



<b>Project Name</b>	<b>Name of Package</b>	<b>Location</b>
(i)Project: "193183-Overcoming of staff/equipment deficiencies in Technical Institutes in FATA".	1. Civil Technology 1. Electrical Technology 2. Physics and Chemistry Labs	GPI Miranshah NW GPI Sadda Kurram
(ii) Project: "193196-Introduction of 02 Technologies (Civil & Electrical) at Govt. Technical Institute Sadda Kurram Agency"	3. Welding Shop	



**DAE CIVIL TECHNOLOGY  
GPI MIRANSHAH & SADA DISTRICT KURRAM  
SURVEYING & LEVELLING SHOP**

<b>S. No.</b>	<b>Description of Item</b>	<b>QTYx2</b>
01.	<b>Leveling Staff</b> 5 meter/ 16 ft Leveling staff Aluminum one side feet and one side metric graduation, 16ft / 5 meter in 3 parts with bubble BUT without cover. Local made	5
02.	<b>Ranging Rod.</b> 8ft.Ranging Rod Steel local made. 8ft x 1 part. Local made	20
03	<b>Plain Table.</b> 24"x 30"Plan Table size 24"x 30"with heavy folding stand. Local made	4
04	<b>Trough Compass.</b> 5"Trough Compass local. Local made/ China, Local or Equivalent	4
05	<b>U-Fork Aluminum</b> with spring local. Local made/ China, Local or Equivalent	4
06	<b>Alidade.24"Alidade</b> (Sight Rule) brass, graduated, local. Local made/ China, Local or Equivalent	4
07	<b>Plumb Bob.100 gms</b> .Plumb bob brass. Local made/ China, Local or Equivalent	4
08	<b>Spirit Level.12"</b> Spirit Level Aluminum. Local made/China, Local or Equivalent	10
09	<b>Straight Edge.48" and 72"</b> Straight edge plain 48"brass and 72"copper. Local made	5
10	<b>Parallel Ruler</b> 12", 24"& 30Parallel ruler brass local made. Local made	10
11	<b>Prismatic Compass.</b> Prismatic Compass with bubble & wooden stand local made/China, Local or Equivalent	3
12	<b>Optical Square</b> Optical square in wooden box. Local made aluminum and brass.	10
13	<b>Gunter Chain.</b> 66ft, 100ft, Measuring chin steel with 10, 15, 50 and 50 arrows respectively. Local made	3
14	<b>Cross Staff.</b> 12"x 12"Cross staff 12"x 12"with steel Rod local made.	5
15	<b>Survey Umbrella.</b> 54"dia Survey umbrella cloth/ Canvas full steel rod, local made respectively.	2
16	<b>Measuring Tape.</b> 50ft/15m100ft/30m165ft/50m. Local made Measuring tape fiberglass. China, Local or Equivalent	15
17	<b>Ebney Hand Level.</b> 6 1/2"& 5"Ebney hand level. Local made	3
18	<b>Digital Planimeter.</b> Plainmeter compensating type with trading magnifier. China, Local or Equivalent	1
19	<b>Surveyor Compass.</b> Surveyor compass.	1
20	<b>Spacing Divider.</b> 6"x 12"Spacing Divider China, Local or Equivalent.	4
21	<b>Telescopic Alidade.</b> Telescopic alidade with vertical and horizontal angle movement magnification 12 x with U-Fork trough compass, plumb bob & other accessories, China, Local or Equivalent/ UK, Germany, Japan or Equivalent	2
22	<b>AUTOMATIC LEVEL</b> <b>SPECIFICATIONS</b> Magnification 32X	2



	Aperture 45mm Compensator Range $\pm 12'$ Resolving Power 2.5sec Standard Deviation $\pm 0.4\text{mm}$ Accessories with Auto Level Instrument Plumb Bob Hexagonal Wrench Carrying Case Instructional manual Heavy Duty Aluminum Tripod Stand Double Sided Aluminum Staff pole	
<b>23</b>	<b>Auto Leveling Instrument.</b> Leveling instrument of magnification 24x, Aperture 36 mm, Resolving Power 3.5", Aperture, Compensator Range $\pm 12'$ . Complete with Tripod and Staff pole.	<b>2</b>
<b>24</b>	<b>Digital Theodolite:-</b> Magnifications 42mm Accuracy 20 sec Focusing Range 0.5mm to infinity Instrument measurements W168mm x L 158mm x 333mm Accessories with Theodolite Instrument Plumb Bob Hexagonal Wrench Carrying Case Instructional manual Heavy Duty Aluminum Tripod Stand	<b>1</b>
<b>25</b>	<b>Electronic Total Station.</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:- Accuracy 5 sec Laser Guide light Built in Laser Plummet 0.5mm Dot Software Power Topolite software preinstalled Reflector less distance 400 meters Distance with single prism 7000 meters Internal memory 45, 000 points Date and clock option Built in  Accessories with Total Station Battery Battery Charger Battery Adopter Carrying Case Single Prism Prism Pole Coaxial Target Plate Heavy duty Tripod	<b>1</b>



**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM**  
**PLAIN & REINFORCED CONCRTE SHOP**

<b>S.No.</b>	<b>Description of Item</b>	<b>QTYx2</b>
<b>1</b>	<p><b>TURBO FORCED CONCRETE MIXERS, PAN TYPE WITH VERTICAL AXIS</b>  <b>Standard: EN 12390-2 -</b>            Used to prepare concrete specimens or mixtures, these mixers ensure an uniform, efficient and fast mixture action. They are of easy and practical utilisation, absorb fewer air during mixing and are suitable for laboratory and field purposes.  <b>Technical specifications:</b>            - Parallel shaft gearbox            - Oil bath epicycloidal gearbox            - Wear-resistant steel cylinder            - Cylinder and main parts in wearproof steel            - Safety grid with bag breaker            - Adjustable mixing blades            - Manual discharge mouth on the bottom            - Wheels + tow bar            - Axle with tire wheels and drive drawbar            - Electric control with magnetothermal overload cutout            - Power supply: 230V 1ph 50Hz</p>	<b>1</b>
<b>2</b>	<p><b>Heavy Duty Beam Forms (Mold Concrete Specimen)</b>            100x100x500mm molds According to BS1881-109.With clamp attached base plate.Accessories:Spanners Tamping Rod.            Compacting Rod.</p>	<b>3</b>
<b>3</b>	<p><b>Cube Mold.</b>            100mm cube mold four part design weight 8.3kg with wire brush to clean the mould and Tamping Rod dia 16x610mm long.            These cube moulds meet the requirements of EN 12390-1 Specifications.            They are checked in the shape, dimensions and tolerance with instruments certified by an Official SIT Institute (or equivalent), and have a Serial Number marked on each side.            The produced cube specimens meet the Standards, by avoiding to the enduser any expensive dimensional verification.            Certificate of Compliance is supplied. Complete with base plate, clamp type.            - four part wall equal design</p>	<b>5</b>
<b>4</b>	<p><b>SLUMP CONE, STAINLESS STEEL, COMPLETE SET</b>            Slump Cone, complete set, including:            - Slump Cone, "stainless steel" made            - Tamping rod, galvanized steel, dia. 16 x 600 mm            - Slump Cone funnel, galvanized steel            - Graduated slump scale "engraved in 0,5 cm" increments with sliding measuring rod            - Base, galvanized steel, complete            - Aluminium scoop, 500 cc capacity            - Fine wire brush            . Weight: 10 kg approx.</p>	<b>2</b>
<b>5</b>	<p><b>AUTOMATIC MORTAR MIXER</b>            Standard: EN 196-1 - EN 196-3:2005 - EN 480-1 -            Robust mixer is expressly designed for the efficient mixing of cement pastes and mortar, with three automatic sequences of mixing cycle, in compliance with: EN 196-1, EN 196-3:2005, EN 480-1 Specifications.            Bowl capacity is 4,7 litres Two speeds can be selected:            140 or 285 rpm for the revolving action            62 or 125 rpm for the planetary action            possible to select the manual working, or one of the two automatic programs. By operating automatically on changes of speed, stops and mixing sequences, outlined by acoustic signal, the</p>	<b>1</b>



	<p>unit performs the mixing cycle. The unit is equipped of an automatic sand dispenser which fills the sand into the mixing bowl for a period of 30 seconds (EN 196-1 program). Complete with safety door conforming to CE Safety Directive; if opened it automatically stops the machine. Supplied complete with stainless steel bowl and beater          Power supply: 230 V 1ph 50 Hz          Dimensions: 340x460x700 mm          1- Weight: 45 Kg.</p>	
<b>6</b>	<p><b>BRIQUETTE MOULD, ONE GANG</b>          Standard: ASTM C190 - ASTM C307 - AASHTO T132 -          Accurately machined it conforms to the above Specifications and is easily collapsible. Complete with base.          Weight: 3 Kg</p>	<b>5</b>
<b>7</b>	<p><b>ELECTRONIC BLAINE AIR PERMEABILITY APPARATUS</b>          Standard: EN 196-6 - DIN 1164 - ASTM C204 - AASHTO T153 - BS 4359:2 - UNI 7374 - NF P15-442 -          This Electronic Blaine Air-Permeability Apparatus consists of a flat enclosure with a manometer column and with a 3-component measuring cell. The testing procedure is started by pressing the START button. The test procedure is then being executed automatically whereby the time is being shown. The defining of the final Blaine value must be done manually by the enduser. Supplied complete with digital thermometer, filling oil, cone grease, funnel, filter paper, brush, power cable with a two-pole and earthing-pin plug. Class of enclosure protection: IP-55          Power supply: 230V 1ph 50/60Hz 10W          Dimensions: 170x290x450 mm          Weight: 3,5 kg.</p> <p style="text-align: center;"><b>Or</b></p> <p><b>BLAINE AIR PERMEABILITY APPARATUS</b>          Standard: EN 196-6 - COMPARABLE TO - ASTM C204 - AASHTO T153 - BS 4359:2 - UNI 7374 - NF P15-442 - UNE 80-106 -          Used to determine the fineness of Portland cement in terms of the specific surface expressed as total surface area in square centimeters per gram of cement. The apparatus is supplied with glass U-tube manometer with valve, steel stand, test cell with disk and plunger all in stainless steel, rubber aspirator bulb, 1000 filter paper disks, manometric liquid, vaseline grease for better coupling tube/cell, funnel, brush.          Dimensions: 220x180x470mm          Weight:12 Kg</p>	<b>1</b>
<b>8</b>	<p><b>Apparatus for Analysis of Freshly Mixed Concrete.</b>          5kg. Balance capacity 5kg. Sieve 450mm dia. x 300mm high, 5mm perforated plate &amp; 150micron woven wire. Complete with all accessories.BS-1881</p>	<b>1</b>
<b>9</b>	<p><b>STEEL CYLINDER MOULD DIA. 100 x 200 mm</b>          Weight Kg : 8          Instruction manuals          Accessories          COD.DESCRPTION          DEMOULDING OIL, CAN OF 25 LITRES          STRAIGHT EDGE 450 mm          TAMPING BAR 25 mm SQUARE AREA          TAMPING ROD DIA. 16 x 610 mm LONG          WIRE BRUSH</p>	<b>5</b>
<b>10</b>	<p><b>PRECISION TOP LOADING AND PLATFORM BALANCES DIGITAL BALANCE 2200g x 0,01g</b>          Designed for laboratory general purposes, fitted with under balance weighting facility for specific gravity tests, and RS232 for PC or printer connection. Sturdy and precise, large backlighted display.</p>	<b>1</b>



