



JUNAGADH AGRICULTURAL UNIVERSITY
TENDER DOCUMENT
(TECHNO COMMERCIAL BID SYSTEM)
FOR THE PURCHASE OF INSTRUMENTS, EQUIPMENTS AND
SOFTWARE DURING THE YEAR 2011-2012

BY

Principal and Dean
College of Agricultural Engineering and Technology
Junagadh Agricultural University
Junagadh- 362 001

Tele-Fax No.: 0285-2671018, PBX No.: 0285-2672080-90 EXT:426
E-mail: caet@jau.in

Bid reference :	
Date of commencement of download of bidding document from	: Dt.: 08-02-2012, 10.00 hours
Last date and time for receipt of Bidding document	: Dt.: 24-02-2012, 12.00 hours
Date and Time of opening of bids	: Dt.: 24-02-2012, 15.00 hours onward
Place of opening of bids	: College of Agricultural Engineering and Technology Junagadh Agricultural University Junagadh - 362 001
Address of communication	: College of Agricultural Engineering and Technology Junagadh Agricultural University Junagadh - 362 001
Contact Numbers	: Tele-fax : 0285 2671018 PBX: 0285 2672080-90 EXT 426 Cell No. +919879104668

Tender fee Rs.1000/- non refundable for entire tender
EMD @ 1% in form of FDR (Refundable)

This tender consist of following four parts (25 Pages)

- A. Envelop-1: Tender Fees and EMD (Details inside this document) Page 4.
- B. Envelop-2: TSD & Company detail (Details inside this document) Page 5 to 12.
- C. Envelop-3: Includes documents consisting authority letter, ISO/ISI/CE certification, compliance statement related to tender specifications, Product literature, Commercial bid as per format.
Special Note: Enclose separate envelop no-3 for each item. Page 13 to 17.
- D. List of items to be purchased. Page 18 to 27.



જુનાગઢ કૃષિ યુનિવર્સિટી, જુનાગઢ
ટુંકી મુદતની જાહેર નિવેદા

આથી સિલ બંધ ક્વરમાં રેપ્યુટેડ મેન્યુફેક્ચરર, ઓથોરાઈઝડ ડીલર્સ અને ડિસ્ટ્રીબ્યુટર્સ પાસેથી લેબ ઈન્સ્ટ્રુમેન્ટ્સ / ફાર્મ ઈક્વીપમેન્ટ્સ / સાધનો / સોફ્ટવેરર્સ વગેરે માટે ટેન્ડર મંગાવવામાં આવે છે. આઈટમ્સની યાદી, ટેન્ડર ડોક્યુમેન્ટ, શરતો અને બોલીઓ અંગેની વિગતો www.jau.in તથા www.statetenders.com પરથી ડાઉનલોડ કરી શકાશે. ડાઉનલોડ કરેલ ફોર્મ સાથે નોન રીફન્ડેબલ ટેન્ડર ફી પેટેના રૂ. ૧૦૦૦/- નો ડી.ડી. પેએબલ એટ એસ.બી.આઈ., જુનાગઢ (કોડ નં. ૩૨૫૧) ઈન ફેવર ઓફ જુનાગઢ એગ્રીકલચરલ યુનિવર્સિટી ફંડ એકાઉન્ટ, જુનાગઢ ના નામનો જોડવાનો રહેશે. તા.૨૪/૦૨/૨૦૧૨, ૧૨:૦૦ કલાક સુધીમાં ભરેલ ટેન્ડર સાથે રીફન્ડેબલ ઈ.એમ.ડી.નો ડી.ડી.જોડી અત્રેની કચેરીને મોકલવાનો રહેશે.

JAU/CAET/D-2/ /12
Date : / / 2012

આચાર્યશ્રી અને ડીન
કૃષિ ઈજેનરી અને ટેકનોલોજી કોલેજ
જૂ.કૃ.યુ., જુનાગઢ

ENVELOP-1

**Tender Doc.
EMD & TENDER Fee**

To,

FROM:

ENVELOP-2

**Tender Doc.
TSD & COMPANY DETAILS**

To,

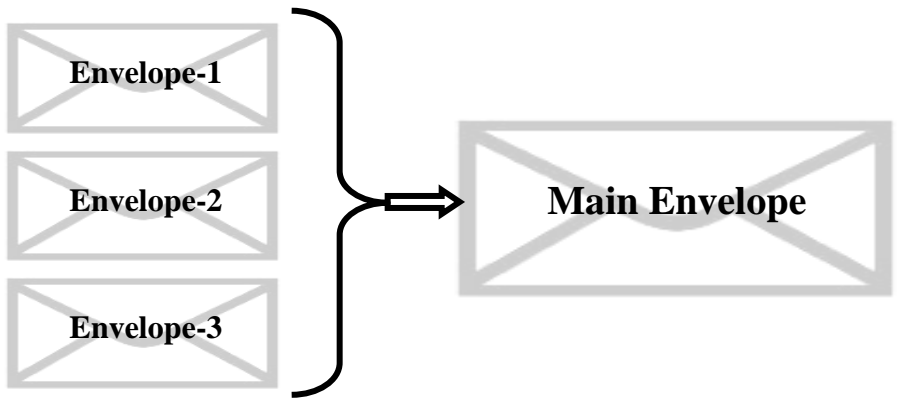
FROM:

ENVELOP-3

**Tender Doc.
Techno-Commercial Bid
ITEM CODE:
Name of Instrument:
(Separate for each item)**

To,

FROM:



(A)

Envelop- 1

1. Tender Fee Details: (Rs.1,000/-) DD in favour of “Junagadh Agricultural University Fund A/c ”, SBI, code: 3251 payable at Junagadh

a. Name and Address of Tenderer

2. Details of Demand Draft or Banker's cheque or Pay order

Sr. No.	Particulars	Number	Date	Amount (Rs.)	Drawn on... (Please mention <u>Name of Bank</u>)	Branch &Place
1	Demand Draft / Banker's cheque/ Pay order			1000/-		

3. Format for EMD to be filled in the letter pad by the tenderer:

EMD in form of DD “Junagadh Agricultural University Fund A/c”

Item Code	Name of Items	Basic quoted price in (INR)	EMD @ (1% of Basic Quoted Price)
Total			

(B) **Envelop- 2**

From :

To

The Principal and Dean
College of Agricultural Engineering and Technology
Junagadh Agricultural University
Junagadh - 362 001

Sub: Tender for the Purchase of **Lab Instruments / Farm Equipments / Devices / Software and Miscellaneous items.**

Sir,

I/We hereby submit the offer (duly filled) in response to the advertisement/tender notice for the Purchase of Lab Instruments / Farm Equipments / Devices / Software and Miscellaneous items in accordance with the terms and conditions of such supply and declare as under:-

I/We hereby offer to supply to Junagadh Agricultural University, Junagadh in accordance with the terms and conditions, hereto annexed and at the prices given by me/us in the Schedule-B attached.

