



कृषिमूला ऋद्धिः

Directorate of Research  
Navsari Agricultural University, Navsari-396 450, Gujarat.

Tender Document

For

Purchase of Scientific Instruments / Machineries

**NAU/DR/Sci. Instru./01-2016-17**

## Table of contents

Chapter	Title	Page No.
1	Tender Notice - <b>NAU/DR/Sci. Instru./01-2016-17</b>	3
2	Instructions to bidders for Online Tender Participation	5
3	List of Purchase Item	6
4	Terms and Conditions	8
5	Tender Fee, EMD and Security Deposit	12
6	Technical Bid Document (TBD) Submission	15
7	Contacts and Correspondence details	19

- Note:** 1. Please give PAGE NUMBERS in sequence to all documents uploaded as well as sent in physical, including **sequential fresh page numbers** on each page of printed / photocopy material.
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## Chapter 1: Tender Notice - NAU/DR/Sci. Instru./01-2016-17

### Purchase of Scientific Instruments /machineries

Bids from manufacturer/supplier/company are invited for the purchase of Scientific Instruments/machineries for Navsari Agricultural University. The list of purchase items under this tender are given underneath. The bids are invited by e-tender through website [www.nprocure.com](http://www.nprocure.com) or [au.nprocure.com](http://au.nprocure.com).

Tender Fee (to be calculated by bidder as applicable)	Rs. 1500 / 2500 / 5000 / 15000
Period for Bid Document Downloading & Uploading	24/10/2016 to 18.00 hrs of 25/11/2016
The Last date for online tender submission	25/11/2016 up to 18:00 Hrs
Last date for physical submission of tender fee, EMD and other documents by RPAD / Courier / Speed post	28/11/2016 up to 17:00 Hrs
Bid Validity Period	120 Days
Earnest Money Deposit (EMD)	As per Chapter-5 of tender document
Technical documents available on	<a href="http://www.nprocure.com">www.nprocure.com</a> / <a href="http://au.nprocure.com">au.nprocure.com</a>

#### List of Purchase Items:

No.	Item Name
1	ANALYTICAL BALANCE
2	STEREOMICROSCOPE
3	BLOT TRANSFER UNIT
4	ATOMIC ABSORPTION SPECTROSCOPY
5	FRUIT CRUSHER
6	HYDRAULIC JUICE PRESS
7	ABBE REFRACTOMETER
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS
9	MULTI PARA MONITOR
10	INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM
11	CO2 INCUBATOR
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES
14	VETERINARY AMBULATORY VAN
15	CARCASS TROLLEY/VAN
16	HOT AIR OVEN
17	RAT METABOLIC CAGE
18	RACK FOR RAT METABOLIC CAGES
19	RACK FOR RAT CAGES
20	RACK FOR RABBIT CAGES
21	RABBIT CAGE
22	CREAM SEPARATOR MACHINE
23	EGG CANDLER
24	BUTTER CHURNER
25	AUTOMATIC SCALDER
26	HAND HELD SLIT LAMP
27	INVERTED MICROSCOPE
28	BOWL CHOPPER
29	VACUUM CLEANER
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS
31	INFRARED CANOPY TEMPERATURE METER
32	CHLOROPHYLL METER (SPAD)
33	SOIL TENSIO METER
34	SPECTROPHOTO METER

35	BRIX METER
36	LEAF AREA METER
37	VERNIER CALLIPER
38	WEIGHING BALANCE
39	D.G. SET
40	PP CAP SEALING MACHINE
41	CAN FLANGING MACHINE
42	LID EMBOSSING MACHINE
43	FRUIT PRESSURE TESTER
44	FRUIT AND VEGETABLE SLICER
45	HYDROLIC JUICE PRESS
46	DOUBLE SEAMER MACNINE
47	DEEP FREEZER
48	DIGITAL HYGROMETER
49	DIGITAL THERMOMETER
50	HOT PLATE
51	WATER BATH
52	DIGITAL/ELECTRONIC BALANCE
53	FREEZE DRYER
54	MICROWAVE OVEN
55	NITRIGEN DISTILLATION & DIGESTION SYSTEM
56	ANALYTICAL BALANCE
57	INCUBATOR (SHAKER)
58	DIGITAL HOT PLATE
59	SOX LET APPARATUS
60	FRUIT CRUSHER
61	DIGITAL MEASURING SALT TEMPERATURE
62	WATER BATH INCUBATOR SHAKER
63	CENTRIFUGE MACHINE
64	CO2 GAS CYLINDER/FIRE FIGHTER BOTTLE- 4.5 kg
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL
66	GPS
67	BIOMASS CHARCOAL MACHINE
68	GREEN HOUSE MODEL
69	SOLAR WATER HEATER MODEL
70	RO WATER PURIFIER WITH COOLER 50 LTR.
71	ROOT SCANNER
72	SURFACE PLATE WITH TABLE
73	VERNIER HEIGHT GAUGE
74	GEAR MODELS ( SPUR GEAR WITH INTERMEDIATES, WORM GEAR, HELICAL GEAR, EPICYCLIC GEAR SUN AND PLANET TYPE, DIFFERENTIAL GEAR, HERRINGBONE GEAR)
75	MECHANISM MODEL
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4 CYLINDER PETROL ENGINE
77	ONLINE UPS
78	MINI TRACTOR-18 HP
79	HAND OPERATED WHEEL TROLLEY
80	PAR LINE SENSOR HANDHELD METER
81	PRYRANOMETER WITH HANDHELD METER
82	WATER PURIFICTION SYSTEM (BYBACK SCHEME TO BE PROVIDED)
83	YODER TYPE MOTOR DRIVEN SIEVE SHAKER FOR WET SIEVE ANALYSIS OF SOIL WITH WATER RESRVOIR & 4 HOLDERS OF 8" DIAMETER FOR 7 SIEVES
84	AUTOMATIC CRUDE FIBRE ANALYSER

## Chapter 2: Instructions to bidders for Online Tender Participation

1. All tender documents can be downloaded free from the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
2. All bids should be submitted online on the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
3. All bids should be digitally signed. For the details regarding digital signature certificate and related training involved the below mentioned address should be contacted

(n)Code Solutions  
A division of GNFC  
301, GNFC Infotower, Bodakdev,  
Ahmedabad 380054 (India)  
Tel. : +91 79 26857316 / 17 / 18  
Fax : +91 79 26857321  
Toll Free Number : 1-800-233-1010  
[www.ncodesolutions.com](http://www.ncodesolutions.com)

4. The user can get a copy of instructions to online participation from the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
5. The service provider should register on the website through the "New User" link provided at the home page, the registration on the site should not be taken as registration or empanelment or any other form of registration with the tendering authority.
6. The application for training and issue of digital signature certificates should be made at least 72 hours in advance to the due date and time of tender submission.
7. For all queries regarding use of digital signature certificate should be addressed to personnel in M/s. (n) Code Solutions.
8. For all queries regarding tender (except item specification) should be addressed to the office address provided below.

The Dean,  
Vanbandhu Veterinany College  
Navsari Agricultural University,  
Eru Char Rasta, Navsari – 396 450 (Gujarat)  
E-mail: [deanvet@nau.in](mailto:deanvet@nau.in)  
Phone: 02637 282299  
Fax : 02637 282964

9. For queries regarding item specifications contact respective scientist preferably, during office hours as per chapter 7

### Chapter 3: List of Purchase Items

No.	Item Name
1	ANALYTICAL BALANCE
2	STEREOMICROSCOPE
3	BLOT TRANSFER UNIT
4	ATOMIC ABSORPTION SPECTROSCOPY
5	FRUIT CRUSHER
6	HYDRAULIC JUICE PRESS
7	ABBE REFRACTOMETER
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS
9	MULTI PARA MONITOR
10	INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM
11	CO2 INCUBATOR
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES
14	VETERINARY AMBULATORY VAN
15	CARCASS TROLLEY/VAN
16	HOT AIR OVEN
17	RAT METABOLIC CAGE
18	RACK FOR RAT METABOLIC CAGES
19	RACK FOR RAT CAGES
20	RACK FOR RABBIT CAGES
21	RABBIT CAGE
22	CREAM SEPARATOR MACHINE
23	EGG CANDLER
24	BUTTER CHURNER
25	AUTOMATIC SCALDER
26	HAND HELD SLIT LAMP
27	INVERTED MICROSCOPE
28	BOWL CHOPPER
29	VACUUM CLEANER
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS
31	INFRARED CANOPY TEMPERATURE METER
32	CHLOROPHYLL METER (SPAD)
33	SOIL TENSIO METER
34	SPECTROPHOTO METER
35	BRUX METER
36	LEAF AREA METER
37	VERNIER CALLIPER
38	WEIGHING BALANCE
39	D.G. SET
40	PP CAP SEALING MACHINE
41	CAN FLANGING MACHINE
42	LID EMBOSING MACHINE
43	FRUIT PRESSURE TESTER
44	FRUIT AND VEGETABLE SLICER
45	HYDROLIC JUICE PRESS
46	DOUBLE SEAMER MACHINE
47	DEEP FREEZER
48	DIGITAL HYGROMETER

49	DIGITAL THERMOMETER
50	HOT PLATE
51	WATER BATH
52	DIGITAL/ELECTRONIC BALANCE
53	FREEZE DRYER
54	MICROWAVE OVEN
55	NITRIGEN DISTILLATION & DIGESTION SYSTEM
56	ANALYTICAL BALANCE
57	INCUBATOR (SHAKER)
58	DIGITAL HOT PLATE
59	SOX LET APPARATUS
60	FRUIT CRUSHER
61	DIGITAL MEASURING SALT TEMPERATURE
62	WATER BATH INCUBATOR SHAKER
63	CENTRIFUGE MACHINE
64	CO2 GAS CYLINDER/FIRE FIGHTER BOTTLE- 4.5 kg
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL
66	GPS
67	BIOMASS CHARCOAL MACHINE
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75	MECHANISM MODEL
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4 CYLINDER PETROL ENGINE
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84	AUTOMATIC CRUDE FIBRE ANALYSER

**Note:** Detail specifications with special terms and conditions of all above listed **81** purchase items are described under respective files mentioned in the above list.

