

**Swami Keshwanand Rajasthan Agricultural University, Bikaner  
Central Workshop**

No. F. /CWS/SKRAU/FIMTC/2011/

Date: 03.12.2011

**OPEN TENDER NOTICE NO. 02/2011**

Sealed tenders are invited for supply of various equipments/tools required for establishment of "Farm Implements & Machinery Testing Centre" under RKVY at this Workshop. Tenders forms alongwith other details can be purchased by depositing ` 500/- by D.D. in favour of Agriculture Engineer, Central Workshop, SKRAU, Bikaner. The last date of purchase of tender is 03.01.2012 and can be submitted on 04.01.2012 by 1:00 PM alongwith earnest money of ` 25,000.00. The same will be opened on 04.01.2012 at 2:00 PM. The lists of equipments/tools along with detailed specification are available on SKRAU website [www.raubikaner.org](http://www.raubikaner.org)

Tender Fees	` 500.00
Earnest Money	` 25,000.00
Last date of purchase of tender form	03.01.2012
Submission date of Tender	04.01.2012 upto 1:00 PM
Opening of the Tender	04.01.2012 at 2:00 PM

**Agriculture Engineer**

## CENTRAL WORKSHOP

Swami Keshwanand Rajasthan Agricultural University  
Bikaner

**Open Tender No. 02/2011**

### List of equipments / Tools

S. No.	Equipment	Quantity
1.	For material testing :	
	(i) Universal tensile testing machine	01
	(ii) Brinell & Rockwell hardness testing machine	01
	(iii) Spring testing machine	01
2.	For pull measurement:	
	(i) Hydraulic tension dynamometer	01
	(ii) Spring tension dynamometer	01
	(iii) Load cell universal (cap./ 0-100 kgf; 0-300 kgf each)	01
3.	For soil testing:	
	(i) Soil sheer test instrument	01
	(ii) Cone penetrometer	01
	(iii) Sieve shaker with set of sieve	01
	(iv) Digital pH meter etc.	01
	(v) Cone cutter equipments	
4.	Elect. Power measuring equipments	
	(i) Digital multimeter	01
	(ii) Digital watt meter	01
5.	Vacuum/ pressure measuring equipments	
	(i) Pressure gauge	01
	(ii) Vacuum Gauge	01
6.	Set of meteorological instruments such as:	

	(i) Vernier Caliper (different range)	02 nos.
	(ii) Micrometer (different range)	02 sets
	(iii) Spring Calipers & Dividers Set (different range)	02 sets
	(iv) Bore gauge (different range)	02 sets
	(v) Spirit level	02 nos.
	(vi) Abney level	02 nos.
7.	Measuring instruments such as:	
	(i) Stop watch	02 nos.
	(ii) Thermometer	02 nos.
	(iii) Barometer	02 nos.
	(iv) Hygrometer	02 nos.
	(v) Tachometer	
	1. Contract Type	01 nos.
	2. Non Contract Type	01 nos.
	(vi) Anemometer	02 nos.
12.	Equipments for mass measurement:	
	(i) Digital electronic balance (1 kg)	01 nos.
	(ii) Platform type balance (200 kg)	01 nos.
	(iii) Digital balance (0.10 kg, 0.20 kg and 0.50 kg)	01 nos.
13.	Moisture Measuring Instruments:	
	(i) Hot air oven	01 nos.
	(ii) Speedy soil moisture meter	02 nos.
	(iii) Grain moisture meter (0-50%)	02 nos.
14.	Volume fuel consumption measurement	
	(i) Measuring Jar set	01 nos.
15.	Workshop and Service tools	
	(i) Platform type Jack (500 kg)	01 nos.
	(ii) Flat bed trolley (1000 kg)	01 nos.
	(iii) Air compressor	01 nos.
	(iv) Tool kits (spanners, special repair tools, grease guns, torque wrench etc.)	02 nos.

## CENTRAL WORKSHOP

**Swami Keshwanand Rajasthan Agricultural University  
Bikaner  
Open Tender No. 02/2011  
Technical Specification  
List of equipments /Tools**

S. No.	Name of equipment	Quantity
<b>1.</b>	<b>UNIVERSAL TENSILE TASTING MACHINE</b>	<b>01</b>
	1. Measuring Capacity	200 (kN)
	2. Range	0 - 200 (kN)
	3. Least Count (kN)	0.4
	4. Overall dimensions (mm)approx.	2000 x 800 x 1900
	5. Weight (kg) approx	1300
	6. Max. Tensile Clearance at fully decided piston position (mm)	50 - 700
	7. Max. Clearance for Compression Test(mm)	0 - 700
	8. Distance between columns(mm)	500
	9. Piston Stroke(mm)	200
	10. Max. starting speed at no load(mm/min)	150
	11. Power Supply	3-Ø, 415V, 50Hz, AC
	12. H.P.	1.5