	<p>Immediate and automatic zeroing and tare, automatic changeover of scale sensitivity (dual range models only). Power supply and standard - optional accessories are listed for each model of balance and described in the legend. A =Power supply only 230V 1ph 50/60Hz E =Power supply:rechargeable batteries and also 230V 1ph 50/60 Hz F =Under balance weighting facility for specific gravity tests</p>	
<b>11</b>	<p><b>LABORATORY GLASSWARE - VOLUMETRIC FLASK WITHOUT STOPPER</b> Volumetric flask, unstoppered, borosilicate glass Capacity 100ml Capacity 250ml, Capacity 1000ml</p>	<b>5</b>
<b>12</b>	<p>COMBINED ROCKWELL AND BRINELL HARDNESS TESTER. Conforming to the BS specifications With all standard accessories</p>	<b>1</b>
<b>14</b>	<p><b>Drill Electronic</b> ½ "Drill electronic heavy duty hand drill ½ chuck capacity with key, 230 volts, 50 cycle, single phase.</p>	<b>3</b>
<b>15</b>	<p>DIGITAL CONCRETE TEST HAMMER Standard: EN 12504 PART 2 - ASTM C805 - BS 1881:202 - NF P18-417 - DIN 1048 - UNI 9189 - UNE 83307 -</p> <p>This digital concrete test hammer, microprocessor operated, entirely with advanced technology, performs basic concrete testing with continuous automatic recording of all parameters in accordance with EN 12504-2 Specifications, register and process data and then transfer them to a PC , but equipped with an electronic transducer that measures the rebound values and supplies automatically the results on a graphic display.</p> <p>During test performing:</p> <ul style="list-style-type: none"> <li>- Shows index value</li> <li>- Shows average index value</li> <li>- Allows to select measuring system in MpA or Psi</li> <li>- Shows numbers of performed rebounds</li> <li>- Shows date and time</li> <li>- Identifies tested element</li> <li>- Identifies automatically and shows rebound angle</li> <li>- Shows battery life</li> </ul> <p>Main features: - Possibility to store, display on graphic LCD 64x124 and download data to PC over 20000 tests</p> <ul style="list-style-type: none"> <li>- Automatic statistical processing and readings</li> <li>- Automatic conversion of rebound index to equivalent compression strength in psi, N/mm<sup>2</sup>, kg/cm<sup>2</sup></li> <li>- High accuracy and resolution</li> </ul> <p>Technical specifications: - Impact energy: 2,207 Joule (Nm)</p> <ul style="list-style-type: none"> <li>- Measuring range: 10 – 120 N/mm<sup>2</sup></li> <li>- Interface: RS232</li> <li>- Power source: 6 rechargeable batteries AA NiMh 2000mA</li> <li>- Battery life: 60 hours with automatic shut down</li> <li>- Operating temperature: -10°C +60°C</li> </ul> <p>Supplied complete with data transfer software, data transfer cable RS232, battery charger, abrasive stone, carrying case Dimensions with case: 330x180x120 mm Weight: 3 kg</p>	<b>02 .</b>
<b>16</b>	<p>TROWEL, STAINLESS STEEL 100x200mm, TROWEL, STAINLESS STEEL 60x140mm</p>	<b>6</b>
<b>17</b>	<p>Trowels.3 ¾"x 11"Trowels finishing trowel, 3 ¾"x 11"blade, aluminum alloy shank riveted construction wood handle tempered spring steel blade.</p>	<b>6</b>



18	Steel Hammer 300g	10
19	Rule Straight Edge 300mm long.	12
20	Edgar Curved Edgar.3"x 6"radius.	12
21	Edgar Curved Edgar.3"x 6"Edgar Curved Edgar 3"x 6"both ends, curved cuts 3/8"groove.	10
22	Square Steel.24",Square steel 24", body 16"tongue.	12
23	Slump Cone.Slump conical steel bottom plate and steel roll.	12
24	Brushed Steel Wire.7"x 3"Brushes steel wire block (size: 7"x 3")	12
25	Tongs.Tongs for bricks 5 to 9 brick capacity	12
26	Plumb Bob.Plumb bob 2 Oz, steel polished with replaceable blued steel point screw.	12.
27	Shovel.9 1/2"x 12"Shovel masons, approx: 9 1/2"x 12"square point with handle.	12
28	Shovel Round9 1/2"x 12"Shovel round point. Blade size 9 1/2"x 12"with handle.	10
29	Wheel Barrow.5 cu ftWheel barrow 4 to 5 cu ft capacity steel under carriage metal handles heavy rolled steel body 16"steel wheel fitted with 8 x 4 rubber tire and tube.	12
30	Hammer.16 Oz Hammer nail 16 Oz, bell face curved claw carpenters.	12
31	Durmat.10lbs,Durmat 10lbs steel base with wooden handle.	12.
32	Pick Axe. Pick axe with handle.	6
33	Color Removing Scraper.Color removing scrapers steel blade wooden handle.	6
34	Mild Steel Round Cutter.Mild steel round bar cutter.	4
35	Hocked and Grooved.1" Hocked and grooved 1"bar handled with 5 sets tongued grooved for bending steel bars.	6

**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM  
CIVIL DRAFTING SHOP.**

S.No.	Description of Item	QTYx2
1.	Drawing Table Top 42"x 30"Height 37"Base constructed of 1"square steel, 18 gauge Designed to allow a 3"overhang at back of base for mounting of drafting machine42"W x 30"D top with pencil ledge Two Ratchet lock mechanisms. Top adjustable 0 to 45 degrees	50
2.	Drafting Machine Precision carriage drafting machine Size (80X140)CM, Provided with 360 degree protector head with on the outside lying zero point adjustment, free running central control with lever for locking the protractor head in intermediate angle positions. Vernier reading accuracy 10 minute. Of rulers, plexigum, division 1:1:5 length 30/40cm	03
3.	Tee Square Wooden. 42"(105cm)Smooth black polish with transparent plastic double edge superior quality.	5
4.	Set Square.14"(35cm)Set square unbreakable celluloid inch & cm graduation (30-60&45-45) degree.	5
5.	Tracing Table 48"x36"Tracing table with thick dull glass with two 48"tube lights adjustable top total height 39"(local) made.	2
6.	Drawing Instrument Set. Instruments are held securely in crimson foam molded inserts Metal cases with black simulated pigskin and metal trim Set includes 6-1/2"bow compass, 4-1/2"bow compass, friction divider, pen handle, pen attachment, tube of compass leads and divider points. Set includes 6-1/2"bow compass, 4-1/2"bow compass, friction divider, lead holder, tube of compass leads and tube of divider points.	5
7.	Drawing Technical pen set.6"and 4-1/2"pencil compasses, 6 friction divider, 2mm lead holder, tube of parts.	5



8.	Template for Ellipse. size 296mm x 150mm.Transparent 25 ellipse with isometric axis 4mm to 65mm outer size 296mm x 150mm.	5
9.	Template for Plumbing. size 175 x 11cm. Transparent scale 1:50 outer size 175 x 11cm.	5
10.	Template for Plumbing. size 220x85mm .Sanitary installation transparent scale 1:50 size 220x85mm with H profile.	5
11.	Electrical Template. Transparent.	5
12.	Template for Furniture. size 225 x 125mmPlan view transparent outer size 225 x 125mm with ink bosses.	5
13.	Metric Scale Set.30cmLength 30cm set of 4 scales with plastic coating on imported cord. (Local.)	5
14.	Pencil Sharpening Machine. With 8 holes.	2
15.	Drawing Binding Machine.12 ½ "Suitable for binding four sides of drawing with cutter and knob with desk top attachment.	2
16.	French Curve Set.18cm & 24cm.12 different curves packed in plastic box.	10
17.	Pencil Sharpening Machine. With 8 holes.	10
18.	Scales Architect.12"Professional quality with heavy plastic center core Engraved graduations. Open dived: 1/8", 3/32", 3/16", ¼", 3/8", ½", ¾", 1", 1-1/2", and 3"to the foot. On edge is divided in sixteenths to the inch Color coded for easy identification.	10
19.	Parallel Ruling. 15"long.18"long, 0.185"thick plastic Chrome plated metal connecting bars Full 3"spacing with smooth movement Non-Slipping friction cork pads.	05
20.	Blue Printing Frame.6ft x 4ftMounted on wheels with best quality Namda-game made of seasoned wood.	05
21.	Paper Cutter. With moving cutter.	05
22.	Template for Radius. 8-1/2"x 11"x .030"thick 62 size ranging in diameter from 1-1/2"to 3-1/2".	5
23.	Architecture Domestic Installation Template. Furniture, sanitary installation / bath room and Toilet, Kitchen design and pipe installation templates	01
24.	Flat Rules.2cmx30cm long. Made of crystal clear acrylic with beveled edge and tracing edge.	10
25.	Scale with Division.2cm-30 cm long. Transparent Plastic.	10
26.	Master Bow compass with rapid adjustment. Length 175mm.Matte chrome finish Gear head design with rapid adjustmentCenter wheel fine adjustment 1/8"to 10"with built in stop. Interchangeable pencil and divider parts Packed in see-through plastic case with extra lead and T-bolt.	5
27.	Parabola Template.124x70x1.0mmParabola template with sine/cosine curve.	5
28.	Compass Set. Contents master bow compass rapid adjustment with bifurcated drawing pen socket extension bar, pencil insert and lead / spare point container.	5
29.	Technician Compass. Length 154mm for circles up to 480mm dia General purpose compass with bifurcated drawing pen socket. Needle leg with telescopic extension with pencil insert, screw driver and lead/spare point container.	5
30.	Dual Compass Attachment.3.5mm leg diameter 4.0mm peg diameter. For insert socket with a bore of 3.5 and 4.00 peg rotate able through 90 for all rotting drawing pens.	5
31.	Rot ring Variant B Drawing Pens Set of 8 rotring variant B 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 1.2	12 Sets.
32.	Rot ring Isograph Drawing Pens Set of 8 rotring Isograph0.1,0.18 0.25 0.5 0.7 1.7 1.4 2.0	12 Sets.
33.	Draftsman Chair. Revolving Chair.	01
34.	Draftsman Stool. Wooden Stool.	60