## Chapter 4: Terms and Conditions

**Note:** 1) Terms and Conditions listed under chapter 4 are applicable to all purchase items. In addition to this, the product specification document of items may contain additional terms and conditions applicable to respective items.

2) Purchase of all scientific instruments/machineries will be followed as per the Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016

### 1. **General:**

1.1 Navsari Agricultural University (hereinafter referred to as "NAU"), for its various Departments (hereinafter referred to as "the purchaser") for their requirement of Items (as mentioned in Chapter-3) intend to invite for supply and installation of **Scientific Instruments/machineries** across the various offices at Head Quarter as well as its sub centers across the seven districts (Surat, Bharuch, Navsari, Dang, Narmada, Tapi and Valsad) of South Gujarat region of Gujarat state. The scanned copy of the demand draft of the Tender Fee and Earnest Money Deposit (EMD) (for details, see 1.21) as well as other relevant documents as per check list of the tender are required to be submitted online with the commercial bid on the website **www.au.nprocure.com/ www.nprocure.com**. It is compulsory to submit the original / attested photocopies of these all the documents (except commercial bid), such as company printed **coloured** literature (**original**) / catalogue and other necessary documents physically in hard copy to **The Dean, Vanbandhu Veterinary College, Navsari Agricultural University, Eru Char Rasta, Navsari – 396 450 (Gujarat)** on or before **28/11/2016 up to 17.00 hrs.**

1.2 Authorized dealers can quote their rates provided that they need attach relevant certificate of authorized dealership issued during current financial year: **2016-17** from the manufacturer / principal company. Authorized dealers representing the same company / instruments are free to compete for price, terms, warranty period etc.

In case the vendor is a distributor authorized by an OEM (Original **Instrument / Machinery** Manufacturer), the following documents must be additionally provided

- **Certificate from OEM that the dealership/channel partnership arrangement with the bidder is in force for a minimum of 2 years.**
- **A letter by the OEM stating that they shall honor the supply/warranty/AMC commitments independent of continuation of the dealership/channel partner arrangement with the authorized dealer/channel partner.**

Irrespective of whether the bidder is an OEM or a distributor authorized by the OEM, the following eligibility criteria must be fulfilled

- The bidder should have made a positive operating profit
- The bidder should not be blacklisted by any Government or Government entity.
- The bidder should be in existence for a minimum of three years.



- 1.3 Technical Supporting Documents (TSD) should contain original Demand Drafts of Tender Fee and Earnest Money Deposit (EMD). In addition to these, TSD should also contain the original / photocopy of relevant documents as per check list of the tender (except commercial bid), company literature (original) / catalogue, VAT/CST registration certificate. The envelope must be marked as "E-tender- NAU/DR/Sci. Instru./01-2016-17 : Technical Supporting Documents (Technical bid)". If bidder fails to submit the TSD offline within time limit, the commercial bid will be disqualified. Please note that the scan copy of any document uploaded must tally with physical submission of original / attested photocopies.
- 1.4 The prices shall be inclusive of all freight, packaging and forwarding, transit insurance, installation charges, applicable taxes as per recent government rules & regulations as well as FOR destination. The rate should be quoted per unit as specified in Chapter 3.
- 1.5 The bid is non-transferable.
- 1.6 Amendment of bidding documents (corrigendum)
- 1.6.1 At any time prior to the deadline for submission of bids, NAU may, for any reason, whether its own initiative or in response to the clarification request by a prospective bidder, modify the bidding documents.
- 1.6.2 The corrigendum will be published only on following on website <http://www.nau.in> and [www.nprocure.com](http://www.nprocure.com) only.
- 1.6.3 In order to allow prospective bidders reasonable time to take into consideration the amendments while preparing their bids, at its discretion, NAU may extend the deadline for the submission of bids.
- 1.7 Bid currency - Prices shall be quoted in Indian Rupee only.
- 1.8 The items shown in the Chapter-3 are subjected to requirements and the same may be purchased or may not be purchased without assigning any reason.
- 1.9 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.
- 1.10 All the electronics items should comply to international standards for safety, Electromagnetic Emissions, Electromagnetic Immunity etc.
- 1.11 NAU may not issue 'C' or 'P' form of sales tax or any other type of tax relaxation form of Government and the bidders are therefore requested to quote the rates of sales tax or any other taxes payable in absence of such forms/declarations.
- 1.12 Rate should be quoted along with all applicable taxes. However, NAU being an educational institute, therefore, is eligible for exemption of such duty from final payment.
- 1.13 The lowest price is not the criteria and emphasis is placed on quality and specifications of the material. The NAU has right to reject any or all the offers and

invite fresh quotations if need arises. The NAU further reserves the right of selecting the brand and accepting or otherwise any of the conditions stipulated by bidder.

- 1.14 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 NAU.
- 1.15 The successful bidder will held responsibility for the items sufficiently and properly packed for transport so as to ensure their being free from loss / damage / injury on arrival of destination NAU premises. The material should be supplied in the original company's packing which shall indicate packing details and other particulars as required under the statutory provisions. Inner and outer packing of boxes / cartons should be of standard design. The final packing of cartons of corrugated boxes shall be complying with ISS standards. A packing slip shall indicate clearly and legibly the name of the product, batch number, quantity, date of manufacturer, date of expiry, gross and net weight, and consignee's name & address and other particulars as required. In the event of breakages or loss of items during transit / installation against requisition order the said quantity will have to be replaced/supply by the supplier (Selected bidder) without any additional charges.
- 1.16 Tender Supporting Documents (TSD) 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. NAU will not be responsible for non-receipt of tender within the specified date and time due to any reason including postal delays.
- 1.17 **All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.**
- 1.18 The NAU may place repeat orders against the acceptance of tender within a period of validity, subject to the same terms and conditions originally provided in advertised tender and selected bidder shall accept the same.
- 1.19 Successful bidder failing to provide after sales services would be permanently blacklisted.
- 1.20 All documents uploaded as well as sent in physical form must **BEAR PAGE NUMBERS in sequence, including sequential fresh page numbers given on each page of printed /photocopy material.** The same page numbers must be mentioned in CHECK LIST provided.
- 1.21 Relaxation in tender fee, EMD will be considered as per **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016, however, for availing such benefits concern firm has to submit / attach certificate or relevant letter issued recently by the government otherwise relaxation benefit will not be extended to such firm and tender quoted, may be rejected.**
- 1.22 For finalization of purchase, **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016 will be followed so as to promote "Make in India" policy of the Government.**

1.23 For query regarding detail specification of the instruments, firm can contact concerned scientist (as per Chapter 7), preferably during office hours.

**2. Payment:**

Advance or part payment will not be entertained.

**3. Delivery:**

The application for extension of delivery period shall be sent to concerned ordering office of Navsari Agricultural University at least 5 days prior to the 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.

**4. Warranty:**

4.1 Period of Warranty: The bidder must provide comprehensive onsite warranty for **minimum 2 years or as asked in specifications**, from the date of installation for all items. Please clearly mention the parts, which are not covered under warranty, separately.

4.2 If any instrument(s), properly not working and repetitively fault is found, say twice a week during the warranty period, the bidder shall replace the item with new item without any additional cost to the purchaser.

**5. Demonstration:**

Supplier has to perform on-site live demonstration as per trial requirements of concerned scientist with bidders'/ suppliers' consumables and reagents.

**6. Dispute:**

In case of any dispute, final decision of The Purchase Committee, Navsari Agricultural University, Navsari – 396 450 will be binding upon all. In case of any dispute arises in respect of this tender, a suit in that behalf shall be subject to Navsari Jurisdiction.