### STANDARD ACCESSORIES FOR ALL VERSIONS -

	1. Pair for compression plate dia(mm)	120
	<b>Tension Test Jaws</b>	
	1. For Round Specimen dia(mm)	10 - 20
	2. For Round Specimen dia(mm)	20 - 30
	3. For Flat Specimen Thickness(mm)	0 - 10
	4. For Flat Specimen Thickness(mm)	10 - 20
	5. For Flat Specimen Thickness(mm)	
	6. Max. width of Flat Specimen(mm)	50
	<b>Transverse Test</b>	
	1. Adjustable Roller Support of width(mm)	150
	2. Diameter(mm)	30
	3. With Max. adjustable clearance(mm)	500
	4. Punch tops of radius(mm)	6
	5. Punch tops of radius(mm)	12

<b>2.</b>	<b>ROCKWELL CUM BRINELL HARDNESS TESTING MACHINES</b>		<b>01</b>
	1.	Test Loads(Kgf)	100(rockwell) ,187.5(brinell)
	2.	Initial loads(kgf)	10
	3.	Max. Test Height(mm)	215
	4.	Depth of Throat(mm)	132
	5.	Max. Depth of Elevating Screw Below Base (mm)	230
	6.	Size of Base(mm)(Approx.)	430*180
	7.	Machine Height(mm)	635
	8.	Nett Weigth(kg.)(Approx.)	70

**Standard Accessories –**

	1.	I Rockwell Diamond Indentor	1 no.
	2.	Testing Table f 50 mm	1 no.
	3.	Testing Table f 40 mm with ‘V’ Groove for round Jobs f 6 to 45 mm	1 no.
	4.	Steel Ball Indentor f1/16”	1 no.
	5.	Steel Ball Indentor f2.5 mm	1 no.
	6.	Test Block HRC	1 no.
	7.	Test Block HRB	1 no.
	8.	Test Block HB 2.5mm/187.5 Kgf	1 no.
	9.	Steel Ball f1/16”	5no.
	10.	Allen Spanners	3 no.
	11.	Clamping Device	1 no.
	12.	Brinell Microscope	1no.
	13.	PVC Cover for Machine	1no.
	14.	Rubber Bellow	1no.
	15.	Instruction Manual	1 book

<b>3.</b>	<b>LEAF SPRING TESTING MACHINES</b>		<b>01</b>
	1.	Maximum Capacity (kN)	100
	2.	1st Range (kN)	0 - 100
	3.	Least count (kN)	0.2
	4.	Table size(mm)	250 x 2400
	5.	Clearance for-compression test(mm)	0 - 400
	6.	Distance between trolleys (adjustable)(mm)	500 - 2150
	7.	Ram stroke (mm)	250
	8.	Straining speed at no load (mm/min.)	0 - 250
	9.	Pair of compression plates dia(mm)	250
	10.	Least count of deflection	0.1
	11.	Width of recorder chart (mm)	150
	12.	Connected load (HP)	1.5

	13.	Voltage (V)	440	
	14.	Phase (Ph)	3	
<b>4.</b>	<b>HYDRAULIC TENSION DYNAMOMETER</b>			<b>01</b>
	<ul style="list-style-type: none"> <li>• Capacity = 0-200Kgf</li> <li>• Easily Portable</li> <li>• Both side heavy duty links</li> <li>• Tension dynamometer with dial gauge.</li> </ul>			
<b>5.</b>	<b>SPRING / MECHANICAL TENSION DYNAMOMETER</b>			<b>01</b>
	<ul style="list-style-type: none"> <li>• Capacity = 0-200Kgf</li> <li>• Easily Portable</li> <li>• Both side heavy duty links</li> <li>• Tension dynamometer with dial gauge.</li> </ul>			
<b>6.</b>	<b>AXIAL COMPENSATED LOADCELL</b>			<b>01</b>
	<ul style="list-style-type: none"> <li>• Capacity = 2 tonne</li> <li>• High accuracy</li> <li>• Misalignment error compensation</li> <li>• Highly adaptable inter end fixings</li> <li>• Output rationalized to 2m V/V</li> </ul>			
	<b>Specification</b>			
		<b>Parameter</b>	<b>Value</b>	<b>Unit</b>
	1.	Non-Linearity - Terminal	±0.05	% RL
	2.	Hysteresis	±0.05	% RL
	3.	Creep - 20 minutes	±0.05	% AL
	4.	Repeatability	±0.02	% RL
	5.	Rated output - Rationalised	2.0	mV/V
	6.	Rationalization tolerance	±0.1	% RL
	7.	Zero load output	±4	% RL
	8.	Temperature effect on rated output per °C	±0.002	% AL
	9.	Temperature effect on Zero load output °C	±0.005	% RL
	10.	Temperature range - Compensated	-10 to + 50	°C
	11.	Temperature range - Safe	-10 to + 80	°C
	12.	Excitation voltage - Recommended	10	V
	13.	Excitation voltage - Maximum	20	V
	14.	Bridge resistance	700	Ω
	15.	Insulation resistance -Minimum at 50V dc	500	MΩ
	16.	Inclined load error - concentric at 3°	±0.25	% RL
	17.	Overload – Safe	50	% RL
	18.	Overload - Ultimate	100	% RL
	19.	Side load – Safe	100	% RL
	20.	Sealing - R option IP65	-s option	IP67
	21.	Weight - Nominal ranges up to 500kg (excluding cable)	330	g