I/We enclose herewith Demand Draft No. _____ dated _____ for Rs.1,000/- (Rupees One thousand only) in favour of "Junagadh Agricultural University Fund Account" drawn on STATE BANK OF INDIA, JUNAGADH BRANCH [CODE NO. 3251] towards the Tender Fee (Non-refundable) and Fixed Deposit Receipt (FDR) Demand Draft No. _____ dated _____ Amount _____ (At least Rs, 1000/- or 1% of quoted price whichever is higher) in favour of "**Junagadh Agricultural University Fund Account**" towards the Earnest Money Deposit (Refundable).

I/We carefully read and understood and agree to abide by the said terms and conditions set in the Schedule-A hereto annexed and the description/size/specifications of the stores and the other relevant details as set out in the Schedule-B of the tender.

I/We agree to hold this **offer open till the Date: December 31, 2012** from the date of due date of opening of the tender.

I/We agree that in case of dispute, if any, the decision of the Vice Chancellor, Junagadh Agricultural University, Junagadh 362 001 shall be final and binding upon me/us.

(B)

Envelop- 2

1. Full details of my/our firm are given below:

(A) Name of the firm :

(B) Complete address of the firm:

(C) Full Name and address of Partners together with a copy of certificates of Registration issued by Registrar of firms along with signatory authority from partner:

(a) Name and Telephone No.:

Director/Chief Executive _____

Tele No. _____

(b) Sales Manager /contact persons. _____

(D) Enclosed Authorized dealer certificate

(E) Enclosed Import certificate copy in case of imported equipment.

(F) Tele. No. _____ Mobile Mo. _____.

(G) Fax No: _____

(H) E-Mail : _____

(I) Sales Tax No: _____

(J) VAT TIN No: _____

(K) Registration No : _____

(L) License No.: _____

(M) Any other such details. _____

Signature of Tenderer

(with Stamp and Name and Designation.)

NOTE: In case, the tenderer is a partnership firm, true and correct full names of the each partners together with their complete address should be furnished. In case of death or termination of partnership by any of the partners, intimation shall be sent immediately to the Director of Research, Junagadh Agricultural University, Junagadh – 362 001. Any change in the constitution of partnership shall be intimated within 10 days.

(B) Envelop- 2

TERMS AND CONDITIONS

1. General

- 1.1 Junagadh Agricultural University (hereinafter referred to as “JAU”), for its various Departments (hereinafter referred to as “the purchaser”) for their requirement of Lab Instruments / Farm Equipments / Devices / Software and Miscellaneous items intend to invite offers for the purchase to supply, installation and maintenance of Lab Instruments / Farm Equipments / Devices / Software and Miscellaneous items across the various offices at head quarter as well as its sub centres across the Saurashtra region of Gujarat state. The completely filled and sealed tender should reach to the Principal and Dean, College of Agricultural Engineering and Technology, Junagadh Agricultural University, Junagadh 362 001 on or before **24-02-2012 and Time 12.00 hrs by RPAD/Speed Post.**
- 1.2 The bid is non-transferable.
- 1.3 The rates should be mentioned against each item in the form itself. Bidders are required to mention make & model of the product against each item
- 1.4 In case of a chain of dealership (Distributor, area dealer, sub dealer, local dealer), all the relevant Authorization certificates up to the end supplier has to be submitted along with price bid.
- 1.5 The bidder will have to supply, install and training of the Lab Instruments / Farm Equipments / Devices / Software and Miscellaneous items.
- 1.6 The bidder shall bear all the costs associated with the preparation and submission of its bid, and JAU in no case will be responsible or liable for these costs, regardless of conduct or outcome of bidding process.
- 1.7 Amendment of bidding documents (corrigendum)
- 1.7.1 At any time prior to the deadline for submission of bids, JAU may, for any reason, whether its own initiative or in response to the clarification request by a prospective bidder, modify the bidding documents.
- 1.7.2 The corrigendum will be published on website <http://www.jau.in>.
- 1.7.3 In order to allow prospective bidders reasonable time to take into consideration the amendments while preparing their bids, at its discretion, JAU may extend the deadline for the submission of bids.
- 1.8 The following documents / information must be provided as a part of the proposal:
- i) Vendor’s profile
 - ii) Details of the vendor as per formats given on Page -3.
 - iii) Copy of certificate(s) of registration, incorporation etc.
 - iv) An affidavit stating that the vendor has not been blacklisted by any Government or public sector undertaking

(B) Envelop- 2

- v) Latest Income Tax Clearance certificate
 - vi) Sales tax / Service tax registration certificate
 - vii) Copy of any valid quality/other certifications obtained by the vendor
- 1.9 Bid currency - Prices shall be quoted in **Indian Rupees** only.
- 1.10 The tender should be accompanied by Tender Fee of **Rs.1,000/-** (Rupees One Thousand Only) & Earnest Money Deposit (EMD) of **Rs.1,000/- or at least 1% of the quoted price whichever is higher.** The Tender Fee must be in the form of **Demand Draft in favour of "Junagadh Agricultural University Fund Account" payable at Junagadh (Gujarat)** drawn on STATE BANK OF INDIA, JUNAGADH BRANCH [CODE NO. 3251] & the EMD must be in the form of **Fixed Deposit Receipt (FDR) in favour of "Junagadh Agricultural University Fund Account"**. **Cheque shall not be accepted. Tender without Tender Fee & EMD will be rejected.**
- 1.11 The Security Deposit of the amount of 2.5% of quoted approved price of the respective item for the successful tenderer in the form of FDR in favour of "Junagadh Agricultural University Fund Account" for 18 month is must before receiving the purchase order.
- 1.12 The Earnest Money Deposit shall be forfeited, if
- (i) Bidder withdraws his offer or rates after the opening of the tender.
 - (ii) Bidder modifies rates or any terms and conditions of the original offer.
- 1.13 The Security Deposit shall be forfeited, if
- (i) Successful bidder fails to supply the items within the delivery period.
 - (ii) Successful bidder fails to provide after sales service.
- 1.14 The items are subject to requirements and the same may be purchased or may not be purchased.
- 1.15 The Principal and Dean, College of Agricultural Engineering and Technology, Junagadh Agricultural University, Junagadh not bind himself to place the order for the item(s) and quantities specified in the tender. The successful bidder shall have to execute the purchase orders placed on any date during the validity of the tender at the rate, terms and conditions of the tender.
- 1.16 The bidder has to attach with the tender the compliance letter on its letter head duly signed by the authorized signature & other supporting documents as asked for in the bid in scanned format. Failing to submit the same or non-compliance / deviation from any bid terms and conditions may result in rejection of the bid.
- 1.17 The manufacturer of the product should be ISI/ ISO or equivalent Process Certified for manufacturing.
- 1.18 The bidder will have to attach original colour catalogue of the quoted product to ensure necessary certification and compliance. Tenders with photocopy of