## Chapter 5 : Tender Fee, EMD and Security Deposit

**Bidder has to submit non refundable Tender Fee (Rs. 1500 / 2500 /5000 / 15000 - to be calculated by bidder firm) and Refundable Earnest Money Deposit (EMD) in the form of Bank Draft in favor of "DDO, Veterinary College" payable at Navsari depending upon the number of Items applying for.**

If, submitted Tender Fee amount is not matching as per tender guideline basis on the tender items quoted for, bidder will be disqualified from the tender.

### Tender Fee Calculations:

The Estimated Cost of Each Item is illustrated in below in the following Table. For calculation of total Tender fee, Bidder has to make total of the Estimated Cost of each items quoting for. It is noted that, the total must be calculated from the amount specified on the estimated cost, not on the basis of bidder's offering price.

Total of estimated cost of each items quoting for	Tender Fee
If total is less than or equal to estimated cost Rs. 25,00,000	1,500
If total is in between estimated cost Rs. 25,00,001 to Rs. 50,00,000	2,500
If total is in between estimated cost Rs. 50,00,001 to Rs. 1,00,00,000	5,000
If total is greater than estimated cost Rs. 1,00,00,000	15,000

### Earnest Money Deposit Calculations:

The bidder shall calculate Earnest Money Deposit (EMD) Amount is depending upon the items quoted. EMD for the respective items is listed in following table:

No.	Name	Estimated cost in Indian Rs. (in Lakh)	EMD in Indian Rs.
1	ANALYTICAL BALANCE	0.5	1500
2	STEREOMICROSCOPE	2.0	6000
3	BLOT TRANSFER UNIT	2.5	7500
4	ATOMIC ABSORPTION SPECTROSCOPY	18.0	54000
5	FRUIT CRUSHER	0.4	1200
6	HYDRAULIC JUICE PRESS	0.35	1050
7	ABBE REFRACTOMETER	0.15	450
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS	21.0	63000
9	MULTI PARA MONITOR	1.5	4500
10	INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM	15.75	47250
11	CO2 INCUBATOR	7.5	22500
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES	10.0	30000
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES	25.0	75000
14	VETERINARY AMBULATORY VAN	36.0	108000
15	CARCASS TROLLEY/VAN	1.5	4500
16	HOT AIR OVEN	1.5	4500
17	RAT METABOLIC CAGE	0.35	1050
18	RACK FOR RAT METABOLIC CAGES	0.35	1050
19	RACK FOR RAT CAGES	0.8	2400
20	RACK FOR RABBIT CAGES	0.35	1050
21	RABBIT CAGE	0.35	1050
22	CREAM SEPARATOR MACHINE	0.5	1500
23	EGG CANDLER	0.15	450

24	BUTTER CHURNER	0.8	2400
25	AUTOMATIC SCALDER	1.7	2100
26	HAND HELD SLIT LAMP	1.5	4500
27	INVERTED MICROSCOPE	5.0	15000
28	BOWL CHOPPER	5.0	15000
29	VACUUM CLEANER	0.25	750
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS	4.0	12000
31	INFRARED CANOPY TEMPERATURE METER	0.2	600
32	CHLOROPHYLL METER (SPAD)	2.0	6000
33	SOIL TENSIO METER	0.9	2700
34	SPECTROPHOTO METER	4.0	12000
35	BRIX METER	1.0	3000
36	LEAF AREA METER	1.25	3750
37	VERNIER CALLIPER	0.3	900
38	WEIGHING BALANCE	1.0	3000
39	D.G. SET	4.95	14850
40	PP CAP SEALING MACHINE	0.3	900
41	CAN FLANGING MACHINE	0.7	2100
42	LID EMBOSING MACHINE	0.5	1500
43	FRUIT PRESSURE TESTER	0.5	1500
44	FRUIT AND VEGETABLE SLICER	0.5	1500
45	HYDROLIC JUICE PRESS	0.4	1200
46	DOUBLE SEAMER MACNINE	1.0	3000
47	DEEP FREEZER	2.0	6000
48	DIGITAL HYGROMETER	0.12	360
49	DIGITAL THERMOMETER	0.1	300
50	HOT PLATE	0.2	600
51	WATER BATH	0.2	600
52	DIGITAL/ELECTRONIC BALANCE	1.2	3600
53	FREEZE DRYER	4.9	14700
54	MICROWAVE OVEN	0.3	900
55	NITRIGEN DISTILLATION & DIGESTION SYSTEM	2.79	8370
56	ANALYTICAL BALANCE	0.5	1500
57	INCUBATOR (SHAKER)	0.25	750
58	DIGITAL HOT PLATE	0.4	1200
59	SOX LET APPARATUS	0.25	750
60	FRUIT CRUSHER	0.5	1500
61	DIGITAL MEASURING SALT TEMPERATURE	0.15	450
62	WATER BATH INCUBATOR SHAKER	0.6	1800
63	CENTRIFUGE MACHINE	03	900
64	CO <sub>2</sub> GAS CYLINDER/FIRE FIGHTER BOTTLE- 4.5 kg	0.1	300
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL	4.5	13500
66	GPS		900
67	BIOMASS CHARCOAL MACHINE	1.0	3000
68	GREEN HOUSE MODEL	0.1	300
69	SOLAR WATER HEATER MODEL	0.15	450
70	RO WATER PURIFIER WITH COOLER 50 LTR.	1.0	3000
71	ROOT SCANNER	1.0	3000
72	SURFACE PLATE WITH TABLE	0.3	900
73	VERNIER HEIGHT GAUGE	0.3	900
74	GEAR MODELS ( SPUR GEAR WITH INTERMEDIATES, WORM GEAR, HELICAL GEAR, EPICYCLIC GEAR SUN AND PLANET TYPE, DIFFERENTIAL GEAR, HERRINGBONE GEAR)	0.15	450
75	MECHANISM MODEL	0.3	900
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4	1.0	3000

	CYLINDER PETROL ENGINE		
77	ONLINE UPS	3.5	10500
78	MINI TRACTOR-18 HP	3.0	9000
79	HAND OPERATED WHEEL TROLLEY	0.5	1500
80	PAR LINE SENSOR HANDHELD METER	0.9	2700
81	PRYRANOMETER WITH HANDHELD METER	0.9	2700
82	WATER PURIFICTION SYSTEM (BYBACK SCHEME TO BE PROVIDED)	3.9	11700
83	YODER TYPE MOTOR DRIVEN SIEVE SHAKER FOR WET SIEVE ANALYSIS OF SOIL WITH WATER RESRVOIR & 4 HOLDERS OF 8" DIAMETER FOR 7 SIEVES	1.7	5100
84	AUTOMATIC CRUDE FIBRE ANALYSER	3.0	9000

### **Tender Fee and Earnest Money Deposit Calculations Example:**

*This example is for learning purpose only:*

*If bidder is quoting for Item No.1, Item No. 5 and Item No. 27. Hence, Bidder have to pay Tender Fee Rs. 1500 (Estimated Item cost Rs.  $0.5+0.4+5.0=5.9$  i.e less than Rs.25.0 lakh) and EMD as Rs.  $1500+1200+15000 = 17700$*

**Earnest Money Deposit:** Tender shall be accompanied by an earnest money deposit, without which tenders will not be considered. The amount should be deposited in the form of Bank Draft only, in favor of **"DDO, Veterinary College"** payable at Navsari. If, submitted EMD amount is not matching as per tender guideline basis on the tender items quoted for, bidder will be disqualified from the tender.

**Refund of Earnest Money:** The earnest money of unsuccessful Bidder will be refunded.

**Forfeiture of Earnest Money:** The earnest money will be forfeited in the following cases:

- When Bidder withdraws or modifies the offer after opening of tender but before acceptance of tender.
- When Bidder does not execute the agreement if any, prescribed within the specified time.

**Security Deposit:** Successful bidder has to submit 5 % of purchase order as a Security Deposit in the form of Bank Draft only to the Office making purchase, in favor of **"NAU FUND ACCOUNT"** payable at Navsari.

**Refund of Security Deposit:** The amount of security deposit will be refunded after two years of successful installation/demonstration of the instruments/machinery, after writing a letter to the Office where in instruments/machinery installed.

**Forfeiture of Security Deposit:** The security deposit will be forfeited if,

1. Successful bidder fails to supply the items within the delivery period.
2. Supplier fails to comply specifications of instruments, installation/demonstration of the instruments/ machinery.
3. Supplier is not providing satisfactory post sale services and support.

### **Tender Fee, EMD and Tender Supporting Document Submission Address:**

The Dean,  
Vanbandhu Veterinary College,  
Navsari Agricultural University,  
Eru Char Rasta, Navsari – 396 450 (Gujarat)

## Chapter 6: Technical Bid Document (TBD) Submission

This chapter consists of forwarding letter, company detail, declaration and signed terms and conditions.

All these pages required to be submitted in hard copy **bearing page numbers in sequence**, with physical document submission. While Company Detail page is also required to be submitted in **n-procure** as well.

Do not provide other unnecessary documents like explaining company profiles, nature of the company, services and miscellaneous things which is not inquired.

