CONCRETE TEST HAMMER SCHMIDT:</b> For the measurement of compressive strength of concrete in ordinary building and bridge construction. Fitted with a built-in automatic recorder device. Impact energy: 2.207 Nm. (0.225 kg m) Compressive strength: 10 to 70 N/mm <sup>2</sup> Or Equivalent	40	0	5	0	0	4	49	CANGZHOU LOVELY TECHNOLOGY CO., LTD. Origin: China Model: N-Schmidt	40	0	5	0	4	4	53	ANCE-C7 PAK	40	0	5	0	4	4	53	Jinhua China
14	<b>Determine clay percentage in aggregate.</b> ASTM C 117 1. This is a gravimetric method for determining the clay, silt, and dust content of that portion of the material finer than 75 µm. • BOTTLE ROLLER, with rotation speed 80 rpm. • BOTTLE 1 L., capacity with lid. 2. BLUE METHYLENE TEST Set for determination of Blue Methylene composed by: • ELECTRONIC STIRRER, with digital display. It is supplied complete with stirring rod, support and fixing nut. Reliable speed between 400-700 rpm. • BURETTE, with glass key, 100 ml. capacity. • FILTER PAPER, Ø 125 mm. • GLASS ROD, length 300 mm. • BEAKER, capacity 600 ml. • BLUE METHYLENE, (25 gr). Or Equivalent	40	0	5	0	4	4	53	Smart Tech Origin: Pakistan	40	0	5	0	4	4	53	AN-CE6 PAK	0	0	0	0	0	0	0	Not Quoted
15	<b>SINGLE CUBE MOULDS ASTM C 31</b> For preparation of concrete cube tests. Made in non-deforming steel, easily disassembled. Dimensions 10 x 10 x 10 cm. Dimensions 15 x 15 x 15 cm. Dimensions 20 x 20 x 20 cm. Dimensions 30 x 30 x 30 cm. Dimensions 6" x 6" x 6".	40	0	5	0	4	4	53	Smart Tech Origin: SMT-SCM- 086 Pakistan	40	0	5	0	4	4	53	AN-CE8 PAK	40	0	5	0	4	4	53	KBL

16	<b>HINGED CYLINDER MOULDS, ASTM C31</b> Made of steel. Suitable for the preparation of test cylinders. Dimensions Ø 100 x 200 mm. Dimensions Ø 150 x 150 mm. Dimensions Ø 150 x 300 mm. Dimensions Ø 6" x 12". Accessories: HOPPER for Ø 150 x 300 mm. cylindrical mould. COMPACTIGN ROD. Long. 50 cm.	40	0	5	0	4	4	53	Smart Tech Origin: Pakistan SMT-SHC-087	40	0	5	0	4	4	53	AN-CE-001 PAK	40	0	5	0	4	4	53	KBL

Engr: Muhammad Adeel Khan, \_\_\_\_\_  
 Assistant Professor (Civil) GTTTC, Hayatabad

Engr. Muhammad Sohail, \_\_\_\_\_  
 Lecturer (Civil) GCT Khar Bajaur

**COMPARATIVE STATEMENT FOR PROJECT: 193198- INTRODUCTION OF NEW TECHNOLOGIES IN EXISTING TECHNICAL INSTITUTES OF TRIBAL DISTRICTS**  
**LIST OF EQUIPMENT'S FOR CIVIL TECHNOLOGY (GPI JALAKAMELA, GPI BARA AND GPI CHAGHMALAI SW)**  
**DATE OF TENDER OPENING 09-03-2022**  
**CIVIL TECHNOLOGY (SURVEYING)**