22.	Weight - Nominal ranges above 500 kg (excluding cable)	1	kg
<b>Load meter</b>			
1.	Rugged weather sealed case		
2.	Storage for 10 input calibrations		
3.	Automatic channel selection option		
4.	Auto calibration and tare		
5.	Peak and valley hold		
6.	The load meter is a completely portable.		
7.	Precision instrument for use with strain gauges load cells.		
8.	The battery charger is fitted with an input voltage selector switch powered from 115 or 230 Vac.		
<b>Specification</b>			
Keypad		Flush sealed to IP65	
Power source		6V sealed lead-acid rechargeable battery	
Battery life		35 hrs with one 350Ω load cell	
Bridge supply		5V dc fixed	
Bridge resistance		85Ω minimum (4x350Ω load cells)	
Span		0.47 to 7.5 m V/V at full scale	
Calibration check		Internal shunt resistor (standard value 100k)	
Calibration		Via keypad	
Tare		100% of full range	
Accuracy		±0.02%±2 digits at full range	
Resolution		1:19999	
Display		4½ digit 10 mm high LCD	
Least significant digit		Count by 1, 5 or 10	
Peak and valley hold		500mS peak and valley capture	
Digital filtering		0.5 to 5 seconds (4 ranges)	
Zero tracking		Active on ±3 LSD	
Operating temperature		-10 to 50°C	
Thermal drift		100 ppm/°C	
Input connector		5 pin Binder socket - IP 65 when mated	
Case		Abs yellow sealed to IP65	
Size		150 x 104.5 x 70.5mm (tapers to 40mm)	
Weight		600g approx	

<b>7.</b>	<b>CONE PENETROMETER</b>	<b>01</b>
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	<p>The Automatic Penetrometer (Digital Timer) is supplied complete with a stainless steel penetration test cone 35mm long with a smooth polished surface and an angle of 30° and a Penetration test cup 55mm dia x 40mm deep. Facility exists for adjusting cone height in relation to the specimen</p> <p>The apparatus is suitable for operation on 220V, Single Phase, 50Hz, AC Supply.</p>	
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<b>8.</b>	<b>SIEVES SHAKER</b>	<b>01</b>
	<p>Size: 8", Type: Motorized</p> <ul style="list-style-type: none"> <li>• Carriers upto 7 sieves of 200 dia. meter.</li> <li>• The Shaker is driven by 1/4 H. P. Motor through a reduction gear immersed in oil.</li> </ul>	

<b>9.</b>	<b>DIGITAL – SOIL PH METER</b>		<b>01</b>
	1.	pH Range	pH: 0 - 14 mV: 0 - + / - 1400mV
	2.	Accuracy	pH: ±0.05pH mV: 0.2 %
	3.	Resolving Power	0.01pHL 1mV
	4.	Input Impedance	= 10 <sup>12</sup> Ω
	5.	Stability	= 0.05pH
	6.	Temperature Compensation Range	0 - 60°C Manual or Automatic
	7.	Power	AAA Batteries or 220 Volts

<b>10.</b>	<b>FIELD DENSITY APPARATUS (CORE CUTTER METHOD)</b>		<b>01</b>
	1.	Cutter is made of steel 100mm dia. x 130mm long with steel Dolly 25 mm high and 100 mm dia	
	2.	fitted with a lip to enable it to be located on top of the core cutter. complete with rammer	

<b>11.</b>	<b>DIRECT SHEAR TEST APPARATUS</b>					<b>01</b>
	<b>Operation</b>	<b>Specimen Size</b>	<b>Speeds (mm/min)</b>	<b>Motor</b>	<b>Elec. Supply</b>	
	Electrically cum Manually Operated	60 x 60 x 25mm	0.625	½ HP, 1440RPM	220V, Single Phase, 50Hz AC Supply	
	<b>Specification:</b>					
	1.	Direct Shear Test Apparatus comprises of Direct Shear Box assembly for 60mm x 60mm x 25mm thick specimen				
	2.	Shear Box Housing, Specimen cutter, Loading Unit with a capacity of 8kg/cm <sup>2</sup>				
	3.	Set of weights to give normal stress of 3kg/cm <sup>2</sup>				

	4.	Proving Ring duly calibrated of 2.5kN (250kgf) capacity & 2 (Two) Dial Gauges 0.01mm x 25mm travel	
	5.	The load yoke with direct and through level system for applying normal load upto 8 kg/cm <sup>2</sup> capacity	
	6.	fixtures for proving ring	
	7.	brackets for holding consolidation	