**Do not put financial bids of the Items anywhere in the Technical Bid Document submission under physical submission.**





**COMPANY DETAIL- supported by documentary proof**

1. Name of supplier / firm :
2. Complete postal address : Documentary proof with Page Number
3. Telephone Number :
4. FAX Number (if any) :
5. E-mail address (if any) :
6. Sales Tax No. : Documentary proof with Page Number
7. VAT / TIN No. : Documentary proof with Page Number
8. PAN No. : Documentary proof with Page Number
9. Registration No. : Documentary proof with Page Number
10. Any other details:

I/We agree to abide by the terms and conditions of supply mentioned in this tender document.

Signature of Bidder  
(With Stamp, Name & Designation)

### **Check list- COMPULSORILY DULY COMPLETED**

<b>Sr. No.</b>	<b>Document / Certificate</b>	<b>Attached Yes/No</b>	<b>Sequential Page Number</b>
1	Tender Fee: Demand draft of Rs. 1500/ 2500 / 5000 /15000- (Non-Refundable)		
2	EMD : Demand draft as applicable (Refundable)		
3	Company details (only in given tender format) and Proof of Address, PAN/TIN/TAN/VAT/ CST documents as applicable		
4	Valid Registration Certificate of bidders firm. (Shop Act Registration / Partnership deed / Memorandum of article / Registration of firm / Small Scale Industry Registration etc.)		
5	Original affidavit from the bidder that business entity is not blacked listed (notarized on Rs. 100 stamp paper)		
6	IT returns of last 3 financial years i.e., 2013-14, 2014-15, 2015-16		
7	Manufacturer certificate /subsidiary company certificate /Fresh Authorization Certificate (whichever is applicable)		
8	Specification Supporting Documents with color catalogue		
9	Valid quality certificate like ISO or equivalent		
10	Signed Terms & Conditions (Chapter -4)		
11	Relaxation of Tender fee, EMD, submit the proof from competent authority as per Chapter 4, Item No. 1.21, if applicable)		

- Note:**
1. All documents uploaded as well as sent in physical form must BEAR PAGE NUMBERS in sequence, including sequential fresh page numbers given on each page of printed / photocopy material and same should be provided in the CHECK LIST above
  2. All photocopied documents must be attested with seal and signature **bearing page numbers.**
  3. List of Institutes/organizations where supply of quoted item/s is made is preferable.

#### **DECLARATION**

I/We solemnly declare that we have attached all the documents mentioned here above and mentioned in the tender. It is verified that all the certificates / permissions/ documents are valid and current as on date and have not been withdrawn / cancelled by the issuing authority.

I/We further undertake to produce on demand the original certificate / permission / document for verification at any stage during the processing of the tender.

I/We also understand that non-compliance of any documents will be treated as non-respective tender and we will lose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Signature of Bidder

(With Stamp, Name & Designation)

## Chapter 7: Contacts and Correspondence details

### Correspondence address for submission of Physical documents:

The Dean,  
Vanbandhu Veterinary College,  
Navsari Agricultural University,  
Eru Char Rasta, Navsari – 396 450 (Gujarat)

### Item wise Contact Persons

(For queries related to item specifications only. Please contact only during office hours.)

1	ANALYTICAL BALANCE	9714758199
2	STEREOMICROSCOPE	
3	BLOT TRANSFER UNIT	
4	ATOMIC ABSORPTION SPECTROSCOPY	
5	FRUIT CRUSHER	9898088537
6	HYDRAULIC JUICE PRESS	
7	ABBE REFRACTOMETER	
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS	9427739500
9	MULTI PARA MONITOR	9537797532
10	INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM	
11	CO2 INCUBATOR	9099062296
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES	
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES	9427379421
14	VETERINARY AMBULATORY VAN	9978920793
15	CARCASS TROLLEY/VAN	9998949710
16	HOT AIR OVEN	
17	RAT METABOLIC CAGE	9428489543
18	RACK FOR RAT METABOLIC CAGES	
19	RACK FOR RAT CAGES	
20	RACK FOR RABBIT CAGES	
21	RABBIT CAGE	9428705687
22	CREAM SEPARATOR MACHINE	
23	EGG CANDLER	
24	BUTTER CHURNER	
25	AUTOMATIC SCALDER	9662532807
26	HAND HELD SLIT LAMP	
27	INVERTED MICROSCOPE	8460595394
28	BOWL CHOPPER	9427122129
29	VACUUM CLEANER	
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS	9537689883
31	INFRARED CANOPY TEMPERATURE METER	
32	CHLOROPHYLL METER (SPAD)	
33	SOIL TENSIO METER	
34	SPECTROPHOTO METER	
35	BRIX METER	
36	LEAF AREA METER	
37	VERNIER CALLIPER	
38	WEIGHING BALANCE	

39	D.G. SET	9428488224
40	PP CAP SEALING MACHINE	9909015725
41	CAN FLANGING MACHINE	
42	LID EMBOSSING MACHINE	
43	FRUIT PRESSURE TESTER	
44	FRUIT AND VEGETABLE SLICER	
45	HYDROLIC JUICE PRESS	
46	DOUBLE SEAMER MACNINE	
47	DEEP FREEZER	
48	DIGITAL HYGROMETER	
49	DIGITAL THERMOMETER	
50	HOT PLATE	
51	WATER BATH	
52	DIGITAL/ELECTRONIC BALANCE	
53	FREEZE DRYER	
54	MICROWAVE OVEN	
55	NITRIGEN DISTILLATION & DIGESTION SYSTEM	
56	ANALYTICAL BALANCE	
57	INCUBATOR (SHAKER)	
58	DIGITAL HOT PLATE	
59	SOX LET APPARATUS	
60	FRUIT CRUSHER	
61	DIGITAL MEASURING SALT TEMPERATURE	
62	WATER BATH INCUBATOR SHAKER	
63	CENTRIFUGE MACHINE	
64	CO <sub>2</sub> GAS CYLINDER/FIRE FIGHTER BOTTLE- 4.5 kg	
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL	9725018790
66	GPS	9913599332
67	BIOMASS CHARCOAL MACHINE	
68	GREEN HOUSE MODEL	
69	SOLAR WATER HEATER MODEL	
70	RO WATER PURIFIER WITH COOLER 50 LTR.	
71	ROOT SCANNER	
72	SURFACE PLATE WITH TABLE	
73	VERNIER HEIGHT GAUGE	
74	GEAR MODELS ( SPUR GEAR WITH INTERMEDIATES, WORM GEAR, HELICAL GEAR, EPICYCLIC GEAR SUN AND PLANET TYPE, DIFFERENTIAL GEAR, HERRINGBONE GEAR)	
75	MECHANISM MODEL	9998002505
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4 CYLINDER PETROL ENGINE	
77	ONLINE UPS	9662500626
78	MINI TRACTOR-18 HP	9898056700
79	HAND OPERATED WHEEL TROLLEY	9974583890
80	PAR LINE SENSOR HANDHELD METER	
81	PRYRANOMETER WITH HANDHELD METER	9724304673
82	WATER PURIFIATION SYSTEM (BYBACK SCHEME TO BE PROVIDED)	
83	YODER TYPE MOTOR DRIVEN SIEVE SHAKER FOR WET SIEVE ANALYSIS OF SOIL WITH WATER RESRVOIR & 4 HOLDERS OF 8" DIAMETER FOR 7 SIEVES	
83	AUTOMATIC CRUDE FIBRE ANALYSER	

No.	Item Name	Details of DD	EMD in Indian Rs.
1	ANALYTICAL BALANCE		
2	STEREOMICROSCOPE		
3	BLOT TRANSFER UNIT		
4	ATOMIC ABSORPTION SPECTROSCOPY		
5	FRUIT CRUSHER		
6	HYDRAULIC JUICE PRESS		
7	ABBE REFRACTOMETER		
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS		
9	MULTI PARA MONITOR		
10	INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM		
11	CO2 INCUBATOR		
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES		
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES		
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25	AUTOMATIC SCALDER		
26	HAND HELD SLIT LAMP		
27	INVERTED MICROSCOPE		
28	BOWL CHOPPER		
29	VACUUM CLEANER		
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS		
31	INFRARED CANOPY TEMPERATURE METER		
32	CHLOROPHYLL METER (SPAD)		
33	SOIL TENSIO METER		
34	SPECTROPHOTO METER		
35	BRIX METER		
36	LEAF AREA METER		
37	VERNIER CALLIPER		
38	WEIGHING BALANCE		
39	D.G. SET		
40	PP CAP SEALING MACHINE		
41	CAN FLANGING MACHINE		
42	LID EMBOSING MACHINE		
43	FRUIT PRESSURE TESTER		
44	FRUIT AND VEGETABLE SLICER		
45	HYDROLIC JUICE PRESS		
46	DOUBLE SEAMER MACHINE		
47	DEEP FREEZER		
48	DIGITAL HYGROMETER		