**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM  
SOIL MECHANICS & HIGHWAY SHOP.**

S.No.	Description of Item	QTYx2
1.	<p><b>SPEEDY MOISTURE TESTERS</b> Standard: ASTM D4944 - AASHTO T217 - UNE 7804 - BS 6576 - 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 grm MoistureRange 0-20% Weight : 6Kg</p>	1
2.	<p><b>ELECTROMAGNETIC SIEVE SHAKER</b> DIA. FROM 200 TO 315 mm - 8" - 12" Standard: EN 932-5 - ISO 3310-1 - Dimensions sieves dia.: 200-250-300-315 mm - 8"-12" Dimensions mm: 380x440x1080 mm Weight Kg: 65. Sieve Shakers are activated by electromagnetic impulses and to the triple vibrating action (vertical, lateral and rotational) they are recommended to perform sieving tests where high precision and performance are important, and where continual and intense uses are required. suggested for accurate sieving tests, also on fine materials. Electromagnetic Shakers are of simple and sturdy construction, can hold up to 10 sieves and they are also suitable for wet sieving tests The separate digital control panel can adjust: - The sieving time from 1 to 999 minutes - The vibrating intensity - The pauses between one vibration and the following one (this is especially indicated for fine material sieving). Power supply: 230 V 50/60 Hz 1ph 450/750W</p>	1
3.	<p><b>LABORATORY OVENS,</b> FORCED VENTILATION, DIGITAL THERMOSTAT. HIGH TEMPERATURE UNIFORMITY AND PRECISION DOUBLE WALL CAPACITY 100 LITRES. Standard: EN 932-5 - EN 1097-5 - ASTM C127 - ASTM C136 - ASTM D558 - ASTM D559 - ASTM D560 - ASTM D698 - ASTM D1557 - ASTM D1559 - BS 1377:1 - BS 1924:1 - UNE 103300 - Especially suitable where high temperature uniformity and precision inside the chamber are required. The accuracy of the temperature and its uniformity are granted within the tolerances requested by the Standards. The interior chamber, the grid shelves and the exterior front part are stainless steel made; while external walls are made from zinc coated steel. Sturdy manufacture, double walled with 60 mm thick glass fibre for thermal insulation. Temperature from ambient to 200°C. is controlled by a digital precision thermo regulator-indicator. The oven is equipped of a dual safety thermostat with higher thermic threshold to prevent accidental over-temperatures, and to ensure safe working conditions. The oven is supplied complete with two grid shelves easily removable and that can be positioned at various heights, pilot light, exhaust holes for fast cooling. Dimensions: Inside 400X420X600mm with spare grid shelf stainless steel Outside:700x515x910 mm Power supply: 230V 50-60Hz 1ph.</p>	2



<b>4.</b>	<p><b>ELECTRONIC PRECISION TOP LOADING AND PLATFORM BALANCES DIGITAL BALANCE 4100g x 0,01g</b></p> <p>Designed for laboratory general purposes, fitted with under balance weighting facility for specific gravity tests, and RS232 for PC or printer connection. Sturdy and precise, they are fitted with strain gauge cells and large backlighted display. Immediate and automatic zeroing and tare, automatic changeover of scale sensitivity (dual range models only). Power supply and standard - optional accessories are listed for each model of balance and described in the legend. LEGEND OF THE MODEL TABLE HERE ATTACHED (SEE BELOW): STANDARD ACCESSORIES: A =Power supply only 230V 1ph 50/60Hz E =Power supply:rechargeable batteries and also 230V 1ph 50/60 Hz F =Under balance weighting facility for specific gravity tests G =RS 232 port</p>	<b>1</b>
<b>5.</b>	<p><b>VICATRONIC - AUTOMATIC COMPUTERISED TROPICALIZED VICAT RECORDING APPARATUS</b></p> <p>Standard: EN 196-3:2005 - EN 13279-2 (GYPSUM) - EN 480-2 - ASTM C187 - ASTM C191 - DIN 1168 - DIN 1196 - BS 4550 - UNE 80102 - NF P15-414 - NF P15-431 - AASHTO T129 - AASHTO T131 -</p> <p>The Vicatronic apparatus, that is designed and manufactured using the most recent and sophisticated technology, is used for the initial and final setting time determination of cements or mortar pastes.</p> <p>The unit is manufactured with anticorrosion and tropicalised components to be used in places with humidity not below 90% and 20°C. controlled temperature as required by EN Specifications.</p> <p>The entire test is made in a fully automatic way and gives a very precise and repeatable result. The results are printed on the incorporated printer and this eliminates the manual operations of installing and zeroing the paper graph on the drum.</p> <p>The use of the appliance is extremely simplified by the guiding menu that is available in english, french, spanish, german, italian language.</p> <p><b>DISPLAY</b></p> <p>The large high contrast LCD display (negative blue) has a high resolution and shows the test data together with the general functions of the appliance. It visualises for the first time in real time the graph of the test (see picture) replacing and simulating what the old fashioned pen tracing on the paper. The appliance has a clock calendar that is used to program the test cycles.</p> <p><b>FIRMWARE</b></p> <p>The Vicatronic is supplied with the standard programs to make automatically, all the tests according to the following Standards: EN 196-3:2005 / EN 13279-2 gypsum / EN 480-2 / ASTM C191 / DIN 1164 / DIN 1168 gypsum / NF P15/431 / BS 4550 / AASHTO T131.</p> <p>Further programs can be developed by the operator using the specific menu "free tests" available on the base firmware; the user has the possibility to set 5 totally free test profiles defining the number of penetrations and the coordinates of each penetration (ray in mm of the circle where the number of penetrations have to be distributed) and number of circles. This possibility is particularly useful when testing new mortars, additives and to make research tests that requires sophisticated and flexible applications.</p> <p><b>PROBES</b></p> <p>The mobile probe weighs 300 g (1000 g following the EN, NF Standards), the penetration needle has 1,13 mm diameter (1 mm following ASTM Standard) and its fall can be programmed in free fall or in guided fall. Totally flexible as far as the time is concerned,</p>	<b>1</b>



the penetrations time can be selected between 0,5 minutes and 999 minutes (fix interval between two penetrations of a test) or can change during the test up to 5 different phases with different interval time; it can even change automatically during the setting time fixing a penetration depth. The two options described here above can be combined together.

The penetration measure is read by a very accurate encoder having a resolution of 0,1 mm.

The Vicatronic also calculates, visualises and prints:

- The time from the moment of the sample preparation (set by the operator).
- The time the test starts.
- The residual time to the next penetration.
- The residual time to the end of the test
- The number of penetrations made and the residual penetrations to be made.

**TIMER 0 – 999 MINUTES**

The firmware allows activating a delay on the appliance to the beginning of the test. This program is particularly useful when the approximate setting time of the mortar is known and the operator wants to start the working of the Vicatronic after a certain time in order to concentrate the penetrations with a short interval of time between them and have better measuring values.

#### TEST RESULTS

The Vicatronic can memorise all the test parameters and results and keeps a file with a capacity of more than 50 complete tests.

In case of a power cut, even a short one, during the test execution, the test will be invalidated and the appliance will be automatically stop keeping the set data.

At the end of the test the appliance will print automatically by the incorporated printer a report with all the data concerning the last test made including a graph tracing each single penetration with its values of time and penetration number.

#### PC CONNECTION AND NET OPTIONS

Despite the totally independent working of the machine that includes an incorporated printer, the Vicatronic has been designed for a PC connection (RS232) with the possibility to download the test data using a common program (Microsoft Hyper Terminal) that is normally incorporated with the Windows package of the PC. In this case the data processing will have to be made by the operator.

The "Vicat-Win" software (accessory mod. E044-11) allows receiving, managing, processing and completing the test dates; it will trace automatically the graph, personalise and print the test report.

The Vicatronic offers the possibility, buying the kit "Vicat-Net" (accessory mod. E044-12), to connect up to 20 appliances on a net managed by a PC through two pins RJ45 with RS485 protocol. This allows obtaining a complete remote control from the PC of each single Vicatronic.

The details of the performances are following:

- Transfer each single control or function of the Vicatronic on the PC
- Verify in real time each phase of the test being made.
- Automatically download the final results at the end of the test on all the connected Vicatronic.
- Process and file at the same time all the tests without obliging the operator to move from his working place.

Additionally the firmware has many other functions detailed in the technical chart that will be transmitted to the user interested to know more about it.

The Vicatronic is supplied complete with the incorporated printer, two hardened needles (one with 1 mm diameter and one with 1,13 mm. diameter), two conical moulds EN and ASTM, a glass plate to hold the conical mould.



	<p>Power supply: 230 V 1 Ph 50/60 Hz. 50W Dimensions: 400 x 200 xh 470 mm. h. 1- Weight: 13 kg.</p>	
<b>6.</b>	<p><b>Specimen Preparation Tools.</b> Specimen Size 35x35x170mm Specimen preparation tools. A- Three gang mortar beam mould made of steel, size 35x35x170mm long and approx: 1.0 kg in weight furnished with a cast iron base. B- Tamping rod, made of steel size 35x35x170mm long and approx: 1.0 kg in weight. C- Extension collar for 3 gang mortar beam mould for operation, made of steel. D- Spatula with blade 39.5mm E- Mixing bowl, made of steel approx: 30mm F- Iron mortar with pestle mortar dia 15cm. G- 2"Cube mould conformed to ASTM C-109 made of hard steel, 3 mould in one piece. H- Class beakers. I. Cement Knife size: 2.7 cm x 18cm. J- Straight edge triangular shape, blade 30cm long with handles at both ends.</p>	<b>2</b>
<b>7.</b>	<p><b>Table Balance.</b> 2kg. Table balance Sensitivity 2g.</p>	<b>2</b>
<b>8.</b>	<p><b>Soil MACKINTOSH PROSPECTING KIT</b> for Soil Sampling This equipment is particularly useful for initial site investigation work in remote areas. The kit is capable boring to a depth 10 - 12 mtrs depending on ground conditions. The use of specially designed extension rod couplers reduces borehole friction to a minimum, permitting easy operation to considerable depth. Equipment consists of: - 12 boring rods 1 mtr long with 12 couplers - 2 pipe wrench and 1 tap wrench - Core tube adaptor and clay core tube - Driving head and clearing rod - Long and short driving point - Auger tool and standard core tube - Lifting/driving tool and hammer - Die nut and hand tap All equipment supplied in a strong wooden box Weight: 45 kg approx.</p>	<b>1</b>
<b>9.</b>	<p><b>Soil Analysis Sieve Test.</b> Soil analysis sieve test, consisting of a set of 12 sieves of different mesh size</p>	<b>1</b>
<b>10.</b>	<p><b>PAVEMENT CORE DRILLING MACHINE</b> Standard: EN 12697-27 - compact and portable machine with vertical screw feed, is used for pavement core sampling where it is not easy to get electrical power. Petrol engine 5 HP power, 4-cycle Briggs &amp; Stratton model. Supplied complete with core bits. Dimensions: 850x580x1230 mm Weight: 135 Kg</p>	<b>1</b>
<b>11.</b>	<p><b>Standard Compaction Test Set.</b> Standard Compaction test set for determining moisture density relation of soils by</p>	<b>1</b>