(B) Envelop- 2

the catalogue of the product ensuring necessary certification and compliance will be rejected.

- 1.19 The nomenclature / specifications of the items for the purchase of which the tender has been invited is at the end of this document.
- 1.20 The prices shall be inclusive of all freight, forwarding, transit insurance, installation charges, applicable taxes and F.O.R. JAU store. The prices shall strictly be submitted in the given format. The tax components like C.S.T. & VAT as applicable shall be mentioned separately in the respective columns
- 1.21 JAU may not issue 'C' or 'P' form of sales tax or any other type of tax relaxation form of Government and the tenderers are therefore requested to quote the rates of sales tax or any other taxes payable in absence of such forms/declarations.
- 1.22 Being an education institution we are eligible for exemption of excise duty / custom duty. Hence, rates should be quoted keeping that in mind.
- 1.23 The rates quoted should be legible. Pencil entries and over writing entries are liable for rejection.
- 1.24 Any offer of special discount after finalization of rate shall disqualify the party for the supply of goods.
- 1.25 If in any case the quoted item is not available in the market, the successful bidder will have to supply higher version/replacement of that item in the quoted cost in the same time duration with prior approval of JAU.
- 1.26 The successful bidder will held responsibility for the items sufficiently and properly packed for transport so as to ensure their being free from loss or injury on arrival of destination (JAU Store).
- 1.27 The offers which do not confirm to the conditions laid down in the tender notice shall not be considered.
- 1.28 The bidders with local service support may be given due weightage over others.
- 1.29 Tender received late and/or not submitted in the prescribed formats or in the prescribed manner, incomplete in any respect or not accompanied by prescribed documents are liable to be rejected. JAU is not responsible for non-receipt of tender within the specified date and time due to any reason including postal delays.
- 1.30 Modification and Withdrawal of tender bids –
 - No tender bids will be allowed to be modified subsequent to the final submission of tender bids.
 - Tenderers will not be allowed to withdrawn tender in the interval between the deadline for submission of tender and the expiry of the validity.

(B) Envelop- 2

Withdrawal of a tender during this interval will result in the forfeiture of tenderer's E.M.D.

- 1.31 All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof. JAU reserves the right to change any bid condition of any item even after inviting the bids, with/without prior notification.
- 1.32 Bids will be opened in the presence of Bidder's representatives, who choose to attend. The Bidder's representatives who are present shall sign a register/attendance sheet evidencing their attendance. The representative will be held responsible for all commitments made on behalf of the bidder and that will be considered valid for all further dealings related to this tender process. In the absence of the bidder(s), the tender committee may choose to open the bids as per the prescribed schedule.
- 1.33 All pages in the tender document(s) must be signed by an authorized representative of the applicant.**
- 1.34 Validity: up to December 31, 2012.**
- 1.35 Submit the completely filled tender by RPAD / Speed Post.
- 2. Inspection and removal of rejected items :**
 - 2:1 All items whether imported or of indigenous make shall be subject to inspection for acceptance of items. If any item is rejected by the competent authority due to its non confirming to the prescribed specifications or not being in accordance with other conditions of contract and/or delivery schedule or for some valid reasons, the decision of the Vice Chancellor, Junagadh Agricultural University, Junagadh shall be final conclusive of any binding on the supplier.
 - 2.2 In case of defective items or rejected items during inspection, the same shall have to be replaced by the supplier at its own cost and risk, and within stipulated time.
- 3. Payment :**
 - 3.1 100 per cent payment will be made only after materials are supplied as per the rate and terms and conditions of purchase as well as after satisfactory installation and demonstration. No advance or part payment or payment through bank will be entertained.
- 4. Delivery :**
 - 4.1 All materials shall be delivered in good condition and as per the specifications at the store of ordering office of Junagadh Agricultural University as per terms and conditions of the contract.

(B) Envelop- 2

- 4.2 The successful bidder shall have to supply and install the ordered items within delivery period mentioned in the order otherwise the consignment will be rejected.
- 4.3 The application for extension of delivery period shall be sent to concerned ordering office of Junagadh Agricultural University at least 5 days prior expiry of delivery period of each items. The officer in charge, who is placing the order may grant extension or reject the application and their decision in the matter shall be final and binding to all.

5 Warranty :

- 5.1 Period of Warranty: Comprehensive onsite warranty for 1 year from the date of installation of the items. Please clearly mention the parts, which are not covered under warranty separately.
- 5.2 If any systems/s gives continuous trouble, during the warranty period, the bidder shall replace the systems with new system without any additional cost to the purchaser.

5.3 Maintenance service

- 5.3.1 Free maintenance services shall be provided by the successful bidder during the period of warranty i.e. 1 year.
- 5.3.2 The maximum response time for maintenance complaint from any of the destinations specified in the Purchase order(s) (i.e. time required for bidders maintenance engineer to report at the installation after a request call is made or letter is written) shall not exceed 24 hrs.
- 5.4 The Bidder/System Integrator will be required to co-ordinate with software vendor and/or do liasioning with other service provider to achieve the end-to end connectivity. This also includes Laptop or PCs OS configuration with respect to LAN/WAN technologies implementation.

6. Tender Opening Time :

- 6.1 The tender opening meeting will be held on February 24, 2012 at 15:00 hrs at the office of the Principal and Dean, College of Agricultural Engineering and Technology, Junagadh Agricultural University, Junagadh 362 001 (Gujarat). Any change in Tender opening date & time will be notified only on the university website (<http://www.jau.in>).