49	DIGITAL THERMOMETER		
50	HOT PLATE		
51	WATER BATH		
52	DIGITAL/ELECTRONIC BALANCE		
53	FREEZE DRYER		
54	MICROWAVE OVEN		
55	NITRIGEN DISTILLATION & DIGESTION SYSTEM		
56	ANALYTICAL BALANCE		
57	INCUBATOR (SHAKER)		
58	DIGITAL HOT PLATE		
59	SOX LET APPARATUS		
60	FRUIT CRUSHER		
61	DIGITAL MEASURING SALT TEMPERATURE		
62	WATER BATH INCUBATOR SHAKER		
63	CENTRIFUGE MACHINE		
64	CO2 GAS CYLINDER/FIRE FIGHTER BOTTLE- 4.5 kg		
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL		
66	GPS		
67	BIOMASS CHARCOAL MACHINE		
68	GREEN HOUSE MODEL		
69	SOLAR WATER HEATER MODEL		
70	RO WATER PURIFIER WITH COOLER 50 LTR.		
71	ROOT SCANNER		
72	SURFACE PLATE WITH TABLE		
73	VERNIER HEIGHT GAUGE		
74	GEAR MODELS ( SPUR GEAR WITH INTERMEDIATES, WORM GEAR, HELICAL GEAR, EPICYCLIC GEAR SUN AND PLANET TYPE, DIFFERENTIAL GEAR, HERRINGBONE GEAR)		
75	MECHANISM MODEL		
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4 CYLINDER PETROL ENGINE		
77	ONLINE UPS		
78	MINI TRACTOR-18 HP		
79	HAND OPERATED WHEEL TROLLEY		
80	PAR LINE SENSOR HANDHELD METER		
81	PRYRANOMETER WITH HANDHELD METER		
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84	AUTOMATIC CRUDE FIBRE ANALYSER		

Signature of Bidder  
(With Stamp, Name & Designation)

## LIST OF PURCHASE INSTRUMENT WITH SPECIFICATION

SR. NO.	ITEM	SPECIFICATIONS
1	ANALYTICAL BALANCE	<p><b>Analytical weigh balance:</b>  <b>Specification: (1 No.)</b>            Capacity:2200g,Minimundisplay-0.01g, Repeatability:≤0.01g,            Linearity:±0.02g,Response time: 1.0-1.2 sec ,Ambient temperature: 5 - 40 °C/41-104F,Temperature coefficient of sensitivity (±3ppm/°C), Pan size(mm):160X124(mm) ,Dimension(approx.): 170WX240DX75Hmm, Weight (approx.) : 2.2kg, Power requirements: AC adapter; 90V-264V,-15% - +10%,50/60HZ,standard accessories: protective in use cover, Display: LCD</p> <p><b>Specification: (1 No.)</b>            Capacity:220g,Minimun display-0.1mg, repeatability:≤0.1mg, Linearity:+0.2mg,Response time: approx. 3.0 sec ,Operating temperature and humidity limits: 5 - 40 °C 20~85% *2,Temperature coefficient of sensitivity (±2ppm/°C), Pan size: Ø 91, Main body Dimension(approx.):213WX356DX338H mm, Main body Weight (approx.): 6.0kg,Power requirements: 12V,1A, Internal Calibration:</p>
2	STEREOMICROSCOPE	<p>Infinity parallel Optical System, Trinocular head, inclined at 20° and 360°rotatable with Photo tube, attachment interpupillary distance adjustment range 51-75 mm, dioptr adjustment-±5° for both eyes, WF 10X/22mm eyepiece, antifungal &amp; plan achromatic 1X objective, 1.:6 zoom ratio, 0.8X-5X magnification, working distance-78 mm, focusing range- 105 mm, pillar style stage&amp; stand with Ø 90 mm &amp; frosted glass with Black/white circular plate, Focusing-coaxial drive control by metal rack &amp; pinion mechanism, incident &amp; transmitted LED Illumination with adjustable brightness, 85V-240V universal power supply, 1.3 MP Microscope Eyepiece Camera with Image analysis software and portable central processing unit with keyboard and Display System.</p>
3	BLOT TRANSFER UNIT	<p>Four gels can be run simultaneously in a cassette and blotting time starts with 5 minutes. In Power Station, in addition to the Blotting, another cassette has to be provided in which gels can be stained with Coomassie Blue and destained in destaining Solution in 6 minutes. In addition to the consumables supplied by the company, traditional Blotting Consumables can also be used with Power Station. 100-240 VAC, 50-60 Hz and 168 W max. The Instrument is complaint with International Electrical Requirements. A USB port is given at the back of the instrument. The system has a cooling fan. Power Station comes with High Current of 2.5A and the maximum current is 5A. Power Station has pre-programmed methods like Low MW, Mixed MW and High MW, Std. SD and 1.5mm gels. Both the electrodes are inbuilt.During the power failure, the system shuts down completely. The Instrument gives anaudible No-Load Detection Alarm, if the Gel, Membranes and filter papers are not loaded in the cassette. A warning comes that "Insert Cassette to Enable Transfer," if the cassette is not loaded in this instrument. At the End of the transfer, the system gives the audible alarm that the transfer is complete. The Instrument comes with in-built Power supply which helps in the consistent transfer of proteins from gels to</p>

		<p>membranes. No need to connect it to any external power supply. Easy Touch Screening Programming is there and there are some pre-programmed methods already stored in the Software and new customized methods can also be saved in the instrument. It transfers broad range of proteins from 10 KDa to 300 KDa from gels to membranes in a very less amount of time compared to Wet tank transfer methods. It has another cassette for staining for protein gels, which can stain and de-stain in 6 minutes</p>
4	ATOMIC ABSORPTION SPECTROSCOPY	<p><b>Optics:</b> True double beam optics. Switchable between Single beam and true double beam with a single click. Flame emission capability.</p> <p><b>Hollow Cathode Lamps:</b> Should have a 6 to 8 lamp motorized turret with automatic selection and alignment. Each individual lamp should have a separated power supply for simultaneous illumination. There should be an integrated high-intensity / EDL / Superlamp power supply</p> <p><b>Wavelength Range:</b> 185 - 900 nm</p> <p><b>Monochromator:</b> Minimum 300 mm focal length Czerny- Turner mount with automated drive grating. Flame Atomizer: (Air-Acetylene and Nitrous Oxide-Acetylene system): All burners should be made of solid titanium. It should have a safety system that offers a safety interlock mechanism that monitors the burner type, burner fitted, flame shield, gas pressures and gas leaks. It should be complete with flame on/off sensors; and power failure automatic shutdown. Changeover between oxidant gases should be automatic. Spray Chamber should be made of 100% pure PTFE, suitable for all samples (organic and inorganic).</p> <p><b>Gas Control:</b> The entire flame system should be entirely computer controlled and computer programmable. It should provide a closed loop with a flow sensor to ensure that the flow rate programmed into the computer is the actual flow rate observed in the instrument.</p> <p><b>Background Correction:</b> The system should come with standard Self-Reversal method and Deuterium background correction mode with modulation rate up to 1000 Hz.</p> <p><b>Flame Performance Guarantee:</b> The flame performance should be at least 0.9 Absorbance with &lt; 0.5 RSD from ten 4 second integrations for 5 ppm aqueous Cu standard solution with air/acetylene flame.</p> <p><b>Flame Online Dilution:</b> The system should automatically generate calibration curve from a single standard (with or without the use of an autosampler).</p> <p><b>Safety Interlocks:</b> The system must have the following safety interlocks: burner head, oxidant gas pressure, flame sensor, liquid trap water level, atomizer connection and spray chamber fits</p> <p><b>Safety Features:</b> Flashback prevention by safety pressure release mechanism, Air-C<sub>2</sub>H<sub>2</sub> flame priority ignition, automatic air-N<sub>2</sub>O changeover with programmed fuel flow rate adjustment, automatic oxidants changeover while N<sub>2</sub>O-C<sub>2</sub>H<sub>2</sub> extinction, safety flame extinction upon power outage or sudden power interruption.</p>