	Compaction method including moulder rammer etc.	
<b>12.</b>	<b>MICROWAVE OVEN</b> Used for speed drying purposes, moisture determination, conditioning. Power supply: 230 V 50 Hz 1ph 700W Internal dimensions: 380 x 340 x 300 mm approx. Weight: 28 Kg	<b>1</b>
<b>13.</b>	<b>Pyknometer Apparatus.</b> 1kg. EL24-2885. knometer, glass jar complete with non-corrodible cone and rubber seal Weight: 500g, Model: No EL24-2850.	<b>3</b>
<b>14.</b>	<b>AUTOMATIC PROGRAMMABLE PROCTOR - CBR</b> Standard: UNI EN 13286-2 - CNR UNI 10009 - CNR N. 29, 69 - ASTM D698, D1557, D1883 - AASHTO T99, T180, T193 BS 1377 :4, 1990, 1994 - NF P94-093, P94-066 - DIN 18127 - UNE 7365, 7255, 103-501-94 - DUTCH RAW, EPP E VARIE NORMATIVE INTERNAZIONALI. - EN 13286-2 / ASTM D698, ASTM D1557, ASTM D1883 / AASHTO T99, AASHTO T180, AASHTO T193 / BS 1377:4, BS 1990, BS 1994 / NF P94-093, NF P94-066 / DIN 18127 / UNE 7365, UNE 7255, UNE 103-501-94 / CNR UNI 10009 / CNR N. 29, CNR N. 69 / DUTCH RAW, EPP and most International Standards. Automatic, programmable PROCTOR / CBR Compactor with microprocessor, "high technology" Designed to compact Proctor and CBR specimens, it ensures an extremely uniform compaction degree, granting reliable and repeatable test results. The microprocessor software allows to select and to perform different compaction cycles in a fully automatic system, by strictly meeting the mentioned International Standards. The blows are automatically distributed as requested by the selected Standard, with turntable rotation and rammer displacement through photoelectric cell sensors and microprocessor. Top quality components and high accuracy mechanical workings grant very long life also under intensive utilisations. The digital control panel is separate from the machine and it can be fixed to the wall or mounted on a bench. The high resolution graphic display (blue negative) 320x240 pixels visualizes selected Standard, total number of blows, effected and remaining ones to end the test, and execution of each layer. The compactor is easy to use, friendly menu driven, of simple and practical maintenance. The user can "select and memorize up to 10 personalized test cycles", that can be later on modified or replaced by other ones. This is a very important function, because it allows to update the Compactor to new Standards, or any Standard not included in the microprocessor, or for research purposes. The original lift system of the rammer can be selected at 12" or 18", or at 300 or 450 mm, granting a correct and constant fall height. Rammer drop speed: 1 blow each 2 seconds. The compactor accepts moulds having dia. 4" and 6", 100 and 150 mm, both Matest made or from other producers, thanks to its universal mould fixing system. The machine is supplied "without rammers" to be ordered separately and selected according to the desired Standard (rammers are interchangeable). Not sellable in CE markets Power supply: 230V 1ph 50Hz 500W Dimensions: 610x470xh1710 mm Weight: 165 Kg	<b>1</b>
<b>15.</b>	<b>Dungan Test Set.</b> (To determine the sp. Gravity of fine & absorption & coarse aggerate). Balance 5 kg Weight: 2000g brass weight sets and 1kg slotted types. Sieves 8inch dia. 01 No. 4 mesh x 4 inch height 100 mesh standard height 100 mesh side opening. With accessories.	<b>1</b>
<b>16.</b>	<b>PROCTOR PENETROMETER</b> Standard: ASTM D1558 -	<b>2</b>



	<p>Used to determine in field the moisture-penetration resistance relationship of fine grained soils. Spring load scale 0-55 Kg, subdiv. 1 Kg, with direct max. value reading in Kg. on the sliding rod.</p> <p>Complete with 9 interchangeable stainless steel needles dia. 4,52 5,23 - 6,40 - 9,07 - 12,83 - 16,54 - 20, 22 - 24,79 - 28,55 mm., accessories, carrying case.</p> <p>Chromed finishing.</p>	
<b>17.</b>	<p><b>PROVING RING PENETROMETER</b></p> <p>Used to determine the bearing strength, compaction degree of subgrades, and also for determining the penetration resistance of soil.</p> <p>Supplied complete with "T" handle, proving ring 100 kgf (1 kN) with maximum load pointer and calibration chart, extension rod 500 mm. long graduated every 100 mm., removable cone point 30 ° with 1 sq.in. top area.</p> <p>Cadmium plated against corrosion.</p> <p>Weight: 5 Kg</p>	<b>2</b>
<b>18.</b>	<p><b>Compacting Factor Apparatus:</b></p> <p>Frame, hinged welded, constriction. Hoppers. Two detachable; bottoms with hinged trap doors with release catches. Replacement parts.</p>	<b>1</b>
<b>19.</b>	<p><b>Stop Watches.</b></p>	<b>5</b>



**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM  
PUBLIC HEALTH ENGG LAB**

<b>S. No.</b>	<b>Description of Item</b>	<b>QTYx2</b>
<b>01.</b>	<b>Pipe Wrench.</b> 18" ,12",08",Pipe wrench heavy-duty pipe wrench. Tough quality one pipe frame housing and handle with replaceable heel jaws, pipe capacity 2, 1, and ¾ respectively.	<b>5 Set</b>
<b>02</b>	<b>Pipe Wrench</b> ¼"-4"Cap.Pipe wrench China, Local or Equivalent type ratcheting and reversing China, Local or Equivalent pipe wrench. Drop forged steel body nickel chrome plate 12"handle 15"chain capacity ¼ to 4"	<b>6 Nos.</b>
<b>03.</b>	<b>Pipe Grip.</b> Cap-2"Pipe grip 2"capacity fabric step 14"metal handle.	<b>02 Nos.</b>
<b>04.</b>	<b>Pipe Reamer.</b> Cap-1"-2"Pipe reamer with handle ratchet type 1"to 2"capacity with burning spiral flutes.	<b>6 Nos.</b>
<b>05.</b>	<b>Pipe Vice.</b> 1/8"-2 ½ "Cap Pipe vice capacity 1/8"to 2 ½"mouthed on triangular metha table tray, fitted with three metal folding legs.	<b>6 Nos.</b>
<b>06.</b>	<b>Pipe Thread Set.</b> ¼ "to 1 ¼ " Pipe thread set (NPT) reversible reversible ratchet handle set to include dies for pipe size ¼, 3/8 ½, and ¾,1, 1 ¼ inches.	<b>4 Nos.</b>
<b>07.</b>	<b>Pipe Taps.</b> ¼ "to 1 ¼ "Pipe taps (NPT) high grades tempered tool steel, one set consisting of square shank top and of the following size: ¼, 3/8, ½, ¾, 1 and 1 ¼, inches.	<b>4 Nos.</b>
<b>08.</b>	<b>Pipe Tap.</b> ¼"to 1 ¼"Pipe tap wit worth (NPT) high grades tempered tool steel one set consisting of square shank taps of the following (size: ¼, 3/8, ½, ¾, 1 and 1 ¼ inches).	<b>4 Nos.</b>
<b>09.</b>	<b>Pipe Cutter.</b> ¼"to 1 ¼"Pipe cutter with heavy duty cutter wheel (capacity 1/8"to 1 ¼".)	<b>5 Nos.</b>
<b>10.</b>	<b>Pipe Cutter.</b> ¼"to 2"Pipe cutter with heavy duty cutter wheel (capacity ¼" to 2")	<b>5 Nos</b>
<b>11.</b>	<b>Cutter Wheel.</b> Cutter wheels these wheels to fit above cutters	<b>5 Nos.</b>
<b>12.</b>	<b>Wrenches.</b> 08",10",12",Wrench adjustable alloy steel construction drop forged rust resistant finish.	<b>5 Set</b>
<b>13.</b>	<b>Pliers Adjustable.</b> 8",Pliers adjustable 8"alloy steel construction drop forged rust resistant finish.	<b>5 Nos.</b>
<b>14.</b>	<b>Level Aluminum</b> Masons.48" Level aluminum masons 48"with 2 double plumbs and one double level.	<b>5 Nos.</b>
<b>15.</b>	<b>Square Steel.</b> 24"x 16" Square steel 24"body 16"tongue.	<b>5 Nos.</b>
<b>16.</b>	<b>Star Drill.</b> ¾ " Star drill forged alloy steel, each set to consist of one each ¼ , 3/8 ¾ with 12 shank (for drilling brick stone concrete.	<b>5 Nos.</b>
<b>17.</b>	<b>Drill Electric Heavy Duty.</b> ½" Drill electric heavy duty handle drill ½ chuck capacity with key 230volts, 50 cycle single phase.	<b>6 Nos.</b>
<b>18.</b>	<b>Masonry Drills.</b> 1/8"- ¼" Masonry drill one each ¼", 5/16", 2/8", 1/8"carbide type masonry drills designed for use in electric handle drill.	<b>6 Set</b>
<b>19.</b>	<b>Hacksaw.</b> 12" Hacksaw 10"to 12"adjustable pistol grip handle rust proof finish.	<b>12 Nos.</b>
<b>20.</b>	<b>Hammer Ball.</b> 24 Oz Hammer Ball peen 150 Oz size: hardwood handles, drop forged alloyed steel head.	<b>12 Nos.</b>



21.	<b>Hammer Ball Pin.</b> 16 Oz Hammer ball peen 24 Oz size: hardwood handles drop forged alloyed steel head.	12 Nos.
22.	<b>Hammers Nail.</b> 16 Oz x ¼ Oz Hammer nails, 16 Oz, bell face, curved (Claw carpenters).	12 Nos.
23.	<b>Screwdrivers.</b> 16"x ¼ " Screwdrivers ¼"x 16"shank plastic handle, vanadium steel blade.	12 Nos.
24.	<b>Water Closet.</b> Water closet English type.	6 Nos.
25.	<b>Water Closet.</b> Water closet Indian type.	6 Nos.
26.	<b>Wash Hand</b> Basin.Wash hand basin central pillar cock, pattern.	6 Nos.
27.	<b>Wash Hand</b> Basin.2 Pillar cock pattern.	6 Nos.
28.	<b>Urinal.Urinal.</b>	6 Nos.
29.	<b>Overhead</b> TankOverhead steel water tank.	2 Nos.
30.	<b>Low Level</b> Tank.Low level steel water tank.	2 Nos.
31.	<b>Pillar Cock.</b> Pillar cock (Asian Pattern).	12 Nos.
32.	<b>Mixer Type.</b> Mixer type pillar cock.	12 Nos.
33.	<b>Stop Cock.</b>	12 Nos.
34.	<b>Bib Cock.</b>	12 Nos.
35.	<b>Waste Coupling.</b>	12 Nos.
36.	<b>Files.</b> Round12" 2 <sup>nd</sup> cut.	12 Nos.
37.	<b>Files.</b> Flat 12" 2 <sup>nd</sup> cut.	12 Nos.
38.	<b>Files.</b> Three square 12" 2 <sup>nd</sup> cut.	12 Nos.

