

Civil Technology

Items /Equipment/Machinery	Specification	GPI Haripur	GPI Mardan	GPI Batkhela	GPI Takhtbhai	GPI Karak	GPI Mansehra	Quantity Required	Unit Price (Inclusive All Taxes & ...)	Total Price (Inclusive All Taxes & ...)
Aggregate Crushing value apparatus	Consists of M.S. Cylindrical container 150 mm ±0.5mm dia x 130mm to 140mm high with base plate 200 to 230 mm./sqr x 6mm thick. A plinger of 148mm ± 0.5mm dia x 100 to 115mm high. Supplied complete with tamping rod, 16mm dia x 600mm long, one end rounded. And 1 no. Metal measure 115 ± 0.5mm dia x 180 0.5mm high.	4						4		
AUTOMATIC LEVEL	AUTOMATIC LEVEL SEPCIFICATION: I)Magnification.....32 x ii) Aperture..... 45 mm iii)Compensator range.....+15' ACCESSORIES: a) Instrument b) Instructional manual c) Plumb Bob d) Lens cap e) Heavy Duty Aluminum Tripod Stand f) Double sided Aluminum Staff pole.	2						2		

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<p>BEAM APPARATUS</p>	<p>Made with stainless steel (1000 mm long) supported with spring balance and various weights</p>	1						1		
<p>Bench vice</p>	<p>Height 6.8 inches Length 10.8 inches Material Cast Iron Model Number LV-4 Size LV-4 Width 5.3 inches</p>	6						6		

Bituminous Mixer	Model Number: HP-CM350 Mixing Power: 9KW Charging Capacity: 350L Reclaiming capacity: 240L Speed of Mixing Drum: 23r/min Water Supply Mode: Input Discharge Way: Manual Handle Outline Dimension: 1950*890*1140mm Dump capacity: 350L Rated overload: 240L Overall Dimensions: 1950*890*1140 Gross weight: 365kg Net weight: 345kg	1						1		
BRIQUETTE TESTING MACHINE WITH BRIQUETTE MOULDS	(for determination of tensile strength of cement)	1						1		
Casagrandas apparatus complete				1				1		
Coarse Grained Sieves (Per Set)				2				2		
Compression testing machine portable type with accessories				1				1		
CONCRETE CYLINDER MOULD	12 Inch High, 6 inch dia	12						12		

CONCRETE MIXER	Specification Small and lightweight, suitable to obtain small quantities of concrete in situ or in laboratory for practical and easy to transport. Capacity: 100 lite			1		9	1	11		
CORE CUTTER APPARATUS	Specification: Cylindrical core cutter 10 cm diameter and 12.7cm high, Dolly/collar 2.5 cm high, Steel rammer.				1			1		
CROSS STAFF	wooden						2	2		
ELECTROMAGNETIC SIEVE SHAKER, with Standard sieves set ,ASTM /BS	Specification 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 shaker.				1			1		
Electronic Digital Balance. (Set of four	<u>20 kg with accuracy of +1 gm</u>		1					1		

balances)										
FLAKINESS GAUGE, BS /ASTM (complete set).	Specification To measure the flakiness index of aggregates. Made in galvanized sheet with Set of seven square flakiness sieves made of painted sheet.				1			1		
GPS	GARMIN GPS CHARTPLOTTER MARINE 276C GPS UNIT ONLY GPSMAP BOAT 376C 478 176C			1		2	3	6		
Knurling Tool						5		5		
LE CHATELIER FLASK ASTM/BS	Specification (Relative density of hydraulic cement). Graduated from Ø to 1 ml. and from 18 to 24cm ³ Capacity: 250 ± 0.05 cm ³				1			1		
LENGTH GAUGE, BS/ ASTM	LENGTH GAUGE, BS 812 , For measuring the length index of aggregates				1			1		
Mechanical sieve shaker				1				1		