<b>12.</b>	<b>DIGITAL MULTIMETER</b>		<b>01</b>
	1.	DC Voltage: 200m/2/20/200 ±0.05% + 3d, 1000V ±0.1% +5d	
	2.	AC Voltage: 200mv/2/20/200V ±0.8% + 80d, 750V ±1.0% +20d	
	3.	DC Current: 20m/200m/2A ±0.3% +10d, 20A ±8% +10d	
	4.	AC Current: 200m/2A ±0.8% +80d, 20A ±1% +20d	
	5.	Resistance: 200/2K/20K/200K/2MΩ ±0.1% +2d, 20MΩ ±0.2% +5d	
	6.	Capacitance: 20n/2μ/200μF ±1.0% +20d	
	7.	Frequency: 20K/200K ±1.5% +20d	
	8.	Continuity checking with buzzer	
	9.	Diode check, Transistor check	
	10.	Power source: 220-240V AC	
	11.	Size Weight: 260 x 220 x 105mm 1Kg(approx)	

<b>13.</b>	<b>DIGITAL WATT METER</b>		<b>01</b>
	1	<ul style="list-style-type: none"> <li>Digital Watt Meter provide accurate measurements of wattages.</li> <li>Voltage, Current and Power Factor are precisely measured and wattage is calculated using micro controller based technology</li> <li>Value of wattage is displayed on 4 digits LED display.</li> <li>Variac is used in watt meter to provide wide range of supply voltage from 150 to 300 volts.</li> </ul>	
	2	<p><b>technical specifications</b></p> <p><b>Range:</b> 0-1999W with floating decimal point, max current 5Amp. Higher range of wattmeter also available with CT (cost extra)</p> <p><b>Accuracy :</b> ± 0.5% ± 2 least counts</p> <p><b>Display:</b> 4 digits, 7 segments, bright LED of 12.5 mm height.</p> <p><b>Power Requirements:</b> 150 to 300 volts AC, 50/60 Hertz. Total consumption is power required by load plus about 5 watts for the watt meter.</p>	

<b>14.</b>	<b>VACUUM GAUGE</b>		<b>01</b>
	1.	Dial size: 2"	
	2.	Case material: Steel with black coated	
	3.	Tube and socket: Brass.	
	4.	Connection: Back, bottom, back panel mounting Surface bottom mount (3" & 4").	

	5.	Vaccum range: 0 - 760 mmHg.	
	6.	Lens: Acrylic or Glass.	
	7.	Pointer: 1/4" or 1/8", 3/8" or 1/2" NPT or BSP	
	8.	Accuracy: +-3-2-3% as per ansi or as per IS : 3624 class if as per ansi (+-3-2-3%).	

<b>15.</b>	<b>PRESSURE GAUGE</b>		<b>01</b>
	1.	STAINLESS STEEL CASE	
	2.	RUGGED CONSTRUCTION	
	3.	SUITABLE FOR TYRE PRESSURE MEASUREMENT	
	<b>SPECIFICATIONS</b>		
	STANDARD VERSION : 50 mm		
	1.	<b>Accuracy</b> : ±1. % of F. S. ±2.5% of F. S. FOR NS 50 mm	
	2.	Ambient temperature : - 20°C to 65°C	
	3.	Process temperature : Max. 120°C	
	4.	Operating Pressure Range : 75% of Scale Value	
	5.	Over pressure limit : 125% of Max. Scale Value	
	6.	Gauge Connection : Twin connector	
	7.	<b>Case &amp; Bezel</b> : AISI 304 SS (Bayonet Type)	
	8.	<b>Bourdon</b> : Copper Alloy	
	9.	<b>Socket</b> : Copper Alloy	
	10.	<b>Movement</b> : Copper Alloy	
	11.	<b>Joints</b> : Alloy Brazing / Soldering	
	12.	<b>Body</b> : Copper Alloy with chrome plated	
	13.	<b>Protection</b> : IP 55	
	14.	<b>Dial</b> : Aluminum, black graduation on white background	
	15.	<b>Pointer</b> : Black coloured, Fixed	
	16.	<b>Window</b> : Plexi Glass	
	17.	<b>Filling Plug</b> : Neoprene	
	18.	<b>Gasket</b> : Silicon Rubber	

<b>16.</b>	<b>ELECTRONIC DIGITAL CALIPERS</b>		<b>02</b>
		<b>Range</b>	<b>Accuracy</b>
	1.	0.153mm (0-6")	± 02mm (±0.001")
	2.	0-204mm (0-8")	± 03mm (±0.0012")
	<ul style="list-style-type: none"> <li>• Measure in mm, inches &amp; fractions</li> <li>• All metal construction. No plastic</li> <li>• Least Count: 0.01 mm, 0.0005", 1/64"</li> </ul>		

<b>17.</b>	<b>ELECTRONIC DIGITAL MICROMETERS</b>		<b>02</b>
		<b>Range</b>	<b>Accuracy</b>
	1.	0.153mm (0-6")	± 02mm (±0.001")
	2.	0-204mm (0-8")	± 03mm (±0.0012")
	<ul style="list-style-type: none"> <li>• Top of the lime direct readout Digital Micrometers</li> <li>• Measure both in mm &amp; inches</li> </ul>		