		<p><b>Software:</b> Should be in Windows 7 environment. Program options should include automatic mixing of standards, automatic injection of chemical modifiers and heat injection. Should provide real time display of total absorbance, corrected absorbance, and background correction. Should offer the features of full data storage capability and export to other Microsoft Software applications.</p> <p><b>Lamps:</b> Auto-aligning turret for agriculturally important minerals and heavy metals (Fe, Mn, Zn, Cu, Co, Bo, As, Pb, Cd, Mg, Ag, Ni) should be supplied.</p> <p>Instrument installed in working configuration with all accessories.</p>
5	FRUIT CRUSHER	This machine is suitable for crushing stone less fruits and vegetables. The machine is mounted on a heavy duty mild steel stand equipped with motor and starter. The material fed into the stainless steel hopper which feeds the product into crushing drum, which consist of stationary blades and rotary beater which crushes the loaded product. With 1.0 HP motor. (Cap. 500kg/hr Approx.)
6	HYDRAULIC JUICE PRESS	It is hand operated unit with hydraulic pump of capacity 5 tones. This unit is mounted on very heavy base and pillars along with hand screw arrangement. Supplied with Teak wood circular plank held together Stainless Steel strip. A thick M.S. base tray lined with Stainless Steel is provided with the unit. It is most suitable press for extracting juice from apples, pineapples, carrot, ginger, grapes etc.
7	ABBE REFRACTOMETER	Measuring range: nD 1.3000 to 1.7000 and sugar 0 to 95% with both refractive index sugar scale.
8	COLOR DOPPLER ULTRASOUND UNIT FOR VETERINARY APPLICATIONS	<p>A state of art fully digital, compact Color Doppler Ultrasound machine is required with following technical features</p> <ol style="list-style-type: none"> <li>1. Unit should be able to give very high image quality for animals scanning with advance technologies like compound imaging for better cardiac contrast resolution, tissue differentiation and edge detection, equivalent to high end cart based systems. Please specify the technology.</li> <li>2. System should be able to support speckle reduction imaging for better tissue differentiation and edge enhancement. Please specify the technology.</li> <li>3. Unit should be compact, durable &amp; less than 5 kg in weight.</li> <li>4. System should have both online (Read) as well as offline(Write) zoom facility</li> <li>5. Imaging modes of Real time 2D, Color Doppler, Power Doppler, Pulsed wave Doppler, Continuous wave Doppler must be available.</li> <li>6. System must have fast start up to scanning in less than 30 seconds from off condition, for use in critical and emergency field situations.</li> <li>7. System should support transducer technologies like phased array, convex, linear, Tranrectal for use on small &amp; large animals.</li> <li>8. The system should have a broadband architecture with an operating frequency of at least 1 to 15 MHz</li> <li>9. Cine memory should be available on all operating modes.</li> <li>10. The system shall process a dynamic range that is at least 165db. The system must display at a maximum depth of 35 cm.</li> <li>11. The system must have dedicated calculation packages for basic</li> </ol>

		<p>cardiac &amp; obstetrics measurements in Equine/Bovine/Ovine.</p> <p>12. Flat LCD/ TFT monitor of at least 10 inches with flicker free image.</p> <p>13. Alphanumeric soft keys backlit and splash resistant keypad with easy access scans controls, facility to sanitize the system keyboard to avoid cross contamination.</p> <p>14. The system must have the ability to function by AC/DC or battery power with the same degree of functionality, the battery life (run time) shall be at least 2 (Two) hours, this need to demonstrate.</p> <p>15. The system must have archive capability for storage &amp; retrieval of images and clips. It should have atleast 2 USB slots, which allow for direct sharing of images (JPEG) and clips(AVI) to a PC.</p> <p>16. Unit &amp; transducers must be rugged, resistant to breakage &amp; damage on fall/hit so as to withstand veterinary &amp; field situations.</p> <p>17. System should have both European CE and US FDA quality certification.</p> <p><b>Transducers &amp; other accessories to be supplied as standard:</b></p> <ol style="list-style-type: none"> <li>2-5 (+/-1 MHz) MHz multi-frequency broadband curvilinear transducer for general abdominal scanning for large animals with Biopsy Guide facility.</li> <li>6-13 MHz (+/-1 MHz) broadband Linear array transducer with size 40 mm (+/-5mm) for vascular, small parts, musculoskeletal applications with Biopsy Guide facility.</li> <li>5-8 MHz (+/-1 Mhz) broadband micro convex transducer for veterinary cardiology &amp; small animal abdominal scan.</li> <li>5-10 MHz (+/-1 MHz) broadband Linear array transducer for obstetrics &amp; vascular applications in large animals.</li> <li>Trolley from the same manufacturer.</li> <li>Triple Transducer Connector with electronic switching facility to toggle between transducers.</li> </ol> <p><b>Optional Transducers/software/Items:</b></p> <ol style="list-style-type: none"> <li>6-12 (+/-1) MHz multi-frequency, broadband, 25 mm linear array transducer for vascular, musculoskeletal, nerve and superficial imaging.</li> <li>6-15 (+/-1) MHz broadband Linear array, 50 mm (+/-5 mm) transducer for superficial, small parts and musculoskeletal applications in large animals.</li> <li>Up gradation with Needle visualization software should be possible which can dynamically optimize the image to give the best possible view of the needle in real time.</li> <li>B/W Thermal printer</li> </ol> <p><b>WARRANTY:</b> Main unit and transducers should be covered with comprehensive onsite warranty for <b>five years</b> commencing from the date of installation.</p>				
9	MULTI PARA MONITOR	<p><b>Intended Use:</b> To monitor vital signs in <b>veterinary patients (feline, canine etc.)</b> including: ECG, SpO2, NIBP, respiration, temperature and EtCO2</p> <table border="1" data-bbox="555 1772 1435 1900"> <tr> <td data-bbox="555 1772 753 1835">General</td> <td data-bbox="753 1772 1435 1835">Monitor Performance Specifications – for Vet USE</td> </tr> <tr> <td data-bbox="555 1835 753 1900">Display, Resolution</td> <td data-bbox="753 1835 1435 1900">7" wide color TFT LCD, 800 x 480 pixels</td> </tr> </table>	General	Monitor Performance Specifications – for Vet USE	Display, Resolution	7" wide color TFT LCD, 800 x 480 pixels
General	Monitor Performance Specifications – for Vet USE					
Display, Resolution	7" wide color TFT LCD, 800 x 480 pixels					

Dimension, Weight	238 (w) x 250 (h) x 163 (d) mm. approx. 3.1 kg
Trace	4 waveforms: 2 ECG, SpO2, RR, or EtCO2
	Sweep speed: 6.25, 12.5, 25, 50 mm/sec
Indicators	Categorized alarms (3 priority levels)
	Heart beat tone
	Spo2 pulse pitch tone
	Battery status
	External power LED
Interfaces	DC input connector: 18 VDC, 2.5A
	Defib Sync Output
	- Signal Level: 0 to 5 V pulse
	- Pulse Width: 100 +/- 10ms
	LAN digital output for transferring data
	Nurse call system connection
	DC output: 5VDC, 1A Max
Battery	Rechargeable Li-ion battery
	1.5 hours of continuous operation
Thermal Printer	Speeds: 25, 50 mm/sec, Paper width: 58 mm
Data Storage	128-hour trends
	20 cases of 10 sec alarm waveform
Language	English
Standard Accessories	3- lead ECG cable - 1 ea.
	ECG extension cable - 1 ea.
	NIBP extension tube, 3m long - 1 ea.
	NIBP vet cuff neonate disposable #1-#5 - 1 set
	NIBP vet cuff infant reusable - 1 ea.
	SpO2 extension cable (2m) - 1 ea.
	Esophageal probe
	Transflectance SpO2 probe
	Temperature (rectal/esophageal) probe
	Reusable multisite SpO2 probe - 1 ea.
	B-Link automated record keeping software
	DC adapter, 18 VDC, 2.5A - 1 set
<b>PERFORMANCE</b>	
ECG	
Lead Type	3-lead, 5-lead
Lead Selection	3-lead: I, II, III
	5-lead: I, II, III, aVR, aVL, aVF, V
ECG waveforms	3-lead: 1 channel
	5-lead: 1 channel
Heart Rate Range	30 - 300 beats per minute
Hearth Rate Accuracy	+/- 1bpm or +/- 1%, whichever is greater
Sweep Speed	6.25, 12.5, 25, 50 mm/sec
Filter	Diagnosis : 0.05 - 150HZ
	Monitoring: 0.5 - 40Hz
	Moderate: 0.5 - 25Hz

			Maximum: 5 - 25 Hz
	S-T segment detection range		-2.0 to 2.0 mV
	Arrhythmia Analysis		Asystole, VTACH, V-fib
	Pacemaker Detection Mode		Indicator on waveform display, user selectable
	Protection		Against electrosurgical interference and defibrillation
	Respiration		
	Method		Thoracic impedance
	Channel Selection		RA-LA or RA-LL
	Measurement Range		5 - 120 breaths per minute
	Accuracy		+/- 1 breath per min
	Apnea Alarm		Yes
	SpO2		
	Saturation Range		0% to 100%
	Saturation Accuracy		70 to 100% +/- 2 digits
			0 to 69% unspecified
	Pulse Rate Range		30 to 254 bpm
	Pulse Rate Accuracy		+/- 2 bpm
	NIBP		
	Method		Oscillometric
	Operation Mode		Manual/Automatic/Continuous
	Pressure Range		0 - 300 mmHg
	Accuracy		+/-3 mmHg
	Measurement Range		Systolic: 40 - 265 mmHg MAP: 27 - 222 mmHg Diastolic: 20 - 200 mmHg
	Pulse Rate Range		25 - 300 BPM
	Temperature		
	Measurement Range		0 to 50° C (32° F to 122° F)
	Accuracy		+/- 1°C
	Compatibility		YS1 Series 400 temperature probes
	Mainstream CO2 (option)		
	Measurement Range		0 to 150 mmHg, 0 to 19%
	Accuracy		0 - 40 mmHg +/- 2 mmHg, 41 - 70 mmHg +/- 5% of reading, 71 - 100 mmHg +/- 8% of reading, 101 - 150 mmHg +/- 10% of reading
	Respiration		0 to 150 breaths per minute