Item No.	Name of Items	Chaudhary Brothers Rawalpindi							Meditron Peshawar							Sunder Trading Co, Lahore									
		C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model	C.S		P.C		P.L.P		T	Model
		40	5	5	2	4	4	60		40	5	5	2	4	4	60		40	5	5	2	4	4	60	
1	Ranging rods,	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
2	Engineer's chain	40	0	0	0	4	4	48	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
3	Gunter's chain	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
4	Metric chain	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
5	Cross staff,	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
6	line ranger,	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	DJ-2 China
7	Optical square,	40	0	0	0	0	4	44	LOCAL	40	0	5	2	4	4	55	OS-DD Myzox	40	0	0	0	0	4	44	DJ-2 China
8	Measuring tapes	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	China
9	Prismatic compass with stand.	40	0	0	0	4	4	48	LOCAL	40	0	5	2	4	4	55	DQL-8 (Harbin)	40	0	0	0	0	4	44	LOCAL
10	Surveyor's compass	40	0	0	0	0	4	44	LOCAL	40	0	5	2	4	4	55	DQL-162 (Harbin)	40	0	0	0	0	4	44	DQL-122
11	Plane table with all accessories	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
12	<b>AUTOMATIC LEVEL</b> SEPCIFICATION: i)Magnification.....32 x ii)Aperture.....45 mm iii)Compensator range.....+ 12' ACCESSORIES: a) Instrument b) Instructional manual c) Plumb Bob d) Lens cap e) Heavy Duty Aluminum Tripod Stand f) Double sided Aluminum Staff pole.	40	0	5	0	4	4	53	Pentax Japan	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	G2-32X
13	<b>LEVELING STAFF.</b> Aluminum folding type.	40	0	0	0	0	4	44	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	LOCAL
14	<b>LASER LEVEL.</b>	40	0	0	0	4	4	48	LOCAL	0	0	0	0	0	0	0	Not Quoted	40	0	0	0	0	4	44	HRL-800R

<b>15</b>	<b>ELECTRONIC THEODOLITE WITH ALL ACCESSORIES.</b> • Accuracy 5 sec • Aperture 45 mm • Angle measuring mode Absolute encoder • Tilt sensor Automatic vertical compensation • Display 5 sec/ 2 sec • Magnification 30x • Measurements 175mmxL170xH334mm ACCESSORIES. • Lens cap • Lens brush • Battery case • Instructional Manual • Carrying case • Aluminum tripod.	40	0	5	0	4	4	53	Pentax Japan	0	0	0	0	0	0	0	Not Quoted	40	0	5	0	4	4	53	ET-05 Sendings China
<b>16</b>	<b>TOTAL STATION WITH ALL ACCESSORIES</b> Electronic total station which combines in one compact unit a 5-second digital read out with an electronic distance meter, with the following specification:- Angle Accuracy..... 5 Seconds Plummet..... Laser Guide light..... In Built On Board software..... Power Tope light installed Distance with Single Prism. 7 KM Distance with ripple Prism. 9 KM In Built Internal Memory: 10,000 Points  Auto: Atmospheric Correction: In built. Key Board ..... Alpha Numeric Reflector- less range... 500 M and above TS shield. (Telecommunicated) SD Card.....Built in USB Slot.....Built in ACCESSORIES: a)Battery Pack b)Battery Adopter c)Plumb Bob d)A set of Tools. e)Rain Cover	38	0	5	0	4	4	51	Pentax Japan	0	0	0	0	0	0	0	Not Quoted	40	0	5	0	4	4	53	MTS-1205R

									f)Carrying Case																
									g)Operational Manual																
									h)Heavy Duty Aluminum Tripod																
									i)Single Prism																
									j)Prism Holder																
									k)Coaxial Target Plate																
									l)Prism Pole																
									Or Equivalent																
<b>17</b>	<b>GPS (Garmin).</b>	40	0	0	0	4	4	48	LOCAL	40	0	0	2	4	4	50	Model Nil	40	0	0	0	4	4	48	E-Trax-10

**Engr: Muhammad Adeel Khan,** \_\_\_\_\_  
**Assistant Professor (Civil) GTTTC, Hayatabad**

**Engr. Muhammad Sohail,** \_\_\_\_\_  
**Lecturer (Civil) GCT Khar Bajaur**





13	Level Aluminum,	40	0	0	0	4	4	48	Pakistan Model: HSL18030	0	0	0	0	0	0	0	Not Quoted
14	Square Steel,	40	0	0	0	4	4	48	Pakistan Model: HAS123002	0	0	0	0	0	0	0	Not Quoted
15	Steel Drill,	40	0	0	0	4	4	48	Pakistan Model: RGH6508	0	0	0	0	0	0	0	Not Quoted
16	Mason's Drills,	40	0	0	0	4	4	48	Pakistan Model: AKD3081	0	0	0	0	0	0	0	Not Quoted
17	Hacksaw,	40	0	0	0	4	4	48	Pakistan Model: HFF3008	0	0	0	0	0	0	0	Not Quoted
18	Hammer Ball,	40	0	0	0	4	4	48	Pakistan Model: HBPH88024	0	0	0	0	0	0	0	Not Quoted
19	Files (flats, Round, Triangular).	40	0	0	0	4	4	48	Pakistan Model: HKTFS1308	0	0	0	0	0	0	0	Not Quoted
20	Safety equipments(work gloves, boots, glasses, overall, dust mask/ respirator)	40	0	0	0	4	4	48	Pakistan Model:HGNG01 SSH092SB HSG05,HRS002	0	0	0	0	0	0	0	Not Quoted
21	Screw driver set	40	0	0	0	4	4	48	Pakistan Model:HKSD1028	0	0	0	0	0	0	0	Not Quoted
22	Wheel barrow	40	0	0	0	4	4	48	Pakistan Model: HHWB640-18G	0	0	0	0	0	0	0	Not Quoted
23	Sealing tapes/ sealants	40	0	0	0	4	4	48	Origin: Pakistan	0	0	0	0	0	0	0	Not Quoted