		<ul style="list-style-type: none"> <li>• Least Count 0.001mm, 0.00005"</li> <li>• Carbide measuring faces</li> <li>• Supplied with master on sizes other than 0 - 25 mm</li> </ul>										
<b>18.</b>	<b>EXTERNAL MICROMETERS</b>		<b>02</b>									
		<table border="1"> <thead> <tr> <th></th> <th>Range</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>0-25mm</td> <td>0.004mm</td> </tr> <tr> <td>2.</td> <td>25-50mm</td> <td>0.004mm</td> </tr> </tbody> </table>		Range	Accuracy	1.	0-25mm	0.004mm	2.	25-50mm	0.004mm	
	Range	Accuracy										
1.	0-25mm	0.004mm										
2.	25-50mm	0.004mm										
		<ul style="list-style-type: none"> <li>• measure in mm</li> <li>• Hardened &amp; ground measuring faces</li> <li>• Least Count: 0.01 mm</li> <li>• Satin chrome thimble &amp; sleeve</li> <li>• Supplied with master on sizes other than 0 - 25 mm</li> </ul>										
<b>19.</b>	<b>SPRING CALIPERS &amp; DIVIDERS SET</b>		<b>06</b>									
	1.	<ul style="list-style-type: none"> <li>• Used everyday for taking comparative measurements</li> <li>• Divider points are hardened for high wear resistance</li> </ul>										
	2.	Spring Calipers - Inside <ul style="list-style-type: none"> <li>• 15mm (3")</li> <li>• 100mm (4")</li> </ul>										
	3.	Spring Calipers - Outside <ul style="list-style-type: none"> <li>• 75mm (3")</li> <li>• 100mm (4")</li> </ul>										
	4.	Spring Dividers <ul style="list-style-type: none"> <li>• 75mm (3")</li> <li>• 100mm (4")</li> </ul>										
<b>20.</b>	<b>BORE GAGE FEATURES</b>		<b>02</b>									
	1.	<ul style="list-style-type: none"> <li>• Range: 1.4"-6"/35mm-150mm</li> <li>• Carbide anvils.</li> <li>• Easily adjustable.</li> <li>• Self-centering.</li> <li>• Includes extension holder.</li> <li>• Shop hardened case.</li> </ul>										
	2.	Indicator Features: <ul style="list-style-type: none"> <li>• Dual reading inch/metric electronic indicator.</li> <li>• Bar graph and numeric digital display.</li> <li>• Resolution: .00005"/.001mm</li> <li>• Preset with recall.</li> </ul>										
<b>21.</b>	<b>SPIRIT LEVEL</b>		<b>02</b>									
		1. Aluminum alloy frame 2. accurate calibration 3. level bubble indicate level										

		<b>Material</b> - aluom alloy frame <b>Use</b> - Accurate calibration <b>Working principle</b> - Level bubble indicate level	
<b>22.</b>	<b>ABNEY LEVEL</b>		<b>02</b>
	<ul style="list-style-type: none"> <li>• 133 mm long with radius arc graduated 0 to 90° in both directions</li> <li>• with vernier reading to 10 minutes and a percent of grade scale from 0% to 100% Complete with Cordura belt loop case</li> </ul>		
<b>23</b>	<b>STOP WATCH</b>		<b>02</b>
	1.	Both units time to 24 hours. With single-action, time-in/time-out cumulative split and continuous timing. Resolution is 0.01 second for the first 30 minutes units then continue timing to 23 hours 59 minutes, 59 seconds in 1-second increments. Accuracy is 0.01%.	
	2.		
	3.		
	4.		
	1.	Chronograph displays time-of-day to the second, AM/PM, date and day of the week	
	2.	Plus, units have time-of-day alarm	
	3.	Digits are 3/8 in. high	
	4.	Units are O-ring sealed, and have durable ABS plastic case	
	5.	Ideal for lab or plant use	
	6.	Unit 06-662-56 is waterproof to three atmospheres	
	7.	Dimensions: 2 1/8L x 2 3/8W x 1/2 in.H (5.4 x 6 x 1.3cm)	
	8.	Net weight: 1 oz. (28g)	
<b>2</b>	<b>DIGITAL THERMOMETER AND HYDROMETER</b>		
<b>4.</b>	1.	Temperature range	-50 ~ +70°C (-58 ~ +158°F)
	2.	Humidity range	10%~99%RH
	3.	Resolution: temperature	0.1 °C (0.1°F), humidity: 1% RH
	4.	Accuracy: temperature	+/- 1°C (1.8°F), humidity: +/- 5%RH (40%~80%)
	5.	Power supply	1.5V(AAA size) x 1
	6.	Product dimension	106*97.5*22mm (4" x 4 1/3" x 3/4")
	7.	Weight	Approx. 124g, Blister packing. 60pcs/ctn, Ctn size: 480*520*215mm, G.W: 10.3KG
	8.	Storage condition	20°C~60°C, 20~80%RH