**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM  
HYDRALICS AND IRRIGATION SHOP**

S.No	Description of Item	QTYx2
1.	<b>Volumetric Hydraulic Bench.</b> Flow range 0-60 lit/minute sum tank Cap: 160 litre. Volumetric tank Cap: 35 litre Pump 200w submersible type Comprising .Rectangular. Notch depth: 100mm. ii- V- Notch (30) depth: 100mm.V- Notch (90) depth: 100mm.Vernier Gauge depth: 100mm. Assembly.	1
2.	<b>Free Standing Apparatus. (Stability of a floating body).</b> 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.	01 Nos.
3.	<b>Venturimeter Venturitube aluminum inlet inside dia 26mm.</b> Throat inside dia 16mm outlet inside dia = 26mm manometer tubes transparent plastic range: 0-290mm max: flow rate 26 lit nominally 27 l/min. Dimension and Weight 520 x 200 x 670 mm (11kg) Gross: 0.26m <sup>3</sup> , 40kg.	01 Nos.





**CIVIL TECHNOLOGY GPI MIRANSHAH & SADA DISTRICT KURRAM  
WOOD WORK SHOP PRACTICE**

S. No.	Description of Item	QTYx2
01.	<b>Work Benches.</b> 1320mmx560mmx838mm Wood tops thickness 32 mm with wooden leg 102mm square.	05 nos.
02.	<b>Bits Auger.</b> 6mm to 25mm Bits auger consisting of 13 bits 6mm to 25mm.	10 Nos.
03.	<b>Bits Auger.</b> 6mm 10mm 12.5mm 19mmMade of tool steel double square.	10Nos Each.
04.	<b>Bits Expansive and Adjustable.</b> 15 to 35mmBits expansive and adjustable, boring from 15mm to 5mm.	10Nos.
05.	<b>Bits Countersink.</b> 12.5mmBits countersink for brace. For wood, 12.5mm dia.	10 Nos.
06.	<b>Bits Screwdriver.</b> 4.75mmBits screwdriver 4.75mm for brace.	06Nos.
07.	<b>Screwdriver.</b> 6mmScrewdriver, 6mm for brace.	06Nos.
08.	<b>Bits Screwdriver.</b> 8mm,15mmBits screwdriver, for brace.	06Nos.
09.	<b>Bits Gimlet.</b> 2 Size No2,3 Size No3,4 Size No4,5 Size No5 6 Size No6,7 Size No7,8 Size No8	06 Nos.
10.	<b>Bits Brace.</b> 200mm Bits brace 200 mm sweep "Alligator" Jaw chromed.	06Nos.
11.	<b>Bits (Machine).</b> 9.5mm 12.5mm 9mm, 25mm Bits Machine for wood.	06 Nos.
12.	<b>Twist Drills.</b> 1.5mm to 12.5mm 3mm 4.74mm Twist Drills straight shank.	06 Nos. Each.
13.	<b>Hand Drill</b> 8mmDouble pinion drill with die cast body and wooden handle. Used for small drilling operations. Overall dia. 215mm 3jaw chuck type.	06 Nos.
14.	<b>Vice.</b> 175mmVice, wood workers rapid action, dog in front jaw.	05Nos.
15.	<b>Curving Sets.</b> Curving sets consisting of chisel, bent gauge u-tool skew chisel, veining tool, forged stool blades long wooden handles (set of size)	06Nos.
16.	<b>Chisels.</b> 3mm, 115mmChisels wood forged in one piece, tough plastic handles.	12 Nos.
17.	<b>Chisel Wood.</b> 6mm 9.5mm 12.5mm 19mm 25mm 37.5mm 50mm Chisels wood forged in one piece, tough plastic handles 115 mm blades.	10Nos.
18.	<b>Gauge.</b> 6mm 12.5mm 19mm 25mm Gauge inside ground for wood working hand forged tool steel blades wood handles (for wood turning)	10 Nos.
19.	<b>Gauges.</b> 3mm 6mm 12.5mm 19mm 25mm Gauges outside ground for wood working.	06 Nos Each.
20.	<b>Hammer.</b> ½ Kg,¼ Kg, Hammer nail bent claws, bell face designed to pull nails without heads.	06Nos.
21.	<b>Planes.</b>	06Nos.



	355mm x 50mm Planes jack smooth bottom fine gray cast iron frames.	
<b>22.</b>	<b>Plane.</b> 355mm x 50mmPlane jointer.	<b>06 Nos.</b>
<b>23.</b>	<b>Planes.</b> 140mm x 19mmPlanes rabbit.	<b>06Nos.</b>
<b>24.</b>	<b>Planes.</b> 225mm x 50mm Planes smoothing.	<b>06 Nos.</b>
<b>25.</b>	<b>Plane.</b> Planes Router hand plane circular for concave and convex surfaces, steel base.	<b>06 Nos.</b>
<b>26.</b>	<b>Plane.</b> 150mmPlanes block low cutting angle of 12 degree.	<b>06Nos.</b>
<b>27.</b>	<b>Rules.</b> 610mm x 28mm 350mm Rules bench, made of hardwood.	<b>10 Nos.</b>
<b>28.</b>	<b>Shrink Rules.</b> 300mm 7.5mm (L)5mm(L) Shrink Rules Steel.	<b>06 Nos.</b>
<b>29.</b>	<b>Saw Coping.</b> 162mmSaws coping using pin type blades adjustable to any angle.	<b>6 Nos.</b>
<b>30.</b>	<b>Saw, Blades.</b> 150mm Saw blades coping saw.	<b>10 Nos.</b>
<b>31.</b>	<b>Saw.</b> 300mm.Saws back full hand grip handle.	<b>05 Nos.</b>
<b>32.</b>	<b>Saw.</b> 300mmSaw compass with reversible blade, feature.	<b>06Nos.</b>
<b>33.</b>	<b>Saw.</b> 660mm Hand Saws, coarse cut 8 TPI	<b>06 Nos.</b>
<b>34.</b>	<b>Saw.</b> 140mm & 660mm Saw hand rip.	<b>06 Nos.</b>
<b>35.</b>	<b>Saw.</b> 300mm 14 TPI.	<b>06 Nos.</b>
<b>36.</b>	<b>Saw.</b> 225mmHand saw coarse cut.	<b>06Nos.</b>
<b>37.</b>	<b>Mitre Box.</b> 608mm x 127mmMitre box including eleven point stiff back saw, adjustable angle capacity at right angle 200 mm at 45 degree, 125mm.	<b>06 Nos.</b>
<b>38.</b>	<b>Miter Machine.</b> 660mm x 100mm Mitre machine including vice clamps stiff back fine tooth saw for picture frame and molding cutting.	<b>06 Nos.</b>
<b>39.</b>	<b>Screw Driver.</b> Size 1, 2, 3, 100mm shank 6mm blade 150mm shank 6mm blade 225mm shank 6mm blade. Screw drivers.	<b>10Nos.</b>



**LIST OF MACHINERY & EQUIPMENT FOR GPI MIRANSHAH & SADA DISTRICT KURRAM**

**DAE ELECTRICAL TECHNOLOGY**

S.No	Description	QTYx2
1	<b>SQUIRREL CAGE MOTOR.</b> Three phase synchronous motor with squirrel cage motor, Dalhandar circuit, pole changeable Ratings: Power 0.7/0.95 KW, Voltage:380 VA Y-Y, current 2.0/2.75 A, Frequency:50Hz Power Factor:0.74/0.77 Design:4/2 pole, speed 1405/2826 min-1	1
2	<b>UNIVERSAL MOTOR.</b> Operation with 220 V AC or DC Rating for connection to AC: Power 0.9W, Voltage 220V, current 8.3A, frequency 50 Hz, power factor:0.78, speed 300 min.1, rating for connection to DC: Power:1.0KW, Voltage 220V, current 6.5A, speed 3100 min-1.	1
3	<b>Induction motor split phase. BIFILAR WOUND MOTOR.</b> Single phase AC motor with starting relay and bifilar starter winding, Ratings: Power 0.75 KW, voltage: 220V, current:5.8 A, frequency:50Hz, Power factor, 0.81, Design"2 pole, sped:2870 min:	1
4	<b>REPULSION MOTOR,</b> with adjustable brushes for change of speed and direction. Setting range:2800.....0.....2800x min-1, Ratings:Power 1.0KW, Voltage:220 V, Current 8.8.A, Frequency:50Hz, Power factor:0.84, sped 2800 min-1,	1
5	<b>MULTI-FUNCTION MACHINE.</b> Three phase multifunction machine, can be used as slip ring motor or as synchronous machine for motor and generator operation. Ratings for operation as slip ring motor: Power:1.0KW, Voltage 220/380V, A/Y, Current:4.32/2.5A, Frequency 50Hz, Power factor:0.82, Design: 4 pole, speed 1385 min-1, Rating for operation as synchronous motor: Power 0.8 KW, Voltage:220/380V, A/Y, Current 2./42/1.4 A, Excitation voltage:7.8V, Excitation current:8.8A, Frequency:50Hz, Power factor:1, Design 4 pole, speed 1500 min-1	1
6	<b>Sectioned synchronous motor CUT AWAY MODEL SYNCHRONOUS MACHINE,</b> 1.0 standard commercial three phase synchronous machine with salient pale rotor. The starter is cut away by ¼ over the entire lengthy to enable an optimum view of the internal construction of the machine. The cutaway surfaces are protected against corrosion.	1
7	<b>MAGNETIC POWER BRAKE 1.0</b> Basic Set, Consisting of: Serves in connection with the control unit to record the torque in 1.0 K.W electrical machines. The current supply is provided the control unit via a connecting cable with a multi pin plug. The brake is protected from over loading bny separate vent6ilation and a thermoswit5.ch. Braking torque max.20 Nm, speed max. 6000 min-1, mains connection for ventilator: 220V, 50Hz.	1
8	Sectioned slipring induction motor <b>CUTAWAY MODEL SLIP RING MOTOR,</b> 1.0 Standard commercial three phase synchronous motor with slipring rotor. The starter is cut away by ¼ over the entire lengthy to enable an optimum view of the internal construction of the machine. The cutaway surfaces are protected against corrosion.	1
9	<b>DYNAMOMETER 100 N.</b> Scale divisions: 1 N without zero adjuster; measurement inaccuracy:=-/ 0.5 of fsd.	1
10	<b>CONTROL UNIT 1.0</b> For supply, control and regulation of the magnetic power brake. The recording of characteristics (speed/torque) is possible in automatic or manual operation. Equipped with; III uminated mains switch, operating mode switch, start and reset push button, 10 turn	1