		<table border="1"> <tr> <td>Rate</td> <td></td> </tr> <tr> <td>Respiration Accuracy</td> <td>+/- 1 breath per minute</td> </tr> <tr> <td>Sidestream CO<sub>2</sub> (option)</td> <td></td> </tr> <tr> <td>Measurement Range</td> <td>0 to 150 mmHg, 0 to 19%</td> </tr> <tr> <td>Accuracy</td> <td>0 - 40 mmHg +/- 2 mmHg,</td> </tr> <tr> <td></td> <td>41 - 70 mmHg +/- 5% of reading,</td> </tr> <tr> <td></td> <td>71 - 100 mmHg +/- 8% of reading</td> </tr> <tr> <td></td> <td>101 - 150 mmHg +/- 10% of reading</td> </tr> <tr> <td>Respiration Rate</td> <td>2 to 150 breaths per minute</td> </tr> <tr> <td>Respiration Accuracy</td> <td>+/- breath per minute</td> </tr> </table>	Rate		Respiration Accuracy	+/- 1 breath per minute	Sidestream CO <sub>2</sub> (option)		Measurement Range	0 to 150 mmHg, 0 to 19%	Accuracy	0 - 40 mmHg +/- 2 mmHg,		41 - 70 mmHg +/- 5% of reading,		71 - 100 mmHg +/- 8% of reading		101 - 150 mmHg +/- 10% of reading	Respiration Rate	2 to 150 breaths per minute	Respiration Accuracy	+/- breath per minute	
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10	<p style="text-align: center;">INVERTED FLUORESCENT MICROSCOPE WITH IMAGING SYSTEM</p>	<ol style="list-style-type: none"> <li>1. System must be a single compact integrated unit including: cell imaging system, digital camera, computer, high power fluorescence lighting system and LCD display with minimum 15-inch color, 1024 x 768 pixels with adjustable tilt )</li> <li>2. System must include 3 independent high output LED illuminators with integrated hard coated fluorescence bandpass excitation and emission filters for each cube</li> <li>3. Fluorescence LED light cube must be a single, interchangeable cube that can be easily removed and installed.</li> <li>4. Fluorescence LED illuminators must have a lifetime of 50,000 hours at 100% power</li> <li>5. System must automatically recognize which cube is installed and adjust the software configuration accordingly</li> <li>6. LED illuminators with independent intensity control</li> <li>7. System with simultaneous accommodation of 4 fluorescent LED light cubes</li> <li>8. System must include below Fluorescent light cubes/filters. <ul style="list-style-type: none"> <li>- DAPI or equivalent: Ex: 357/44 Em: 447/60</li> <li>- GFP or equivalent: Ex: 470/22 Em: 525/50</li> <li>- RFP or equivalent: Ex: 531/40 Em: 593/40</li> </ul> </li> <li>8. System must include an integrated high-sensitivity Color Camera with minimum 1360 x 1024 pixels.</li> <li>9. System must be able to accommodate a minimum of 5 objectives at once</li> <li>10. System must include below objectives: <ul style="list-style-type: none"> <li>- 4 X Flourite objective long working distance objective with NA- 0.13 ; WD 19 mm or more</li> <li>- 20X Long Working Distance Phase contrast Objective, N.A 0.40, and Working Distance: 3.1 mm.</li> <li>- 40X LWD Phase contrast Objective, N.A 0.65, and Working Distance: 1.6 mm.</li> <li>- 100 X apochromate lens with NA -1.28 and working distance less than 0.22 mm with cover slip correction</li> </ul> </li> </ol>																					

		<p>11. System must include a rack and pinion focus mechanism</p> <p>12. System must include a rack and pinion "glide" stage with SBS microplate opening and accessory vessel holders for two slides, T25 vessel holder and Universal holder.</p> <p>13. The entire system footprint including all computer and monitor components must not exceed a 18.5" deep x 14.0" wide footprint</p> <p>14. System must consume less than 20 Watts/hr with all illumination sources turned to the on position</p> <p>15. System must provide a 1-click RGB channel overlay</p> <p>16. System must be able to sequentially acquire a phase contrast image and a fluorescence image with a single mouse click, then overlay them automatically</p> <p>17. System must include time lapse imaging capability with automatic .avi movie creation</p> <p>18. System must include manual cell counting capability</p> <p>19. System must include free downloadable software updates</p> <p>20. System must include multiple user accounts</p> <p>21. System must have at least one DVI output port and three USB output ports</p> <p>22. System must support direct output to USB and networked storage</p> <p>23. System must provide at least the following output file formats: jpg, bmp, tif, and png</p>
11	CO <sub>2</sub> INCUBATOR	<p><b>Size, inner and outer chambers:</b> Inner chamber capacity 5 cubic feet / app 150 liters or more. Inner chamber should be made up of Type 304, mirror finish, stainless steel. Outer covering must be made of 18 gauge, cold rolled steel, powder coated steel.</p> <p><b>CO<sub>2</sub> Gassing :</b> The optional gas guard for CO<sub>2</sub> and O<sub>2</sub>/N<sub>2</sub> permits 2 respective gas supplies to be connected with the controller which switches automatically to the second supply when first supply is empty and sounds an alarm</p> <p><b>O<sub>2</sub> Gassing:</b> Auto calibrated O<sub>2</sub>-control with at least two optional O<sub>2</sub> control ranges. Choose between 1 to 21 % O<sub>2</sub> or a wide range setting from 5 to 90 % O<sub>2</sub>. Sensor must be protected in the incubator during the 90 °C decontamination routine.</p> <p><b>Display :</b> Two or more large illuminated displays which provide instant status of incubator parameters like temperature and CO<sub>2</sub>-concentration at the same time.</p> <p><b>Inner Doors:</b> Doors can be set up for left or right handed usage with removable door gaskets by hand and smooth surfaces for easy cleaning. incubators now should offer 3 inner glass door. Inner doors allow access to defined sections of the incubator without disturbing the inner atmosphere</p> <p><b>Temperature and CO<sub>2</sub> maintenance :</b> Consistent culture conditions should exist throughout the incubator interior by the air jacket temperature control with double (additional) upper temperature limit protection. So that exact incubation temperature can be ensured even in the event of a primary temperature sensor</p>

		<p>failure. CO<sub>2</sub> sensor is of Infra Red or TC type Sensor and must responds extremely fast to gas concentration changes, The range of CO<sub>2</sub> must be between 0-20% with 0.1 % precision. Supplier of instrument must ensure it to be resistant a 90 °C thermal decontamination procedure. An auto-zero function for long-term stability of CO<sub>2</sub> concentrations.</p> <p><b>Humidity sensors:</b> Ambient to 95 % humidity at 37°C .Instruments should be equipped with water-level sensor which should be provided with an audible and visual alarm in time when the water reservoir has to be refilled. Water pan about 3 litre capacity with SS 304 quality.</p> <p><b>Automatic decontamination :</b> Automatic decontamination routine that should use moist heat at or above 90 °C. The surface temperature should be constant on all contamination-prone surfaces. Decontamination efficiency should be tested by an accreditation laboratory.</p>
12	INFRA RED THERMAL IMAGING CAMERA WITH ACCESSORIES	<p>Specific for veterinary purpose, camera with simple buttons to access the interface with gloved hands &amp; Compass embed pointing direction and geo-location. Minimum required configurations should be as -Thermal Resolution: minimum (320 × 240), Thermal Sensitivity: minimum &lt;0.04°C @ 30°C, Accuracy: +/-2°C to +/-1°C t 25°C (77°F) nominal, Min. Focus Distance 0.5 m, Temperature Range: -20 °C to 650°C, Measurement Modes: 6-7, Frame Rate: 30-60 Hz, Sketch on IR/Visual Image, Laser Pointer + Laser Locator (on IR image) Focus: Manual &amp; Automatic, Display Size: minimum 3", Built-in Visual Camera: minimum: 3MP with digital zoom facility. Storage Capacity: Internal memory store at least 500 sets of images. Battery Operating Time: &gt;3 hrs, MSX Thermal Image Enhancement etc. Warranty: minimum 2 year, must have Rapid image downloading software for in-depth image analysis, report generation etc. Price inclusive of camera with all accessories (different types of lenses: tele, wide and close up).</p>
13	FLUORESCENT MICROSCOPE WITH ACCESSORIES	<p><b>Microscope stand:</b> Fully motorized inverted Microscope stand with apochromatically corrected fluorescence beam path, integrated Light Intensity Manager and Contrast Manager for bright field applications and dedicated TFT display. The microscope should have one or more camera ports.</p> <p><b>Focus :</b> Inbuilt Motorized Z-focus drive with a minimum step resolution of 10 nm or better.</p> <p><b>Stage :</b> Mechanical stage with universal specimen holder for slides, different sizes of Petri dishes((preferably 35mm, 60mm and 100mm), multi-well plates and tissue culture flasks (preferably 25cm<sup>2</sup>-75cm<sup>2</sup>), travel range of 130X85</p> <p><b>Eye Piece :</b> Paired wide-field focusable 10X eye-pieces with FOV 23 or better and adjustable 9ioptre setting of minimum +/-5.</p> <p><b>Transmitted Illumination:</b> 100W (Halogen light source with fully motorized control of transmitted Illumination. Fully motorized transmitted light axis with fast (specify speed) motorized shutter for Multi-dimensional Imaging.</p> <p><b>Light Attenuators:</b> Motorized ND filters turret of 6 positions or better for intensity regulation</p> <p><b>Motorized Condenser:</b> Motorized, Universal Achromatic-Aplanatic condenser with a N.A of 0.55 or better (with integrated polarizer)</p>

for Ph, DIC, BF, DF; preferably with 6 position turret disks. Motorized condenser should work for all objectives.