	<ul style="list-style-type: none"> <li>• Display temperature, humidity and time simultaneously</li> <li>• Memory of MAX &amp; MIN measuring value</li> <li>• 12-hour / 24-hour displaying system selectable</li> <li>• °C/°F unit selectable</li> <li>• Integral-hour alarm function</li> <li>• Alarm function</li> <li>• Clock &amp; Calendar function (month and date)</li> <li>• Desk-top placing or Wall Hanging</li> </ul>	
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<b>25.</b>	<b>BAROMETER WIRELESS WEATHER STATION</b>	<b>02</b>
	<b>Specifications</b>	
1.	Barometric pressure	
2.	High precision weather forecast	
3.	Indoor/outdoor temperature and humidity	
4.	Dew point and heat index.	
5.	<b>Barometer wireless weather station Functions:</b>	
6.	Barometric pressure display with trend icon	
7.	Past 12 hours' barometric pressure history * last 12 hours	
8.	Barometer dynamic BAR picture tideH, M, L	
9.	5Types of high precision barometric weather forecast	
10.	Time and calendar display	
11.	Week display in 7 optional languages	
12.	Alarm and snooze	
13.	Dual alarms	
14.	Moon phase	
15.	Indoor comfort lever display	
16.	Indoor temperature/ humidity and relative trends	
17.	Outdoor temperature/ humidity with relative trends, up to 3	
18.	Transmitters' receivable	
19.	Indoor/outdoor temperature alert	
20.	MAX/MIN memory for indoor/outdoor temperature/humidity	
21.	Dew point and heat index display	
22.	Battery low detector	
23.	Packaging: 42.3*35.5*45.5cm/80pcs	
24.	G.W./N.W.:14.2/13.2kgs	
25.	Power consumption: AA*2 (excl.)	

<b>26.</b>	<b>TACHOMETER(CONTACT TYPE)</b>	<b>01</b>
	<b>Features:</b> <ul style="list-style-type: none"> <li>• Range from 0.5 to 19,999 RPM (Contact)</li> <li>• Wheel and cone contact adaptors</li> <li>• 5 Digit extra large (1.2") LCD display</li> <li>• High Accuracy of 0.05%</li> </ul>	

	<ul style="list-style-type: none"> <li>• Auto zero adjustment</li> <li>• Memorized last, minimum and maximum reading feature</li> <li>• Low Battery Indication Carrying case &amp; full instructions manual included.</li> </ul> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• <b>Display:</b> Large 5 digit 1.22" (31mm)</li> <li>• <b>Light Source:</b> Class III A Laser, Wavelength 630nm, Power &lt;1.5mW</li> <li>• <b>Speed Range:</b> Contact Tachometer <ul style="list-style-type: none"> <li>○ Revolutions: 0.5 to 19,999 RPM</li> <li>○ Surface Speed: 0.05 to 1999.9 m/min</li> <li>○ Surface length: 0.05 to 99.999m</li> </ul> </li> <li>• <b>Resolution</b> Contact Tach <ul style="list-style-type: none"> <li>○ 0.1 RPM (0.05 to 999.9 RPM)</li> <li>○ 1 RPM (over 1,000 RPM)</li> <li>○ Surface Speed: 0.01 m/min (0.05 to 99.9 m/min)</li> <li>○ Surface Length: 0.02m (0.05 to 99.999m)</li> </ul> </li> <li>• <b>Accuracy:</b> ± 0.05% + 1 digit</li> <li>• <b>Memory function:</b> Last, Max, Min values</li> <li>• <b>Update time:</b> 0.8 seconds (over 60 rpm)</li> <li>• <b>Detection Distance:</b> 2-20" (50 -500mm)</li> <li>• <b>Time Base:</b> Quartz crystal</li> <li>• <b>Circuit:</b> Exclusive one chip of microcomputer LSI circuit</li> <li>• <b>Battery:</b> 4 x 1.5V AA <i>Battery</i></li> <li>• <b>Operating Temperature:</b> 32-122°F (0-50°C)</li> <li>• <b>Case construction:</b> Rugged ABS plastic</li> <li>• <b>Dimensions:</b> 7.67" L x 2.99" W x1.57"H (195 mm x 76 mm x 40 mm)(approx)</li> </ul> <p><b>Weight:</b> With batteries: 10 oz. (283 g)</p>	
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<b>27.</b>	<b>TECHOMETER NON CONTACT TYPE</b>		<b>01</b>
	1.	<p><b>For Non-Contact RPM Measurement</b></p> <ul style="list-style-type: none"> <li>• Large easy to read LCD display - 99,999 count</li> <li>• Autoranging with 0.1% basic accuracy</li> <li>• Hold button freezes displayed readings</li> <li>• Ergonomically designed and pocket size housing with protective finger guard</li> <li>• Non-contact integral light beam</li> <li>• Ideal measurement range up to 6" (300mm) distance (depends on ambient light)</li> <li>• Complete with 9V battery</li> </ul>	