MODIFIED PROCTOR COMPACTION TEST APPARATUS ASTM/BS	Specification: MOULD. Made of corrosion protected steel. Inside diameter: 152.4 mm. (6"). Accessories: BASE PLATE FOR MODIFIED PROCTOR MOULDS. COLLAR FOR MODIFIED PROCTOR MOULDS.COMPACTION RAMMER (ASTM) Army type 4.5 kg, made of corrosion protected steel. Diameter: 50.8 mm. (2").STRAIGHT EDGE with handle. STRAIGHT EDGE without handle.				1			1		
Modified proctor test apparatus complete				1				1		
Motorized casagrande apparatus ASTM D 4318	Complete with mechanical stroke counter, smooth with adjustable falling height and normalized base.Accessories:Cassagrande grooving tool according to ASTM. Spatula made in stainless steel 120 mm blade.		1					1		
Oven	Stainless Steel Drying oven 50 Lit, temperature controlled maximum temperature range 200C , 220-240V AC, 50 Hz, single phase.		1					1		

Plastic limit apparatus ASTM D 4318	Set of plastic limit. Glass plate: 300 mm square x 10mm thick, Metal rod Dia 3 x 100mm length. Porcelain dish Dia 100 mm Flexible spatula with 120 mm blade length Aluminum can (6Nos.) Dia 55 x 35 mm. Carrying Case.		1					1		
PLASTIC LIMIT: ASTM/BS PYKNOMETER	Specification: Set for Plastic limit Glass plate: 300mm squarex10 mm thick, Metal rod Ø 3x100 mm length, Porcelain dish Ø 100mm, Flexible spatula with 120mm blade length. Aluminum can (6) Ø55x35 mm, Carrying case.					1		1		
Plumbing Fork							5	5		
PYKNOMETER , ASTM C 128	Specification: (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.)					1		1		
PYKNOMETER . ASTM /BS PYKNOMETER	PYKNOMETER. 1 liter capacity, manufactured of glass and non corrodible brass cone lid.					1		1		

<p>SAND EQUIVALENT APPARATUS ASTM /BS</p>	<p>Set includes:Plastic measuring cylinders 04 nosWeighted foot assembly 01 No.Irrigator Tube 01 No.Rubber tubing (1m) complete with pinch clip 01 NoSyphon assembly, with 5 liter polythene bottle 01 No.Funnel 01 NoCarrying Case 01 NoMeasuring can, 85 cm3 capacity , and 1 no.Accessories:Calcium chloride 2.5 kgForm aldehyde 40 % solution 2.5 litersGlycerol analar 2.5 literMechanical sand equivalent shaker, ASTM method 220-240V AC, 50 Hz single phase.</p>		<p>1</p>		<p>1</p>			<p>2</p>		
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<p>SAND REPLACEMENT METHOD ASTM 1556</p>	<p>Specification: (In-situ density) ASTM-Ø 6". CALIBRATED SAND (50 kg).5 l. CAPACITY PLASTIC CONTAINER.4" (102 mm) CONE. BASE PLATE WITH Ø 4 "FLANGED HOLE. 6" (152 mm) CONE. BASE PLATE WITH Ø 6" FLANGED HOLE. BS 1377, 1924. SAND CONE WITH UPPER CYLINDER Ø 100 mm. BASE PLATE WITH Ø 100 mm. FLANGED HOLE. CALIBRATING CONTAINER Ø 100 mm. SAND CONE WITH UPPER CYLINDER Ø 150 mm .BASE PLATE WITH Ø 150 mm. FLANGED HOLE. CALIBRATING CONTAINER Ø 150 mm. TOOLS FOR IN-STU DENSITY TESTS. PLASTIC BOTTLE, CAPACITY 5 l. CANVAS GLOVES. RUBBER GLOVES. PLASTIC BOTTLE, CAPACITY 250 ml. PLASTIC BOTTLE, CAPACITY 500 ml. PLASTIC BOTTLE, CAPACITY 1000 ml. RUBBER BASKET, 12 LITRES CAPACITY. RUBBER BASKET, 18 LITRES CAPACITY. 2 x 2 m. BLANKET TO EXTEND SAMPLES. 5 cm. WIDE FLAT BRUSH. DENSITY CHISEL, 300 mm, LONG. DENSITY PICK. RUBBER Mallet. FLAT SCOOP. SMALL ROUND SCOOP. SPOON. LADLE. TROWEL. TROWEL 60 X 140 mm. STEEL Mallet</p>			1			1			
<p>Standard sieves set ,</p>	<p>(for fine and Coarse aggregates):Of Ø 200 mm x 50 mm with hole With</p>		1			1	1			