7. Dispute :

- 7.1 In case of any dispute, final decision of the Vice Chancellor, Junagadh Agricultural University, Junagadh 362 001 will be binding upon all.
- 7.2 In case of any dispute arises in respect of this contract; a suit in that behalf shall be subject to Junagadh Jurisdiction.

(B)

Envelop- 2

The bid should be submitted on or before 12:00 Hours, February 24, 2012.

Tender submitted after this date and time will not be accepted.

Submit the completely filled tender by RPAD / Speed Post to the address mentioned below.

Please address all queries and correspondence to :

The Principal and Dean
College of Agricultural Engineering and Technology,
Junagadh Agricultural University,
Junagadh 362 001 (Gujarat)

Tele-Fax: 0285-2671018: PBX No: 0285-2672080-90 EXT 426,
E-mail: caet@jau.in

Fax/e-mail should be followed by the post confirmation copy.

(C)

Envelop- 3

PRICE BID OPTION-I

NON-IMPORTED ITEMS

(Separate envelop for each item)

- 1) Name of the Item :
- 2) Code No. :
- 3) Name of Manufacturer :
- 4) Suppliers Name & Contacts :
- 5) Brand :
- 6) Model :
- i) Price of Main Item with
Standard accessories in INR (per Unit):
- ii) Optional Items:

Sr. No.	Item Description	Item Rate in INR (per Unit)

A.	Total of Optional Items in INR	
B.	Total Ex Factory prices 5(i) + 5(ii)	
C.	(i) Excise and other duties if applicable in % (at concessional rate to Educational Institute)	
	(ii) Excise and other duties in INR (as per % specified)	
D.	Packing Forwarding, Insurance and Installation charge in INR	
E.	Total price excluding VAT (B + C + D)	
	CST/VAT	
F.	(i) CST in % (Enter '0' if not applicable)	
	(ii) CST in INR (as per % specified)	
	(iii) VAT in % (Enter '0' if not applicable)	
	(iv) VAT in INR (as per 5 specified)	
G.	Any Other Charges	
H.	Total F.O.R.D. price in INR	

(C)

Envelop- 3

Remarks if any:

- (1) Price must be quoted in above format with breakup. Quoting of consolidated price without breakup will not be considered. Optional item shown in Technical Bid should be quoted separately.
- (2) All terms and conditions of supply shall be applicable as per tender terms. Any terms and condition enclosed with Commercial Bid shall be ignored or in such a case offer is liable to be rejected.
- (3) Please enclose annexure of tax declaration certification.

DECLARATION

We solemnly declare that we have attached all the documents mentioned here above and mentioned in the tender. We also understand that non-compliance of any documents will be treated as non-respective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

(C)



Envelop- 3

PRICE BID OPTION-II

IMPORTED ITEMS

(Separate envelop for each item)

- 1 Name of item :
- 2 Item Code :
- 3 Name of Manufacturer :
- 4 Name of Supplier :
- 5 Brand :
- 6 Model :
- 7 C.I.F. Port Price of Main Item with
standard accessories (per Unit) :
Specify Currency :
Specify dated Conversion Rate :
Optional Items :

Sr. No.	Item Description	Item Rate in above selected currency (per Unit)

(C)

Envelop- 3

A.	Total of Optional Items in	
B.	(i) Total C.I.F. prices 6(i) + 6(ii) in selected currency	
	(ii) Total C.I.F. prices 6(i) + 6(ii) in INR after applying conversion rate.	
C.	(i) Custom duty / CVD in % Custom duty / CVD in INR (as per % specified)	
	(ii) Additional Custom duty in % Additional Custom duty in INR (as per cent specified)	
D.	Transport charges from port to place of consignees, Transit Insurance within India, Installation Charges in INR	
E.	Bank / Custom clearance charges	
F.	Any Other Charges	
G.	Total F.O.R.D. price in INR. B(ii) + C(ii) +D+E + F	

Letter of credit to be opened in favour of :

Country of Shipment :

Remarks if any:

Note:

- 1 Price must be quoted in above format with breakup. Quoting of consolidated price without breakup will not be considered
- 2 Optional item should be quoted separately
- 3 If the rates are quoted in foreign currency, local agency commission will not be allowed for local agents / dealer.
- 4 If required, custom exemption certificate shall be provided by Consignees if it is allowed under relevant act and issued by authority concerned.
- 5 All terms and conditions of supply shall be applicable as per tender terms. Any terms and condition enclosed with Commercial Bid shall be ignored or in such a case offer is liable to be rejected.
- 6 The rates of the main item with accessories and optional items should be quoted in foreign currency only.

The rates of Custom Duty / C.V.D., transport charges from port to place of consignees, transit insurance within India, installation charges, bank / custom clearance charges should be quoted in Indian currency only.

(C)



DECLARATION

We solemnly declare that we have attached all the documents mentioned here above and mentioned in the tender. We also understand that non-compliance of any documents will be treated as non-respective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

(C) Envelop- 3

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
(A)	Materials Required for RKVY Smart Farming project site at Mahuva, Dist. Bhavnagar (The quoted price should be FOR Junagadh for item No. 1-5)				
1	Automatic fertigation system components				
i	NetaJet - Bypass - 5 dosing injector-NMC pro-ecph-400v. Up to 6 No of Pumps & Water Meters can be connected & configured individually, Pumps can be operated as Pump Station or Individually Modular Controller Expandable up to 64 in same container & up to 256 with expansion boxes Provides accurate fertilizer and acid control with minimum expenses and intervention Delivers high precision solution for midrange to large applications Controller: Up to 256 Outputs 24V AC or DC Latch (SingleNet), Up to 32 Digital inputs, Up to 22 Analog inputs, Pyranometer Sensor KIT EC/pH control: Single/Dual measurement and control, EC pre control facility for Mixing junction Flow Rate: 20-150 m3/hour Fertilizer dosing channel: 5 x 300 l/hour, Constant Pressure Fertigation Injection Loop, Booster Pump for Fertigation, Hydromix Technology System pressure: 1 – 6.2 Bar PC Connectivity for Data Logging & Remote Programming-Monitoring, Various Alarm Generation, Filter Flushing Control	No	1		
ii	Arkal 3" Twin Spin Clin Filter	No	2		
iii	Manifold Header Assembly-4"	No	1		
iv	Barak Polypropylene Base 2" D-044 (Bspt)	No	1		
v	Barmad 1.5 Q Pr. Rel. Valve 33q-Ypbsp2w-K	No	1		
vi	Pressure gauge 250 glz 8 atm.1/4"	No	6		
vii	NMC Pro Communication Unit (Mux) Rs485 230v	No	1		
viii	Multi Jet Water Meter M 4" Ev 10l	No	1		
ix	Solenoid Valves 24 VAC (Size : 3")	No	30		
x	Three Phase Controller W/Double Relay For Netajet	No	1		
xi	Barmad 1.5 Pr. Red. Cont. Val. 220 gpbsp2wm5 For Netajet	No	1		
xii	Bermad 1.5 Pr.Sus.Valve 230gpbsp2w-50m For Netajet	No	1		
xiii	Arkal 3/4" Filter 120 Mesh Red	No	5		
xiv	Fertilizer Tanks	No	5		
xv	Cables for Solenoid Valves	m	As per requirement		
xvi	Cables for Sensors	m			
xvii	Protective Conduits for Cables	m			
xviii	Tensio meters : ON-OFF Type	No			
xix	Online UPS / Stabiliser for the controller & PC	No	1		
xx	Earthing & Lightening Protection	No	1		
xxi	Single Phasing Preventer	No	1		
xxii	Remote connection to the controller via modem and telephone line.	No	1		