	potentiometer for brake control, 2 potention meters to set M and N in automatic mode, overamperature indicator of the brake, mains cable, Indicators: 2 moving coil circular scale instruments with measurement range switch for:- speed: 1500/3000/6000 min-1, Torque: 10/30 Nm, connections via 4mm safety sockets for tacho generator, pen lift for XY-recorder External control; 0.....10 V DC, output (or mains voltage: 200V/50Hz.	
<b>11</b>	<b>COUPLING 1.0</b> Rubber coupling sleeve for mechanical connection of two electrical machine of the 1.0 KW series.	<b>1</b>
<b>12</b>	<b>COUPLING GUARD 1.0</b> Attachable guard for protection against contact with electrical machine rotating parts of the 1.0 KW series.	<b>1</b>
<b>13</b>	<b>SHAFT EXD GUARD 1.0</b> Attachable guard for protection against contact with electrical machine rotating parts of the 1.0 KW series	<b>1</b>
<b>14</b>	<b>TACHO GENERATOR 1.0</b> For registering the speed of electrical machine of the 1.0 kw series, out put voltage +/- V/100 min-l	<b>1</b>
<b>15</b>	<b>PANEL FRAME-T 150, TWO LEVEL.</b> 2 level frame for training panels in DIN A4 equivalent height, free standing design:3 aluminum profile reils with 2 brush strip, 2-T-base of rectangular steel bugging, width 1450 mm, Height: 730mm, depth:300mm.	<b>1</b>
<b>16</b>	<b>THREE PHASE SUPPLY UNIT WITH FCCB.</b> Cam switch 4 pole, Fault current circuit breaker 30 mA motor protection switch 6-10A phase control maps L1, L2, L3 mains cable with Cekon plug.	<b>1</b>
<b>17</b>	<b>RMS METER</b> Demonstration meter for measuring the true RMS voltage and current types of measurment:RMS-AC+DC total true RMS, RMS-AC Alternating true RMS, AV-AC+DC arithmetic average value switchover is possible for all ranges and types of measurement at any time measurement ranges for all types of measurements: Voltage:3/10/.30/100/300/1000 V, R=10 mohm, Current:0.1/0.3/1/3/10/30A, AV-Polarity indicators:2 LEDS, instrument: moving coil, class 1.5, 192x96mm(WxH), Scale division;0.....10 A and o.....3, scale length" 119mm, continuous overload protection in all measurement ranges up to 1000 V and 30 A, mains supply:110/130/220/.210V, 50Hz.	<b>1</b>
<b>18</b>	<b>ZERO VOLTMETER,</b> for measurement differences of mains and generator voltage in a synchronizing circuit full scale deflection at double operating voltage. The initial range of the scale is largely expanded. Measurement range:0.....400/800 V, Instrument: Moving iron meter class: 1.5 front frame 144xz 144mm	<b>1</b>
<b>19</b>	<b>ON/OFF SWITCH THREE POLE,</b> Switch load 20 A/500V AC, switch position:0-1	<b>1</b>
<b>20</b>	<b>10 SAFETY BRIDGING PLUGS BLK.,</b> Tan4, mm safety bridging plugs with 119 mm spacing colour black, max. current rating 32A.	<b>1</b>
<b>21</b>	<b>SET 32 SAFETY CONN. LEADS.</b> 4mm safety connecting leads with 2.5 mm cable, current rating 322?A.m consisting of: 2 each safety connecting lead red 100cm 2 each safety connecting lead, Blue 100 cm 2each safety connecting lead red 50 cm 2each safety connecting lead blue 50 cm 2each safety connecting lead red 25 cm 2each safety connecting lead blue 25 cm 4each safety connecting lead black 100 cm 6each safety connecting lead black 50cm 6each safety connecting lead black 25 cm 6each safety connecting lead black 15cm.	<b>1</b>
<b>22</b>	<b>MOTOR STARTER.</b>	<b>1</b>



	Three resistors, synchronously adjustable in 65 steps, for slip ring motor and multifunction machine 1.0 KW, Resistance values of switch steps; 10/.5/2.75/1.25/0.5/9 ohm, Additional fixed taps at: 5/1.25 ohm.	
<b>23</b>	<b>DOUBLE FREQUENCY METER,</b> "Two independent meter movements for frequency comparison of two voltages measurement rang: 2x47... 50.....53 Hz, Rated voltage: 380V, Instruments: vibration meter with tuned steel rod class 1.5 front frame 1'44x 144mm.	<b>1</b>
<b>24</b>	<b>SYNCHRONOSCOPE,</b> With rotational indicator for phase comparison in synchronizing circuits with three phase of single phase AC Rated voltage: 380V, Instruments: air zero, electro dynamic quotient movement from frame: 144x144mm.	<b>1</b>
<b>25</b>	<b>SHUNT 0.1 OHM,</b> Plug-in element for current measurement in conjunction with the isolation amplifier and no 735 26. Resister:0.1 ohm, 8A, 1%	<b>1</b>
<b>26</b>	<b>PAIR CABLES 50 CM, RED/BLUE</b> Plug: 2= 4mm, with axial sockets: continuous current:10 A max; conductor cross section: 1.0 max.	<b>1</b>
<b>27</b>	<b>POWER FACTOR METER.</b> Demonstration meter for power factor (cos phi) and phase- angle measurement rang: Power factor:0....1....0, phase angle: -90° (cap.) -0- +90°(ind), Voltage range:3.....1000 V , Ri=1mohm, Frequency ranges: 20 Hz....2KHz, No voltage ranges/current range switching instrument: moving coil, class 1.5 192x96 mm (WxH), Scale length :119 MM, continuous overload protection in all measurement ranges up to 1000 V and 50 A mains supply 110/130/220/240 V, 80 Hz.	<b>1</b>
<b>28</b>	<b>3-PHASE IOSOLATING TRANSFORMER</b> suitable for all circuit configurations. All connections via 4mm safety sockets Power:300VA, Primary: 3x280/220V, 80Hz, Secondary 3x2x100 V.	<b>1</b>
<b>29</b>	<b>1-PHASE ISOLATING TRANSFORMER</b> All connections via 4mm safety sockets Power: 300 VA, Primary 220V, 80Hz, Secondary: 2 x 110V.	<b>1</b>
<b>30</b>	<b>1-PHASE AUTO TRANSFORMER 0.3</b> All connections via 4mm safety sockets. Power 300 VA, Primary 220 V, 50 Hz, Secondary: 110/220/244 V.	<b>1</b>
<b>31</b>	<b>SCOT TRANSFORMER</b> For transforming from a 2 phase to a three phase mains and vice versa using a Scot circuit. It can also be used a three phase isolating transformer for transformation of 3x 110/220/380 V into 3x110/220 V and vice oversea. All connections via 4mm safety sockets. Power:2x150 VA Primary:2x110/190-/230/380V,50hz, Secondary:2x110/220V.	<b>1</b>
<b>32</b>	<b>RESISTIVE LOADS</b> Three synchronously adjustable circular rheostats (step winding) with scale 100-0% each with a series resister and fuse in the sliding contact connection, suitable for parallel, series, star and delta circuits, Resistance:3x47—ohm, Series Resistance: 3x220 ohm, 3x 0.6 A.	<b>1</b>
<b>33</b>	<b>CAPACITIVE LOAD</b> Three groups of MP capacitors each consisting of three capacitors, suitable for parallel series, star and delta circuits" capacitance:3x1/2/4pF, 450V.	<b>1</b>
<b>34</b>	<b>INDUCTIVE LOEAD</b> Three inductances with taps at 0.2/0.4/0.6 H(0.65A), 0.3/1.0/1.2 H (0.5 A) and 2.4/4.8/6.0H(0.25A) suitable for parallel, series, star and delta circuits.	<b>1</b>
<b>35</b>	<b>6 HU 3 PHASE VOLTAGE 380, 3N,</b> Power supply unit for variable 3 phase voltage: 19" plug-in unit, equipped with: - Mains sweitch:4-pol cam switch	<b>1</b>