ASTM /BS	compatible electromagnetic sieve shaker. Seive set ASTM standard sieve nos. 4,7,14,25,50,100,200 with pan and lid									
Shrinkage limit apparatus ASTM D 427	Glass plate, with three metal prongs, porcelain dish Dia 150 mm, Flexible spatula with 120 mm, blade length shrinkage dish Dia 42 x 12 mm(2) glass crystallizers Dia 57 x 32 mm, graduated cylinder 25 ml capacity, 1 kg of mercury and carrying case.		1		1			2		
SINGLE CUBE MOULDS ASTM/ BS	Specification: 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".				1			1		
SLUMP CONE APPARATUS, ASTM/BS	Specification 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. GRADUATED RULE made from stainless steel. Length: 300 mm.						2	2		
Sound System	All accerroires						1	1		

(3.1)										
SPEEDY MOISTURE TESTER Standard: ASTM /BS	Specification: For accurate moisture reading on site of soil, sand, aggregates. The test system arrives by the reaction between water and calcium carbide forming a gas. Complete with electronic balance, reagent tin, accessories; the whole contained in a portable molded case. Capacity 6 gm Moisture Range 0-20%				1		1	2		
Spirit Level							5	5		
Staff Rod	aluminum japan made 05 meter long						3	3		
STAINLESS STEEL DRYING OVEN	Specification: 50 liters capacity, Temperature controlled. Maximum temperature range 200 C0				1			1		
STANDARD, PROCTOR COMPACTION TEST APPARATUS. ASTM/BS	Specification: MOULD. Made of corrosion protected steel. Complete with base plate and collar. Accessories: COMPACTION RAMMER (ASTM) Army type 2. 5 kg, made of corrosion protected steel. Diameter: 50.8 mm. (2"). STRAIGHT EDGE with handle. STRAIGHT EDGE without handle				1			1		
Steel band 50 meter	Mixed Lot 3 Any Lufkin 50 Foot 50 Meter Leader Rulers Measuring Tapes Tape Used						5	5		
Steel band measuring tape 100 meter	100M Surveyor Builders Handle Fiberglass Measure Measuring Tape Roll Reel Long						5	5		
Steel band measuring tape	Draper 88217 Expert 30M/100ft Steel Measuring Tape						5	5		

30 meter										
theodolite Digital (Sokkia Japan Made)				1				1		

<p>TOTAL STATION WITH ALL ACCESSORIES</p>	<p>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. 4 KM Distance with triple Prism. 5 KM In Built Internal Memory: 60000 Points Auto: Atmospheric Correction: In built. Key Board Alpha Numeric Reflector- less range... 500 M and above 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, 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</p>		1	2		5	1	9		
Trough						5	5			

Compass										
UNIVERSAL TESTING MACHINE (UTM) (Computerized)	<ul style="list-style-type: none"> - Maximum tensile load: 1000 KN - Maximum compression load: 1000 KN - Distance between the jaws: 700mm or more - Distance between the compression platens: 700 mm - Distance between the columns: 650 mm - Piston's stroke: 250 mm -Speed test : 100 mm/min - Precision and repeatability: $\pm 1\%$ of read value - Power supply: 230 V 1 ph 50 Hz 2.5 kW - Bending test pressed rolling distance 70 to 600 mm - Shear test fitting with size of shearing specimen =0- 20 mm - Grip for round and deformed (20- 60 mm) and flat (40mm thick x 80mm wide) samples. Extensometer. 					1		1		

<p>Vicat Apparatus, ASTM C187 (For Initial and Final setting time of cement)</p>	<p>Hand operated Vicat Apparatus, formed of a metal frame Dia 10 mm sliding plunger weighing 300 gm and a graduated scale. Complete with needle Dia 1.13 mm for initial setting time, final setting time needle, glass plate Dia 120 mm. Accessories: Needle Dia 1 mm for initial setting time. Needle Dia 1.13 mm for final setting time. Glass plate Dia 120 mm. Vicat Mould ASTM.</p>		1	2	1			4		
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