	2.	<b>Specifications:</b> <ul style="list-style-type: none"> <li>• Display Counts: 99,999 count LCD</li> <li>• Range: 10-99,999 RPM</li> <li>• Basic Accuracy: +/- (0.1%rdg + 2 digits)</li> <li>• Sampling Time: 1 second</li> <li>• Max Resolution: 0.001 RPM</li> <li>• Dimensions: 4.88x1.97x1.3" (124x50x33mm)(approx)</li> <li>• Weight: 4oz (114g)</li> </ul>	
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28.	<b>ANMOMETER</b>				02
	<b>Unit</b>	<b>Wind Speed Range</b>	<b>Resolution</b>	<b>Threshold</b>	
1.	<b>M/s</b>	0~30	0.1	0.1	
2.	<b>Ft/min</b>	0~5860	19	39	
3.	<b>Knots</b>	0~55	0.2	0.1	
4.	<b>Km/hr</b>	0~90	0.3	0.3	
5.	<b>Mph</b>	0~65	0.2	0.2	
	<b>Unit</b>	<b>Temperature range</b>	<b>Resolution</b>	<b>Accuracy</b>	
1.	<b>°C</b>	-10°C~45°C	0.2	±2°C	
2.	<b>°F</b>	14°F~113°F	0.36	±3.6°F	
<ul style="list-style-type: none"> <li>• Weight 53g(with battery)</li> <li>• Unit Size :11.4 X 4 X 1.8CM</li> <li>• power: CR2032 3.0V*1</li> </ul> <p><b>Function</b></p> <ul style="list-style-type: none"> <li>• Wind speed &amp; temperature measurement</li> <li>• Wind chill indication</li> <li>• °C/°F <b>unit select</b></li> <li>• Different wind speed measurement unit</li> <li>• Measure wind speed in: Current / Average / Max</li> <li>• Low battery warning</li> <li>• LCD back- light</li> <li>• Auto/Manual off</li> </ul>					

29.	<b>DIGITAL SPRING BALANCE</b>		01
1.	Weighing Capacity	2Kg x 0.2g	
2.	Display Digit	5 Digit Bright L.E.d.	
3.	Display Designators	Stable, Zero, Net, Batt.	
4.	Power Source	Load Cell	
5.	Power Consumption	Rechargeable Battery (6V, 1.3AH)/AC Adapter Option	
6.	Operating Time	1.5W	
7.	Operating Temperature	10hrs W/o recharging	
8.	Platter Size (mm)	-10°C+40°C	

	9.	Dimensions (mm)	230(W) x 190(D)	
	10.	Product Weight	260 (W) x 287 (D) x 137 (H)	
		<ul style="list-style-type: none"> <li>• Rechargeable battery / AC Operation</li> <li>• Bright LED Display</li> <li>• Counting Function</li> <li>• High / Low weight setting with beeper.</li> <li>• Strong ABS Body</li> <li>• Available in class II &amp; class III accuracy</li> </ul>		

<b>30.</b>	<b>DIGITAL ELECTRONIC BALANCE</b>			<b>01</b>
	1.	Weighing Capacity	2Kg x 0.2Kg	
	2.	Display Digit	5 Digit Bright L.E.d.	
	3.	Display Designators	Stable, Zero, Net, Batt.	
	4.	Measurement Type	Load Cell	
	5.	Power Source	Rechargeable Battery (6V, 1.3AH)/AC Adapter Option	
	6.	Power Consumption	1.5W	
	7.	Operating Time	10hrs W/o recharging	
	8.	Operating Temperature	-10°C+40°C	
	9.	Platter Size (mm)	230(W) x 190(D)	
	10.	Dimensions (mm)	260 (W) x 287 (D) x 137 (H)	
		Product Weight	3.14 kg	
		<ul style="list-style-type: none"> <li>• Rechargeable battery / AC Operation</li> <li>• Bright LED Display</li> <li>• Counting Function</li> <li>• High / Low weight setting with beeper.</li> <li>• Strong ABS Body</li> <li>• Available in class II &amp; class III accuracy</li> </ul>		

<b>31.</b>	<b>PLATFORM TYPE</b>			<b>01</b>
	1.	Weighing Capacity	500g x 50Kg	
	2.	Display	Single	
	3.	Type of Display	Large LED	
	4.	Power Source	In built battery / AC	
	5.	Power Consumption	2 W	
	6.	Operating Temperature	-10°C+40°C	
	7.	Dimensions (mm)	400x400, 500x500, 600x600, 750x750, 1000x1000, 1200x120	

<b>32.</b>	<b>HOT AIR OVEN</b>			<b>01</b>
		<ul style="list-style-type: none"> <li>• Double walled thermostatically controlled: Inner chamber made of Alluminium/stainless steel.</li> <li>• Outer body is made of MILD STEEL. Beaded heating Elements are placed under the ribs at the bottom and sides.</li> </ul>		

	<ul style="list-style-type: none"> <li>• Temperature Controlled by Hydraulic Thermostat from 10° C above ambient to 240° C.</li> <li>• Dial setting approximate basis. Correct reading as per L- shape thermometer fitted on the front panel at the top</li> <li>• Suitable to work on 220 volt A.C supply.</li> </ul>	
	<b>SPECIAL ARRANGEMENTS :</b> DIGITAL TEMPERATURE CONTROLLER , ALARM SYSTEM , TIMER, BLOWER	
	Available chamber size : (455 x 455 x 455)mm	