**Engr: Muhammad Adeel Khan,** \_\_\_\_\_  
**Assistant Professor (Civil) GTTTC, Hayatabad**

**Engr. Muhammad Sohail,** \_\_\_\_\_  
**Lecturer (Civil) GCT Khar Bajaur**

**COMPARATIVE STATEMENT FOR PROJECT: 193198- INTRODUCTION OF NEW TECHNOLOGIES IN EXISTING TECHNICAL INSTITUTES OF TRIBAL DISTRICTS**

**LIST OF EQUIPMENT'S FOR CIVIL TECHNOLOGY (GPI JALAKAMELA, GPI BARA AND GPI CHAGHMALAI SW)**

**DATE OF TENDER OPENING 09-03-2022**

**CIVIL TECHNOLOGY (HYDRAULICS AND IRRIGATION)**

Item No.	Name of Items	Smart Tech Multan							Model
		C.S		P.C		P.L.P		T	
		40	5	5	2	4	4	60	
<b>1</b>	<p><b>HYDRAULIC BENCH</b></p> <ul style="list-style-type: none"> <li>• Mobile and floor standing service unit for fluid mechanics apparatus with a working height of 1 meter above the floor level.</li> <li>• Base constructed from robust, corrosion resistant plastic molding.</li> <li>• Top constructed from glass reinforced plastic</li> <li>• Volumetric flow measurement via remote sight gauge</li> <li>• Stepped tank for low and high flow rates</li> <li>• Open channel in bench top with quick release outlet fitting</li> <li>• Self-priming centrifugal pump with maximum head 21 m water with a maximum flow of 1.35 liter per second</li> <li>• Motor rating = 0.37 Kw</li> <li>• Sump tank capacity = 250 liters</li> </ul>	40	0	5	0	4	4	53	Pakistan Model: SMT-HB-18
<b>2</b>	<p><b>(STABILITY OF A FLOATING BODY).</b></p> <p>Water tank moulded plastic nominally 600x 400x 120mm total weight of floating assembly nominally (3.2kg) working height of mast nominally 240mm Floating pantoon 360x203x76mm Two magnetized trim weights= 35g.Angular tilt of pantoon 8degree each side Adjustable sail weight 525g.</p>	40	0	5	0	4	4	53	Pakistan Model: SMT-SMH-2269

<b>3</b>	<b>ORIFICES, NOTCHES (Rectangular and triangular).</b>	40	0	5	0	4	4	53	Smart Tech Origin: Pakistan ST-H-086
<b>4</b>	<b>PITOT-STATIC TUBE APPARATUS.</b>	40	0	5	0	4	4	53	Pakistan Model: SMT-787
<b>5</b>	<b>VENTURIMETER</b> Venturitube aluminum inlet inside diameter 26mm. Throat inside diameter 16mm outlet inside diameter is 26mm manometer tubes transparent plastic range: 0-290mm max: flow rate 26 lit nominally 27 L/min.	40	0	5	0	4	4	53	Pakistan Model: VMA-101 H-ST-VMA 101
<b>6</b>	<b>CURRENT METER.</b> Cup type with current meter using cable with sinking weight or wading rod and measures stream flow velocities from 0.3 to 3.5 m/ s with cups. Calibration charts.	40	0	5	0	4	4	53	Not Quoted
<b>Engr: Muhammad Adeel Khan,</b> _____ <b>Assistant Professor (Civil) GTTTC, Hayatabad</b>		<b>Engr. Muhammad Sohail,</b> _____ <b>Lecturer (Civil) GCT Khar Bajaur</b>							