(C) Envelop- 3

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
2	Drip irrigation Components all as per ISI or GGRC				
	i Sand Filter with back wash assembly 50 m ³ /hr x 3 "	No	2		
	ii Disc Filter 50 m ³ /hr x 3 "	No	2		
	iii Hydro-Cyclone Filter 50 m ³ /hr x 3 "	No	2		
	iv Pressure Gauge 2"	No	10		
	v Water Meter (Metal)				
	• 3 "	No	1		
	• 4 "	No	1		
	vi Butterfly Valve (CI / MS)				
	• 3"	No	2		
	• 4"	No	2		
	vii Pressure Regulating Valve 2"	No	2		
	viii Header Assembly – MS 4"size x 2/3 filter	No	1		
	ix PP Ball Valve / Control Valve				
	• 90 mm	No	2		
	• 110 mm	No	2		
	x PP Ball Valve with Flange Ends				
	• 3" Flange End	No	2		
	• 4" Flange End	No	2		
	xi Air Release Valve 1 "	No	10		
	xii Ventury Injector Assembly with Valve & without manifold 2"	No	1		
	xiii PVC Pipe for Main and Submain Pipelines				
	• 160 mm x 6 Kg/cm ²	m	As per requirement		
	• 63 mm x 4 Kg/cm ²	m			
	• 75 mm x 4 Kg/cm ²	m			
	• 90 mm x 4 Kg/cm ²	m			
	• 110 mm x 4 Kg/cm ²	m			
	• 140 mm x 4 Kg/cm ²	m			
	• 160 mm x 4 Kg/cm ²	m			
	• 180 mm x 4 Kg/cm ²	m			
	• 200 mm x 4 Kg/cm ²	m			
	xiv LLDPE Plain Laterals 16 mm diameter, 2.5Kg/cm ² – Class II	m	35000		
	xv PVC Flush Valve				
	• 75 mm	No	4		
	• 90 mm	No	4		
	xvi Winder - Drip line (MS)	No	5		
3	At RKVY site Mahuva, Dist. Bhavnagar a bore well of 200 mm diameter with required PVC casing pipe of size 200 mm x 6 Kg/cm² (ISI). Proper platform with metal cover on bore hole. The rate should be quoted in Rs./m separately for 0-50 mtr depth and 51-100 mtr depth.	m	100		
4	Submersible Pump with Motor, V-8 Submersible, ISI, Stainless steel body, 3 Phase, 15 HP X 8 Stages (RS./No.)	No	1		
5	Generator set: Diesel operated engine, portable, silent, single phase AC output with control panel, suitable battery, its charger and alternator with ARI				
	i. 3 KVA	No.	1		
	ii. 5 KVA	No.	1		

(C) Envelop- 3

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
(B) Materials Required for Department of Soil and Water Engineering, CAET, JAU, Junagadh (The quoted price should be FOR Junagadh for item No. 6-18)					
6	Pelton wheel turbine with all accessories Technical Specifications: <ul style="list-style-type: none"> • Supply Head : 25 meters (maximum) • Discharge : 500 lpm • Normal Speed : 1000 rpm • Power Output : 1 HP • Jet Diameter : 22mm (maximum) • Pitch Circle Diameter : 260 mm • Jet Ratio : 12 approx. • No. of Buckets : 18 Nos. and Rope Diameter : 15 mm • Brake Drum Diameter : 200 mm • Size of Venturimeter : 50 mm • Pressure Gauge : 0 – 4 Kg/cm² - 2 Nos • Lab scale model 	No	1		
7	Metacentric Height Apparatus Technical Specifications: <ul style="list-style-type: none"> • Pontoon : Size 300x 150 mm (Approx.) with a Horizontal Guide Bar for sliding weight. • Water Tank : Size 600 x 400 x 400 mm (Approx.) • Front Window of Tank : made of Glass/Perspex • A set of weights and tanks made of Stainless Steel. 	No.	1		
8	Bernoullis Theorem Apparatus Technical Specification <ul style="list-style-type: none"> • Nett dimensions: 720 mm x 650 mm x 300 mm Approximately • Packed dimensions and weight: 0.14 m³ and 15 kg • Flow rate: Nominally 27 L.min⁻¹ • Venturi tube material: Aluminium • Inside diameter of Venturi inlet: 26 mm • Inside diameter of Venturi throat: 16 mm • Inside diameter of Venturi outlet: 26 mm • Pressure tappings: 11 • Manometer scale: Millimetres • Manometer tube range: 0 to 290 mm • With accessories 	No.	2		
9	Notch Apparatus Technical Specification <ul style="list-style-type: none"> • Channel Test Section: Size 600x250x180 mm approx. • Notches (Material Brass): <ul style="list-style-type: none"> i. Rectangular Notch ii. 45 deg. V Notch iii. 60 deg. V Notch iv. Trapezoidal Notch • Hook / Pointer With Vernier Scale • Water Circulation: FHP Pump, Crompton/Sharp make • Flow Measurement: Using Measuring Tank with Piezometer, Cap.25 Ltrs. • Stop Watch: Electronic 	No.	2		