	<ul style="list-style-type: none"> <li>- Mains voltage: 3x380 V +/-10%, 50-60 Hz,</li> <li>- Outputs: 3x0-380 V/7A, Short-terms 10A.</li> <li>- Output protection: 3 thermal circuit breakers, 6.5A.</li> <li>- Output through five 4mm safety sockets, one CEE socket 16 A.</li> <li>- Display: 3 flush-fitted moving coil meters for current indication.</li> </ul> <p>1 flush-fitted moving coil meter for voltage indication, switch able outer conductor/neutral conductor, outer conductor/outer conductor.</p> <ul style="list-style-type: none"> <li>- Phase control lamps.</li> </ul> <p>6 pin mains supply connector system with pre-mating ground contact pre-wired and ready for connection.</p>	
<b>36</b>	<p><b>CASSYPACK</b> Extremely versatile measurements system for computer based experimenting in natural-sciences and technical instructions consisting of Cassy-P. Interface for use in measurement and process control technology as well as in applied information science for recording physical and technical measured values. MSDOS connector, lhalf length plugged in card for MSDOS computer quick base component for the cassy inter face family for connecting cassy-E or cassy-=P to Computer. Along-with 4-analogue input with 12 bit voltage resolution. 2-analogue output +/-10V, 3mA, short circuit proof 12 bit. 2-censer box connector 2-Timer input 1-digital TTL hand shack input TTLinput over voltage proff 42V. 8-TTL out put with power transistor 1-protective voltage input 2-pin connectors. Including test Programme on 3.5 "and 5.25" disk and manual.</p>	<b>1</b>
<b>37</b>	<p><b>AUTOMATIC COIL WINDING MACHINE.</b> Equipped with Electric Motor For winding electric starter coils. Equipped with 11 pairs of type H arbors for both concentric and lap windings. For motors of upto about 50 KW(Imported)</p>	<b>1</b>
<b>38</b>	<p><b>HAND OPERATED COIL WINDING MACHINE</b> For coils up to about 30 cm dia. Electric motor coil winding fixtures and other accessories available. Suitable for training purpose (Imported).</p>	<b>1</b>
<b>39</b>	<b>BEARING PULLER 3,4,6" CAPACITY</b> three jaws	<b>6</b>
<b>40</b>	<b>OIL CIRCUIT BREAKER</b> for demonstration purpose, 220/240 (volt, 10-15 amp. 50 hz).	<b>2</b>
<b>41</b>	<b>AIR CIRCUIT BREAKER: FOR DEMONSTARATION PURPOSE, 220/240 VOLT, 10-15 AMP 50HZ.</b>	<b>2</b>
<b>42</b>	<b>ARMATURE TEST GROWLER.</b>	<b>2</b>
<b>43</b>	<b>INDUCTION RELAY</b> , demonstration type.	<b>1</b>
<b>44</b>	<b>OVER CURRENT/OVER VOLTAGE RELAY.</b>	<b>1</b>
<b>45</b>	<b>CELL TESTER 1.5V</b>	<b>5</b>
<b>46</b>	<b>BEARING PULLER, 4,8,12"</b>	<b>2 Set</b>
<b>47</b>	<b>STAR DELTA STARTER, 30A, 400V</b>	<b>2</b>
<b>48</b>	<b>DIRECT ON LINE STARTER, 220V, 50A, 50 CYCLE</b>	<b>2</b>
<b>49</b>	<b>BATTERY CHARGER</b> , input 230 V, 50 cycle, AC output3,6,12,V DC	<b>2</b>
<b>50</b>	<b>TELEPHONE EXCHANGE</b> , Telephone exchange incoming lines 2 Nos., outgoing lines, 10Nos. along with telephone sets 10 Nos.	<b>1</b>
<b>51</b>	<b>AUTO TRANSFORMER STARTER</b> , power 2HP, voltage 220 single phase.	<b>1</b>
<b>52</b>	<b>CURRENT TRANSFORMER</b> , Primary 100 amp. Secondary 5 amp, maximum 600 volt.	<b>2</b>
<b>53</b>	PETENTIAL TRANSFORMER, Primary 110 volt, secondary 11 KV	<b>2</b>
<b>54</b>	AMPERE METER WITH MOVING COIL, range 15μ to 6A, 3 version, Demonstration type.	<b>2</b>
<b>55</b>	<b>VOLTMETER(AC)BENCH TYPE FOR DEMONSTRATION</b> , range 0 to 300 V, 0 to 500V,	<b>2</b>



<b>56</b>	<b>INSULATOR,</b> <ul style="list-style-type: none"> <li>➤ Disc type 15 KV</li> <li>➤ Pin type: 15 KV,</li> <li>➤ Post type 15 KV</li> </ul> Low voltage capacitance 750 V	<b>2 Each</b>
<b>57</b>	<b>12 LINE INTERCOM:</b> With Digital Dialing and Provision for Secrecy Analog-with Connecting Accessories.	<b>1 Set</b>
<b>58</b>	<b>INDUCTION MOTOR.</b> Capacitor type 5HP AC 3 phase	<b>1</b>
<b>59</b>	<b>INDUCTION MOTOR,</b> Capacitor 2 HP, AC Single phase.	<b>2</b>
<b>60</b>	<b>COIL WINDING MACHINE:</b> Hand operated, with counter, small size, mounted type. (PAK OR GOOD QUALITY).	<b>5</b>
<b>61</b>	<b>DEMONSTRATION BOARD SERVO CONTROL MOTOR:</b> training system SERVO TECHNOLOGY Demonstration Board Servo Control Motor <ul style="list-style-type: none"> <li>• 5262, servo control unit, INCL. Soft ware&amp; description with experiment example, one motor connecting cable 1 null modom line and 1 RS-232 connecting Cable</li> <li>• 5263, AC servo motor</li> </ul>	<b>1 Pes Each</b>
<b>62</b>	<b>TRAINER MODULATION TECHNIQUE</b> Training Modulation and demodulation Technlogy 4280, Modulation Baord. <ul style="list-style-type: none"> <li>•4281, Demodulation Board</li> <li>•4280.1, Set of connections for modulation and demodulation boards, 2 connecting leads, 2mm 7.5 cm, 4 connecting leads, 2mm,20cm, 2 connecting leads 2mm, 30cm, 2 connecting leads, 2mm, 50cm, 5 connecting plugs, 2mm</li> <li>•VO130-GB, Experiment manual "Modulation Techniques – Modulators" English 1st Edition.</li> <li>• VO131-GB, Experiment manual "Modulation Techniques – Modulators" English 1st Edition</li> </ul> For connecting the experiments described in manuals VO130 and V)131 we recommend the following measuring instruments.	<b>1 Piece</b> <b>1 Piece</b> <b>2 Piece</b> <b>1 Piece</b> <b>1 Piece</b>
<b>63</b>	<b>ANTENNA AND TRANSMISSION LINES, TRAINER: EXPERIMENTAL TOPICS</b> <ol style="list-style-type: none"> <li>1. The Basic Dipole Antenna.</li> <li>2. Vertical and Folded Dipoles</li> <li>3. Driven (Yagi) Antennas</li> <li>4. Directyional Lines</li> <li>5. Transmission Lines</li> <li>6. Propagation of RF Energy in the Atmosphere</li> </ol> EQUIPMENT (included) SIP360A-IP Antennas and Transmission Lines Panel:SIP 360AM Laboratory Manual S360-2 :Transmitting Dipole Antenna. S360-3 Ground plan and Reflector. S360-4:Yagi Antenna S360-5 :Reflector Rod. S360-6 :Field-Strength Meter. S360-8: Components Kit (Resistors) S360-10: Cloth Tape, Complete with Master builder for operation 220V, 50Hz AC.	<b>1</b>
<b>64</b>	<b>ELECTRIC IRRON 220v, 1000w</b>	<b>4</b>
<b>65</b>	<b>PEDESTAL FAN 24"</b>	<b>4</b>
<b>66</b>	<b>VACUUM CLEANER 220V, 1300w</b>	<b>1</b>
<b>67</b>	<b>WASHING MANCHINE WITH DYRER</b>	<b>1</b>
<b>68</b>	<b>MICROWAVE OVERN</b>	<b>1</b>
<b>69</b>	<b>EXHAUST FAN</b>	<b>4</b>
<b>70</b>	<b>JUICER/BLENDER</b>	<b>1</b>
<b>71.</b>	<b>ROASTER FOR 15 Birds</b>	<b>1</b>



<b>73.</b>	<p><b>PROGRAMMABLE LOGIC CONTROLLER</b></p> <p>This should cover the following topics:</p> <ul style="list-style-type: none"> <li>- Relay vs. programmable logic monitor.</li> <li>- How a PLC functions.</li> <li>- Ladder diagrams.</li> <li>- Ladder logic applications</li> <li>- Program basics.</li> <li>- Programming the PLC</li> <li>- Editing program mistakes.</li> <li>- Series and parallel logic.</li> <li>- Timer Circuits</li> <li>- Counters.</li> <li>- Sequencer Circuits.</li> <li>- Master control start/reset.</li> <li>- Shift registers.</li> <li>- Special Scan timer logic circuits.</li> <li>- High-speed counters.</li> <li>- Audio Cassette program 0loading &amp; down loading</li> </ul> <p>TECHNICAL SPECIFICATIONS:</p> <p>POWER:115 V/60 HZ &amp; 230 V /50 HZ, Approx. 35W, DC supplies :+5V, 0.8A, 10mV ripple, 03.5% regulation, with no loan on +/- 15V supply +/- 15V, 0.8A each, 10mV ripple, 20% regulation, with 0.8A load on +5 supply(1A each at +/-10V), LED power supply indicators(3), 5 V AC, 0.1A(2), Primary, 115/220 V AC, 50/60 HZ, power supplies or short circuits protected power supply terminals doe measuring voltages 15-pin Winchester socket provided for connection to, accessory panel base, Speaker 8 Ω 0.2W.</p> <p>Circuit board sockets: 36 pin audio power implifier:16HZ to 100 K HZ, 0.125w, PLC SPECIFICATIONS: Operating temperature:0--60°C (32° -- 140°F) Available user power(DC):24DC @0.1 A max. Battery life:2 ---5 years, MEMORY SIZE: 16-BIT WORDS. 700 WORDS CMOS EPROM. Scan rate:12 ms. For 250 words. 40ms. For 700 words.</p> <p>I/O points: 24 Internal coils: 160 Retentive latches. 59 Non-Retentive latches. 96 Special Coils. 5 Timers/counters. 20 Shift registers. 155 steps. Sequencers. (1,000 steps)20 Counter speed 2 KHz Range: 0—9999</p>	<b>1</b>
<b>74.</b>	<b>ELECTRIC TOASTER</b>	<b>1</b>
<b>75.</b>	<b>RHEOSTAT different ohms.</b>	<b>4 Each</b>
<b>76</b>	<p><b>TRAINER FIBER OPTICS SYSTEM.</b></p> <p>This system should accompany the following Fiber optic transmitter and receiver, Glass fiber or wave guide (differing in length and material) to set up the transmission path, transmit and receive modules, Storage board, Optical bench (for extending experiments), Optical couplings for connecting optic fibers and additional accessories with Manual cover the following experiments</p> <ul style="list-style-type: none"> <li>-Experiments with a plastic optic fiber</li> <li>-Characteristics of transmit diodes</li> <li>-Attenuation of transmit diodes, plastic fibers and connectors.</li> </ul>	<b>1</b>