<b>33.</b>	<b>SPEEDY SOIL MOISTURE TESTER</b>	<b>02</b>
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1.	<b>Specification</b>	
	<ul style="list-style-type: none"> <li>• easy using</li> <li>• convenient</li> <li>• portable</li> </ul>	
2.	<b>Moisture units</b>	%(m3/m3)
1.	<b>Moisture content of the test range</b>	0-100%
2.	<b>Test time</b>	≤2 second
3.	<b>Precision</b>	≤2%
4.	<b>Probe working Temp</b>	-10°C—70°C
5.	<b>Water Stored datum</b>	2000 Groups
6.	<b>The standard cable length</b>	1700mm(option, max length 100M)
7.	<b>Size of probe</b>	Stainless steel probe:80mm, total length of probe 205mm
8.	<b>Power</b>	Four No.5 Batteries

<b>34.</b>	<b>GRAIN MOISTURE METER</b>	<b>01</b>
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1.	Durable handle test	
2.	The semiconductor temperature sensors, fast and accurate	
3.	Grain moisture tests from 0-50%	
4.	Test temperature range of 0 ° C to 100 ° C	
5.	White high brightness backlight	
6.	Show: four LCD display, the subtitles 19mm	
7.	Power: 6F22 (9V)*1	
8.	Instrument Size: 135 (L) x74 (w) x30 (H) mm	
9.	Handle Size: 470 (L)	
10.	Tests Link Length: 1000mm	
11.	Weight: 150g (without battery)	

<b>35.</b>	<b>MEASURING JAR SET</b>	<b>01</b>
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1.	used at site for measurement the quantities of liquid(fule).	
2.	clear transparent plastic	
3.	Capacities are 25ml, 100ml, 250ml, 500ml and 1000ml.	

<b>36.</b>	<b>AIR COMPRESSOR</b>			<b>01</b>
	1.	Single Stage		
	2.	No. of cylinder -2.		
	3.	Piston displaeront - 10 Cm.		
	4.	Max working pressure - 130 Psi		
	5.	Tank Size 18 x 48		
	6.	Completely fitted with motor - 2Hp		
	7.	Air and drain cock		
	8.	Now Return value		
	9.	Motor pully		
	10.	Pressure gauge		
	11.	On/Off Switch		
<b>37.</b>	<b>PLATFORM TYPE JACK (500KG)</b>			<b>01</b>
		<ul style="list-style-type: none"> <li>• Capacity (500Kg)</li> <li>• Wheel mounted Platform type</li> <li>• Easily Portable</li> <li>• Hydraulic type</li> <li>• Made up of heavy quality M.S sheet.</li> </ul>		
<b>38.</b>	<b>FLAT BED TROLLY</b>			<b>01</b>
		<ul style="list-style-type: none"> <li>• Heavy duty trolley.</li> <li>• Having load capacity of 1000 kg</li> <li>• powder coated for extra life.</li> <li>• Platform size w 30in x l 36 in.</li> </ul>		
<b>39.</b>	<b>TOOL KIT FOR MECHANIC</b>			<b>02</b>
	<b>Contents</b>			
	<b>Description</b>	<b>Pcs.</b>	<b>Description</b>	<b>Pcs.</b>
	Bi Hexagon Ring Spanner 6x7 - 30X32 mm	12	Swivel Handle 390 mm	1
	Double Open End Spanner 6x7 - 30X32 mm	12	Universal Joint 75 mm	1
	Stillson Pipe Wrench 250&350 mm	2	Allen Key 1.5 - 10, 12 mm	10
	Grip Lock Plier 250 mm	1	C-Clamp 50 mm	1
	Circlip Plier Internal 175 mm	1	Centre Punches 125, 150 & 200 mm	3
	Circlip Plier External 175 mm	1	Cold Chiesel 150 & 200 mm	2
	Diagonal Cutting Plier 160 mm	1	Flat File with handle 150 mm	1
	Combination Plier 150&120 mm	2	Hacksaw blades 300 mm	10
	Nose Plier 160 mm	1	Hacksaw frame 300 mm	1
	Screw Driver Phillips Pattern 8x50 & 8x250 mm	2	Half Round file II Cut with handle 200 mm	1
	Ball Pein Hammer 500&800	2	Mill File II Cut with handle 200	1

Gms		mm	
Screw Drivers Engineer Pattern 5x100, 6x125 & 8x150 mm	3	Torque Wrench, T-50	1
Screw Drivers Electrician Pattern 4x100 & 5x125 mm	2	Measuring Tape Steel, 2 Mtrs	1
Screw drivers Engineer Pattern 10x200, 10x250 & 10x 300 mm	3	Oil Can	1
Adjustable Wrench 200 & 300 mm	2	Rubber Mallet	1
12.5 Square Drive Bi Hexagon sockets 10-24, 26- 28, 30, 32 mm	20	Stainless Steel Scale 300 mm	1
Reversible Ratchet 265 mm	1	Feeler Gauge Set of 10 Blades (in mm)	1
Extension Bar 125 & 250 mm	2	Wire Brush	1
Sliding Bar 300 mm	1	Tool Chest	
Speed Brace 410 mm	1		