(C) Envelop- 3

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
10	Orifice & Mouthpieces Apparatus Technical Specification <ul style="list-style-type: none"> • Supply Tank - 0.4 X 0.3 X 0.5m height • Orifice - 8mm and 10 mm. • Mouthpiece <ol style="list-style-type: none"> i. L/D = 4 ii. L/D = 1 iii. Bordas mouthpiece. iv. Convergent mouthpiece. • X-Y gauge for orifice jet co-ordinates. • Measuring tank of suitable capacity OR a calibrated water flow meter. • Sump tank of suitable capacity. • 0.5 HP pump with valve. 	No.	2		
11	Multi slot devisor Technical Specification 21 slots, 25mm slot width, 300mm height made of 16 gauge GI sheet, provision for water conveyance	No.	3		
12	Menometer Specifications: <ul style="list-style-type: none"> • Range: 0-10 kg/cm² • Accuracy: 0.25% of FS • Proof Pressure: 200% FS or 6000 psi (lowest) • Burst Pressure: 300% FS or 10000 psi • Connection: ¼ - 18 NPT male • Battery: 9 V Alkaline • Case Material: ABS • Wetted Parts: SS 316 L • Media Compatibility: All corrosive media compatible with SS 316 L 	No	1		
13	Liquid Limit Apparatus Specifications: <ul style="list-style-type: none"> • Motorised Model • Brass cup held on an adjustable bracket. • The bowl can be adjusted for a fall raised & dropped on a rubber of standard hardness by cam action. • Complete with one casagrande-grooving tool, one ASTM grooving tools and a height gauge block. • With counter. • Fitted with a motor geared down to give approximately 120 RPM. • Suitable for operation on 220 Volts, single phase, 50 cycles, A.C. supply. • As per IS :9259, IS:2720 (Part-V) 	No.	1		
14	Sand Replacement Cylinder Specifications: The apparatus is suitable for estimation of field density of fine, medium and coarse grained soils, as per IS : 2720 (part XXVIII) and consists of :- <ul style="list-style-type: none"> • Sand Pouring Cylinder, 215 mm internal dia, with conical funnel and shutter. • Calibrating container 200 mm inner dia x 250 mm high with 75 mm wide flange. 	No.	1		

(C) Envelop-³

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
	<ul style="list-style-type: none"> • Metaltray 450 mm square x 05 mm deep with a 200 mm dia hole at the centre. • Metal tray 450 mm square x 50 mm deep without hole. • Glass plate 600 mm square x 10 mm thick. • Dibber and Scrapper. 				
15	<p>Guelf Permeameter Specifications: It should be used to obtain accurate measurements of hydraulic conductivity, soil sorbtivity and soil matrix flux potential. It should be a complete kit consisting of the permeameter, field tripod, well auger, well preparation and cleanup tools, collapsible water container, and vacuum test hand pump, all packaged in a durable carrying case.</p>	No	1		
16	<p>Permeability Apparatus Specifications: As per IS 2720 (Part 17) , IS 11209 It should comprises:- Compaction Permeameter Mould 1000 ml capacity, clamped between top and bottom drainage plates having recess for porous stones. Supplied along with a false bottom plate for use during compaction of soil in the permeameter and extension collar. Stand pipe panel, with three glass tubes of 6 mm, 10 mm and 20 mm dia, one meter long, supplied with wooden meter scale and 3 meter rubber tubing. ACCESSORIES: <ul style="list-style-type: none"> • Steel over head tank, 400 mm diameter x 1000 mm height with one inlet and five outlet valves. • Porous stones set for top and bottom drainage. • Set of glass tubes fitted on panel • Rammer light, 2.6 kg x 310 mm fall. • Rammer heavy, 4.89 kg x 450 mm fall. </p>	No.	1		
17	<p>Bailer (2" Diameter) Specifications: <ul style="list-style-type: none"> • Bailer of 2" diameter, GI material with all accessories </p>	No.	1		
18	<p>Digital Pressure Gauge with Adapter Specifications: <ul style="list-style-type: none"> • Range: 0-10 kg/cm² • Accuracy: 0.25% of FS • Proof Pressure: 200% FS or 6000 psi (lowest) • Burst Pressure: 300% FS or 10000 psi • Connection: ¼ - 18 NPT male • Battery: 9 V Alkaline • Case Material: ABS • Wetted Parts: SS 316 L • Media Compatibility: All corrosive media compatible with SS 316 L </p>	Set	1		
(C)	Materials Required for AICRP on GWU, Department of Soil and Water Engineering, CAET, JAU, Junagadh (The quoted price should be FOR Junagadh for item No. 19-23)				
19	<p>Well Logger with data logger (Multiparameter water Quality Monitoring Instrument) Technical Specification Latest version, Heavy-Duty, Stainless steel protective cover With Standard Self contained Sensor Viz. pH, Oxidation Reduction Potential (ORP), Conductivity(EC), TDS, Resistivity, Salinity,</p>	No.	1		

(C)

Envelop-³

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
	Seawater specific gravity, Turbidity, Dissolved Oxygen(DO), Temperature and Atmospheric pressure. Data logging More than 100m Depth with cable, USB,PC connection and Extended parameter (XP) Sensors like Nitrate Ion, Calcium Ion, Fluoride Ion, Chloride Ion, Potassium Ion and Ammonia Ion., ISO Slandered The price of each sensor/components should be quoted separately.				
20	Groundwater Sampler Technical Specification Ground water sampling pump equipment, Designed with all stainless steel component, allow to sample in the harshest well condition with confidence, Provide safe conditioned variable DC output power from AC power source, Easy to decontaminate and disassembly, field replaceable motor, Uniform continuous flow, capacity of sampling and purging from adequate depths (100m) down of well and with extreme efficiency.	No.	1		
21	ESRI ArcGIS ArcView Software latest version with single user license	No.	1		
22	ESRI ArcGIS Spatial Analyst latest version with single user license	No.	1		
23	Schlumberger Water Services - VISUALMODFLOW Software Version 2011.1 Premium with add on: i) Hydro Geo Builder & ii) MODFLOW-SURFACT	No.	1		
(D)	Materials Required for AICRP on APA, Department of Renewable Energy & Rural Engineering, CAET, JAU, Junagadh (The quoted price should be FOR Junagadh for item No. 24-37)				
24	Digital Thermo Hygrometer, Table model showing direct humidity in % RH and Temperature in °C	No.	5		
25	Soil thermometer Depth : 5cm, 7.5 cm, 10 cm, 15 cm, 20 cm, 30 cm	No.	4		
26	Intelligent PH/mv/EC/TDS/DO digital meter: Specification: Measurements automatic, PH: 0 to 14 pH, mv : ± 1999mv, CD : 2 ~ 20 ms, TDS : up to 20000 ppm, DO : 0 to 1000% saturation : 0 to 20 mg/L, optional - temperature probe : 0 to 100°C, LCD : display, Data record : Maximum and minimum values, Data output : RS 232 / USB interface, Sampling time : approximant 0.8 second, Power supply : Battery (Recharging facility) / adaptor.	No.	1		
27	Digital Evaporation Recorder: Specification: Measured parameters : Date, Time, Evaporation, Water temperature, Wind speed, Display : Dual LCD , Software : data retrieval (USB port) Humidity measurement : 0 to 95 % Rh, Temperature measurement: -10 to 70°C, Memory rang : 16 k bytes, Battery : Rechargeable with integral solar panel Sensor range : water temperature : -40 to 1240°C, wind speed : 0 to 67 m/s, Open pan : 1220 cm, GI material mounted on wooden frame, pan bird gauge square steel mesh. Computer interface : USB / RS 232 and LAN.	No.	1		
28	Temperature Humidity Logger: Specification : Measurement range: Temperature: -40° to 123.8°C, RH: 0% to 100% RH, Accuracy Temperature: +/- 0.5°C, RH: ± 2%, Resolution: Temperature: 0.01°C, RH: 0.03%, Sample Rate: 1 minute to 24 hours, user selectable, Battery: Rechargeable with more than 1 year life, Storage Memory: 64K bytes.	No.	5		
29	Temperature Humidity Logger with LCD Display: Specification : Measurement range: Temperature: -40° to 123.8°C, RH: 0% to 100% RH, Accuracy Temperature: +/- 0.5°C, RH: ± 2%, Resolution: Temperature: 0.01°C, RH: 0.03%, Sample Rate: 1 minute to 24 hours, user selectable,	No.	2		