	<ul style="list-style-type: none"><li>-Transmission of TTL signals</li><li>-Insensitivity to interference of the optic fiber</li><li>-Experiments with glass optic fibers.</li><li>-Frequency response of transmit diodes</li><li>-Experiments in fiber optic technology with a laser diode</li></ul>	
<b>77</b>	<b>DEMONSTRATION BOARD SERVO CONTROL MOTOR:</b> This system should cover the following <ul style="list-style-type: none"><li>-basic function, structure and dynamic behavior of the servo motor</li><li>-driving of servo motors by pulsed direct DC converters, electrical principles of the RL circuit.</li><li>Principle of the pulsed transistor actor.</li><li>-The dynamic behavior of the servo motor as a speed control circuit with cascaded current control circuit Protective measures in servo motor drive systems. The dynamic behavior of the servo motor as a speed control circuit with cascaded current control circuit</li><li>-Protective measures in servo motor drive systems.</li></ul>	<b>1</b>
<b>78</b>	<b>D.C Generator Motor set Coupled Together (Pak or Good Quality Made) I.H.P.</b>	<b>1</b>
<b>79</b>	<b>#-Point D.C. Starter (Pak or Good Quality)</b>	<b>1</b>
<b>80</b>	<b>Oscilloscope (Imported)</b>	<b>2</b>
<b>81</b>	<b>Digital trainer (Electronic)</b>	<b>2</b>
<b>82</b>	<b>Electronic Device (Diode, SCR, Transistors, Thrusters, amplifiers and gate ICs)</b>	<b>1</b>



**LIST OF MACHINERY & EQUIPMENT FOR GPI MIRANSHAH & SADA DISTRICT KURRAM**

**CHEMISTRY LAB**

S.No	Description	Qtyx2
1	Breaker 100ml. China, Local or Equivalent.	3 doz
2	Breaker 250ml. China, Local or Equivalent.	3 dozen
3	China, Local or Equivalent Dish, Dia 8 cm China, Local or Equivalent.	3 dozen
4	Electrolyzer 220V,50HS with platinum electrode and DC power supply Unit , Poland/China, Local or Equivalent .	1
5	File Triangular length: 15cm, Pak or Good Quality	12 pkts
6	Filter paper (whatman No.1)imp.	3 dozen
7	Glass funnel dia: 7.5 cm China, Local or Equivalent.	3 dozen
8	Glass tube: Soda lime length: 150cm Ex-dia:3-4 mm Pak or Good Quality.	2 kg
9	Glass rods (Stirring) Length: 20 cm, dia: 6-7 mm Pak or Good Quality	1 gross
10	Pipette Graduated: 10m, China, Local or Equivalent.	2 dozen.
11	Pipette 15ml, China, Local or Equivalent.	2 doz.
12	Reagent bottles 250ml narrow neck, white China, Local or Equivalent.	3 doz.
13	Stand Tripped ( cast iron ) Height:20cm, with circular top, Pak or Good Quality.	3 doz.
14	Spirit lamp. Metallic medium size.	3 doz.
15	Test Tubes: Dimension : 150x12mm,Pyroz.	2 gross.
16	Test tube stand (wooden ) Pak or Good Quality.	3 doz.
17	Tongs (Black ended steel ) with Bow length: 20 cms, China, Local or Equivalent/ Pak or Good Quality.	3 doz.
18	Wash Bottle (Polytene) 0.250ml,Pak or Good Quality.	3 doz.
19	Wire gauge, Pak or Good Quality.	3 doz.
20	Volumetric flask,100ml, China, Local or Equivalent.	1 doz.
21	Volumetric flask 250ml, China, Local or Equivalent.	1 doz.
22	Reagent bottle shelves(wooden) specimen sketch attached, Pak or Good Quality. Sheesham wood: Length:70 cm, Width:23 cm,Height:44 cm.	16 Nos.
23	Distillation plant: Stainless steel, 220V,330V,capacity:1 gallon,Pak or Good Quality.	2 Nos.
24	Ferridic chart, Cenco:USA OR EQUIVALENT, BEST QUALITY CHINA, LOCAL OR EQUIVALENT.	2 Nos.
25	Copper sulphate(anayirons).	1 kg.
26	Potassium Nitrate.	1 kg.
27	Ferrous sulphate.	1kg.
28	Calcium sulphate.	1kg.
29	Soda Ash.	1kg.
30	Sodium Bicarbonate.	1 kg.
31	Spirit Methylated.	12 litre.
32	Iron Stand clamp, Pak or Good Quality.	3 doz.
33	Wooden Stand, Pak or Good Quality.	3 doz.



**LIST OF MACHINERY & EQUIPMENT FOR GPI MIRANSHAH & SADA DISTRICT KURRAM**

**PHYSICS/APPLIED MECHANICS LABORATORY**

S.No	Description	Qty x 2
1	Vernier Calliper 12 cm UK, Germany, Japan or Equivalent	3 Dozen
2	Solid Cylinders different size.	3 Dozen
3	Screw Gauge, 100 cm UK, Germany, Japan or Equivalent.	3 Dozen
4	Copper Wire, China, Local or Equivalent	20 Meter
5	Weight Box from 1 gm to 100 gm.	1 Dozen
6	Spring balance 1 to 100 gm, 11 to 500 gm	1 Dozen
7	Meter Rod, one full meter rod and 1 ½ meter rod.	2 Dozen
8	Wooden wedge different sizes.	2 Dozen
9	Stand Metallic	1 Dozen
10	Grave sand apparatus with pulley.	1 Dozen
11	Set Square,	1 Dozen
12	Drawing Board 15"x20"	1 Dozen
13	Drawing Board Pin	12 Pkts.
14	Stop Watch, Swiss Made.	1 Dozen
15	Thermometer Centigrade.	1 Dozen
16	Thermometer Fahrenheit.	1 Dozen
17	Serial apparatus with slated weight.	1 Dozen
18	Fly wheel with slated weight and thin shing.	4 Nos.
19	Resonance tube apparatus length 1 meter.	4 Dozen
20	Tuning Fork, UK, Germany, Japan or Equivalent.	1 Dozen
21	Rubber Pad	2 Dozen
22	Senemeter with slated weight and two wedge.	1 Dozen
23	Linear expansion apparatus with metal rod.	1 Dozen
24	Voltmeter 0-3 volt.	6 Nos.
25	Voltmeter 0-300 volt.	6 Nos.
26	Connecting Wire copper with insulation cotton.	50 meter
27	Magnet high power.	6 Nos.
28	Graduated Cylinder	12 Nos.
29	Wooden Block 10x12x2"	1 Dozen
30	Inclined Plan with scalar and pully.	2 Dozen
31	Scale Pan.	1 Dozen
32	Wooden Cube	1 Dozen
33	Hock law apparatus with helical sprint pointer and scale.	2 Dozen
34	Physical balance.	4 Nos.
35	Clori meter with wooden box stirrer.	1 Dozen
36	Electric Heater 1000 Watt	2 Nos.
37	Ampere meter 0-10 amp.	2 Dozen
38	Resistance box	6 Nos.
39	Convex lenses 45 cm	2 Dozen
40	Concave lenses 10 cm	2 Dozen
41	Concave mirror 10 cm	2 Dozen
42	Fletcher trolley complete.	4 Nos.
43	Acceleration apparatus completed.	4 Nos.
44	Simple screw jack complete.	4 Nos.
45	Wheel 7 Axle apparatus complete.	2 Nos.
46	Glass Slab 4x8x1 cm	1 Dozen
47	Steam generator.	1 Dozen
48	Specific Gravity bottle 25 cc	1 Dozen



49	Specific Gravity bottle 50 cc	2 Dozen
50	Fly Wheel	6 Nos.
51	Screw Driver, 6"	6 Nos.
52	Plier 6"	8 Nos.
53	Rubber nylon tube 6" dia	10 meter

**LIST OF MACHINERY & EQUIPMENT FOR GPI MIRANSHAH & SADA DISTRICT KURRAM**

**LIST OF EQUIPMENT/TOOLS FOR WELDING SHOP**

S. No.	Name of Item	QTYx2
1	Welding Machine three phase	1
2	Welding Machine single phase	2
3	Grinding Machine heavy duty	1
4	Hand Grinder machine 7 " China, Local or Equivalent	1
5	Pedestal Type drill machine with 1/ " chuck 220/230 HP single phase 1/2	1
6	Hand Drill machine with 1/2 " chuck heavy duty China, Local or Equivalent made	1
7	Earthling clamp	6
8	Welding Lead	100 ft
9	Welding Table 2' X 2' x 3' with fire bricks	6
10	Bench wise 5'	12
11	Working table for bench vices (wooden) 6' x 4 ' x 3 '	4
12	Anvil Large size	2
13	Hammers 2.5 pounds	6
14	Hammers 4 pounds	6
15	Chipping Hammer	6
16	Sledge 10 pounds	2
17	Flat file rough cut 12"	24
18	Flat file smooth cut 12"	12
19	Round file rough cut 6", 8", 10"	6 Each
20	Tri angular file rough cut 6" 8" 10"	6 Each
21	Half round file 6" 8" 10"	6 Each
22	square file rough cut 6" 8" 10"	6 Each
23	Hand Hack saw frame 12 "	24
24	Chisel cold 1" x 6" and 3/4 " x 6"	6 Each
25	Welding Screen	24
26	Welding Goggles	24
27	Welding Helmet	12
28	Tri square 6" 8"	24
29	Inside Calliper 8 "	12
30	Outside Calliper 8 "	12
31	Scriber 6"	24
32	Welding Gloves	6
33	Centre Punch	12
34	Measuring steel tape 10'	12
35	File guard	12
36	steel wire brush	12



**KHYBER PAK OR GOOD QUALITYHTUNKHWA  
TECHNICAL EDUCATION & VOCATIONAL  
TRAINING AUTHORITY**  
House #5-771, Old Bara road, University Town Peshawar



<b>37</b>	Power hack saw machine 18" blade	<b>1</b>
<b>38</b>	Oxygen Cylinder large size	<b>2</b>
<b>39</b>	Acetylene Generator (Commercial)	<b>1</b>
<b>40</b>	Hose Pipe (1/2")	<b>50 ft</b>
<b>41</b>	Gas welding torch (UK, Germany, Japan or Equivalent Made)	<b>6</b>
<b>42</b>	Nozzle bit 25 mm to 350 mm	<b>5</b>
<b>43</b>	Oxygen Regulator UK, Germany, Japan or Equivalent Made	<b>2</b>
<b>44</b>	Scissors for sheet cutting 8", 10", 12"	<b>2 Each</b>
<b>45</b>	Drill bit set 1 mm to 13 mm and 1/8" to 1/2 "	<b>2 Each</b>
<b>46</b>	Tongs (flat)	<b>24</b>
<b>47</b>	Drill chuck 1/2 " with taper shank	<b>2</b>
<b>48</b>	Oil Cane (plastic)	<b>6</b>
<b>49</b>	Steel foot rule 12"	<b>24</b>
<b>50</b>	Gas cylinder key	<b>6</b>
<b>51</b>	Adjustable screw wrench 10" , 12"	<b>3 Each</b>
<b>52</b>	soldering gun large size 100 W , 75 W	<b>6 Each</b>