(C)

Envelop-³

Sr. No.	Equipments/Instruments with specification	Unit	Required Quantity	Unit Price (₹)	Amount (₹)
	Battery: Rechargeable with more than 1 year life, Storage Memory: 64K bytes, USB interface, LCD displays current readings, Min/Max, and alarm status, Windows compatible analysis software.				
30	Multi Parameter Water Quality Instrument: Specification : Measure pH, Iron Ion Concentration, Salinity, Total Dissolve Solids (TDS) , Dissolve Oxygen (DO), water Temperature. Auto-Calibration; Data-logging options with time/date indexed (500 data sets), GLP compliance; Simultaneous Display and measurement of 4 parameters; Cal-due alarm; pH slope/offset Display & Self-diagnostic.	No.	1		
31	Tensiometer Gauge type: Specifiication : 15, 30, 45 cm. with reservoir, air free gauge chamber, and hermetically sealed dial type vacuum gauge with dual scale of millibars (-1000 to 0) and mmHg (-760 to 0) range.	No.	8		
32	Soil Moisture & pH meter Specification : Electrode measures pH values from 3.5 to 8, soil moisture from 0 to 100%., pH Accuracy: ± 0.2 . Moisture accuracy: $\pm 10\%$.	No.	1		
33	Soil Moisture & Temperature Recorder Specification : Sensor : 7 point Soil moisture, Gypsum block type range 0 to 200 centibar, output : resigtance & 1 point Soil Temperature sensor range -10 to 110 °C Accuracy: ± 0.5 . resolution : 0.1°C, output mV (analog). Measured parameters : Date, Time, soil moisture, soil temperature, Display : LCD , Software : data retrieval (USB port) with Virtual ware application software .Battery : Rechargeable with integral solar panel	No.	1		
34	Thermo – Hygrometer. Range: -15 to 50oC %, 25-95%RH, Accuracy : 0.1 oC (1.8 o F)	No.	5		
35	Dial gauge thermometer Range: 0 to 50oC	No.	5		
36	Electronic Torsion Testing Machine: Max. test torque – 200 N.m; Measuring range of torque- 4-200 N.m; Distance between grips – 0-400 mm; Torsion speed – 1.5 rpm reverse; grips for round bars: 7-10, 10-15, 15-20 mm; Grips for flat bars thickness- 3-10 mm and width – 30mm; control method-control of torque, torsional angle and deformation; Curves – torque / angle / deformation-time curve; resolution of torsional angle – 0.10 ; torsional speed – 0.1-10000/min, stepless; Max. reeding of torsion angle – 9999.90	No	1		
37	Total Station: 3-pin Tribrach, Laser Plummet & Laser Pointer, Digital Fieldbook data collection software Screen, Backlit (320X240 pixel) keyboard & Display on Both Faces With following spaces: Instrument – (accuracy 3'') Total Station, Angle : Accuracy – 3'', Least Count – 1'' Distance : Accuracy (Prism Mode) - $\pm (3\text{mm}+2\text{ppm})$, Accuracy (Direct Reflex Mode) - $\pm (3\text{mm}+2\text{ppm})$, Least Count – 1 mm, Distance Range with 1 Prism – 5000 Meters Distance Range without Prism – Upto 300 Meters Includes following: On board Side Mount Rechargeable Li-on Battery(02) (8 hours operation on each battery), Dual slot battery charger (01), Data Cable (01), User Manual on CD (01), Adjustment tools (01), Rain Cover (01), Above in Hard Carrying Transport case (01) Prism: Reflector Tilttable, large 2.5'' (63.5 mm) Rod : 2.6m Aluminium Telescopic Rod Tripod: Heavy Duty Wooden	No.	1		



(E) Materials Required for Department of Farm Machinery & Power, CAET, JAU, Junagadh (The quoted price should be FOR Junagadh for item No. 38-66)					
38	Tractor Cut Model <ul style="list-style-type: none"> Cut section of complete tractor duly motorized 	No	1		
39	Cut Model of Tractor Clutch Assembly <ul style="list-style-type: none"> Clutch cut section mounted on table inclusive of parts, with dummy flywheel motorized 	No	1		
40	Cut Model of Tractor Steering Assembly <ul style="list-style-type: none"> Power steering inclusive of components, Mounted on table without enclosure & without motor 	No	1		
41	Oxylog <ul style="list-style-type: none"> Measurement range: 0.1-10 liters O₂ uptake per minute Respiratory exchange ratio: Fixed at unity, Max. error at 0.9-0.4 % at 1.1-0.4% Storage capacity: Full time and data. File for 2040 minutes. Individual Files: Test sequences may be sub-divided into 15 individual tests labeled A to O. Storage Parameters: Time, Date, Breath Rate, minute volume, minute O₂ consumption, Total ventilation, Total O₂ consumption, inspired O₂%, Expired O₂%, inspired air temperature. Battery Life: 8 hours with sample pump running continuously. Range: 0.1-10 lit/min VO₂. Flow transducer turbine attached to face mask or a wall to measure inspired air 2- 150 lit/min. O₂ sensor: Figaro KE 25 fuel cell. Batteries: 5 volt, 1.4 Ah Ni Cd, Storage time: 2040 minutes. 	No	1		
42	Computer based single cylinder 4 stroke engine test rig for test of various engines used in self propelled agricultural machinery <ul style="list-style-type: none"> Engine : Single cylinder 4 stroke diesel engine of 5 kW capacity, Make: Standard Dynamometer : The Engine is coupled with matching Eddy current dynamometer and capable to couple with 2 stroke petrol engine Torque Measurement: With Load Cell, Output : 4 - 20 mA. P θ & PV Plot : <ul style="list-style-type: none"> i) Piezo Sensor : 1 No. for combustion pressure. ii) Spark Sensor : 1 No. iii) Piezo Amplifier : 1 No. iv) Crank angle sensor with TDC marker : 1 No. v) Temp. Transmitter : 6 Nos. with Sensors. vi) ADC Card : 1 No. with Complete Inter Facing. Software: A Powerful software for studying different characteristics of I.C. engine (diesel and petrol) e.g. Brake Power Vs Speed & Load, Heat Converted to Brake Power, heat goes to exhaust gasses & heat unaccounted. Computer: Intel core i5-2500 processor, 3.30 GHz, 6M cache, 4 cores/4 threads, Intel stable image platform program (SIPP), Chipset : Intel Q65 OEM motherboards,1, Memory: 2 GB 1066 Mhz DDR3 RAM with 8 GB expandability, Hard disk drive: 320 GB or more 7200 RPM Serial ATA HDD, Monitor: 18.5" wide TFT Digital color monitor, 104 Key boards, optical mouse, Windows 7 Professional pre-loaded, Preloaded software : Norton or McAfee or e Trust or e-scan or Quick Heal Antivirus (latest version), 3 years comprehensive H/W warranty, 6 USB ports etc. complete with HP Laserjet M1136 Printer Fuel Measuring Device: Fuel flow Sensor for fuel metering. 	No	1		

Envelop-

	<p>Fuel tank mounted on sturdy iron stand, burette tube, three way cock, connecting tube & a stop clock.</p> <ul style="list-style-type: none"> • Calorimeter: Shell & Tube Heat Exchanger to measure the heat goes through exhaust gases. • Air Intake Measurement: Air Intake reservoir of size 0.3 x 0.3 x 0.5 m. with orifice plate, U-Tube manometer of 0.5 m height. • Instruction Manual : 1 Copy 				
43	<p>Rig for conducting pump performance and endurance test on various agricultural sprayers</p> <ul style="list-style-type: none"> • Specification as per BIS test code 10134:1994 • Capable to test on knapsack, rocker, foot and stirrup sprayers 	No	1		
44	<p>Test apparatus for determination of fatigue failures in compression sprayer tanks</p> <ul style="list-style-type: none"> • Specification as per BIS test code 10134:1994 	No	1		
45	<p>Test apparatus for power efficiency measurement of power operated hydraulic sprayers</p> <ul style="list-style-type: none"> • Specification as per BIS test code 8548:1977 	No	1		
46	<p>Test apparatus (Patternator) for spray distribution test of agricultural sprayer's nozzles</p> <ul style="list-style-type: none"> • Specification as per BIS test code 8548:1977 	No	1		
47	<p>Spring test jig</p> <ul style="list-style-type: none"> • Specification as per BIS test code 6638:1972 	No	1		
48	<p>Soil particle analysis apparatus</p> <ul style="list-style-type: none"> • Set of sieve with aperture sizes 11.2, 8.0, 5.6, 4.0, 2.8 and 2.0 mm • Specification as per BIS test code 460:1962 	No	1		
49	<p>Soil bulk density measurement apparatus</p>	No	1		
50	<p>Spring balance 0-100 Kg capacity</p>	No	1		
51	<p>Spring balance 0-150 Kg capacity</p>	No	1		
52	<p>Spring balance 0-250 Kg capacity</p>	No	1		
53	<p>Digital Stop watch</p>	No	1		
54	<p>Abney level for angle measurement</p>	No	1		
55	<p>Smart level for angle measurement</p>	No	1		
56	<p>Digital Soil Moisture Meter (Speedy)</p>	No	1		
57	<p>Digital Grain Moisture Meter (Speedy)</p>	No	1		
58	<p>Digital Telemetry system for rotary torque measurement</p> <ul style="list-style-type: none"> • Capable to measure torque from 70 hp tractor PTO (torque range upto 100 Kg-m) connected to rotary tiller • Nominal system accuracy ± 0.05 % full scale • Frequency output: Analog : 10K Hz \pm 5K Hz; 60K Hz \pm 20K Hz, Digital : RS-232 • Resolution : 0.01 % to 0.001 % full scale • Measurement frequency range : 0 kHz to 3 kHz, Digital filter : 0.1 kHz to 1 kHz • Maximum sampling rate : 17.656 kHz sensor, 8834 Hz analog output (voltage only) 	No	1		
59	<p>Digital Air Anemometer</p>	No	1		
60	<p>Digital Cone Penetrometer</p>	No	1		
61	<p>Microscope for droplet size (agricultural sprayer's nozzles) analysis</p>	No	1		
62	<p>Digital Weigh bridge 5 tons capacity with all accessories</p>	No	1		

Envelop-

63	Multi channel Vibration analyzer with sensors as per BIS / ISO standard <ul style="list-style-type: none">• Upto 8 channels, Frequency : particularly for low frequency vibration (1-20 Hz), 1-5 kHz with octave band• FFT signal facility, 3- direction measurement facility, back up 8 hrs• Used for measurement of vibration on agricultural machineries, tractors, power tillers etc. for whole body and hand arm vibration	No	1		
64	Triaxial Seat Pad Accelerometer <ul style="list-style-type: none">• Used for measurement of whole body vibration transmitted to human in all the three directions	No	1		
65	Vibration Calibrator <ul style="list-style-type: none">• Range: 1-10 m/s²• Used to check the vibration transmitted with precision	No	1		
66	Multi channel Sound analyzer with sensors as per BIS / ISO standard <ul style="list-style-type: none">• Used for measurement of sound level with required precision	No	1		