**Objective Nose piece:** Minimum 6 position motorized objective nose pieces or better, preferably with faster movement

**Objectives:** light transmission efficient Plan Achromatic or Semi Plan Apochromat Objectives for BF, fluorescence and DIC application  
Objective "A-Plan" 5x/0.12  
Objective "A-Plan" 10x/0.25 Ph  
Objective LD "Plan-Neofluar" 20x/0.4 High N.A, high Ph2  
Objective LD "Plan-Neofluar" 40x/0.6 Corr Ph2 DIC or better 63X-Plan-Apochromatic NA1.4 DIC or better

**Complete motorized DIC accessories should be quoted for 40X and 63X in optional accessories**

**Fluorescence Attachments:** Motorized Fluorescence illumination and operation

**Reflected light Illumination:** Fluorescence attachment with 120W Cooled Metal Halide Illuminator including built in power supply, lamp module, infrared filter and CAN bus cable. Fluorescence light source with integrated motorized shutter control.

**Reflector Turret for Fluorescence Filters:** Motorized 6 position reflector turrets. All the filters should be shift free.

**Filters:** High quality Band Pass (BP) Fluorescence filters viz. blue, green, red and UV.

**Camera:** High Performance microscopy Monochrome camera incl. driver software, USB 3.0 PCIe x1 interface, dual USB 3.0/USB 2.0 cable 3 m and BK7 protection glass (coated)  
High Performance microscopy camera incl. driver software, USB 3.0 PCIe x1 interface, dual USB 3.0/USB 2.0 cable 3 m  
Number of Pixels: 1936 (H) x 1460 (V) = 2.8 Mega Pixels;  
Pixel size: 4.54  $\mu\text{m}$  x 4.54  $\mu\text{m}$ ;  
Chip size: 8.8 mm x 6.6 mm, equivalent to 2/3" (11 mm diagonal)  
Spectral range: With protection glass app. 400 nm to 1000 nm  
Max. Full Well Capacity: Approx. 15.000 e  
Live frame should be 38FPS or better at 1936 x 1460

**Software**

**System Control:** Automatic and interactive control

**Image Acquisition:** Should be able to (but not limited to) image capture, movie acquisition, fast acquisition  
Automatic Multi channel Image acquisition, ROI imaging, Z stack acquisition, time lapse and should have future Provision for wide-field acquisition, optical sectioning and deconvolution with optical sectioning. Retaining of acquisition parameters for re-use should be possible.

**Image Processing:** Basic adjustment of brightness, contrast and gamma; adjustment of colour in BF images; correction of bleaching effect in Z stack images; pixel shift correction;  
Image smoothing, Image Sharpening.

**Image Analysis & Documentation:** Interactive and basic measurement such as Length, Angle, diameter, Area, Perimeter  
Gray value measurement along a line/Intensity measurement  
Statistical analysis and evaluation of Data. Creation of User defined reports



Module for visualizing 3D image stacks should be quoted, helpful for display of multi-dimensional image stacks as 3D volume models and processing of up to 8 channels and Time series (4D) rendering

**Z-Stack:** Module for acquiring Z-stacks with the help of a motorized focus drive.

**Image Viewing:** Orthogonal View of Z stack Images; simultaneous image observation for comparison of up to 8 images

**Image Documentation:** Creation of User defined reports

**Utilities:** Provision of retaining Acquisition Parameters

**Computer:**  
*(minimum but better/higher configuration/version would be preferred)* A suitable High End Computer System with following specifications should be provided along with the system:  
 64 bit Quad Core Intel Xeon Processor with minimum 4 GB DDR3 SD RAM@1333Mhz, 500GB SATA HDD (7200RPM), Support for 2 PCI Express X16X Gen2 Graphics Card, Integrated Broadcom 5761 GB Ethernet Controller with Remote Wake UP, DVD R/W, Multiple slots for USB and Firewire, 22" LCD Monitor.

**Module for Optical Sectioning:** Structured Illumination through grids with Automatic Grid Change Technology for optical sectioning preferably with higher light transmission efficiency. A special grid illumination device to be incorporated in the FL illumination optics of the microscope with easy switchover facility between normal FL illumination and grid illumination (for optical sectioning).  
 Motorized and automatic grid focusing and super imposition of the same into the image plane for different fluorescence channels through accurate and calibrated scanning mechanism should be possible Automatic multidimensional acquisition of optical sections. Seamlessly integrated hardware and software from the same manufacturer for better compatibility.  
 Objective specific selection of different Grid frequencies to match the numerical aperture of the objective and wavelength of fluorescence for multichannel imaging should be automatic.  
 Mention warranty  
 All items should be from same manufacturer, Valid CE, ISO certification is necessary

No.	Items	:	Specifications
1.	Chassis	:	Straight & Frame type
2.	Engine capacity	:	Minimum : 3300 cc
3.	HP output	:	100 to115 HP/2800 rpm
4.	Torque	:	300-350 Nm @ 1400-1700 rpm
5.	Transmission	:	5 forward & 1 reverse
6.	Clutch	:	310 mm, single plate, dry type
7.	Steering	:	Power assisted steering (If possible tiltable & telescopic)
8.	Battery	:	12V, 130 Ah (or as per CMVR/ARAI approval)
9.	Suspension	:	Good quality suspensions (Front & Rear)
10.	Tyres	:	Radial tubeless tyres (Front-2,

			Rear-4, Spare wheel-1)
		11.	Wheel base : Minimum: 5260 mm
		12.	Ground clearance : 200 mm (Minimum)
		13.	Brakes : Dual circuit full air brakes
		14.	GVW : About 9000 kgs
		15.	Fuel tank : Minimum 100 Lit.
		16.	Overall length : 9500 mm (Average)
		17.	Front over hang : 1500 mm (Average)
		18.	Rear over hang : 3000 mm (Average)
		19.	Sitting capacity : 44 (2X2 seats) + Driver
		20.	Seats : High head rest good quality seats
		21.	Inner lights : LED roof lamps for proper light facility
		22.	Body buildings : Strong body with long life and non corrosive materials
		23.	Emergency door : It should be available as per CMVR/ARAI approval
		24.	Flooring : Fire resistant anti-skid embedded vinyl on plywood
		25.	Dashboard : Single piece FRP
		26.	Vehicle colour : Standard white colour
		27.	Passenger door : Single door with comfortable steps for up-down
		<b>R.T.O. Documents:</b> The tenderer has to submit all the supporting documents required for registration at the road transport department (RTO), Navsari.	
15	CARCASS TROLLEY/VAN	<b>Particulars</b>	<b>Specifications</b>
		<b>Material</b>	Standard quality SS no. 304 and gauge no. 12-14
		<b>Size</b>	8 ft. length x 6 ft. width
		<b>Wheel</b>	Supported by at least 4 good quality castor tubeless wheels/tyres to bear minimum of 700 kg. weight
		<b>Side walls</b>	SS no. 304 and gauge no. 12-14 made. 1.5 ft. height on all 4 sides. Foldable on all sides <b>except</b> front side. Rounding of all edges.
		<b>Handle</b>	Handle made from standard material for manual pulling of the trolley
		<b>Hook</b>	Strong hook made from standard quality material for attachment of trolley with vehicle for pulling the trolley along with carcass.
		<b>Further information</b>	Contact the Department of Veterinary Pathology
16	HOT AIR OVEN	<b>Parameters</b>	<b>Technical Specifications</b>
		Capacity	90-120 litres
		Temperature Range	50-200°C

		Temperature variation	± 1°C
		Control Unit/ display	PID Microprocessor control with timer, temperature sensor and LED display
		Inner/chamber dimension (W/D/H)	W- 300-500 mm D-300-500 mm H- 300-500 mm
		Fan	Provide with air circulating fan
		Heating element	On three sides of equipment for uniform heating
		Internal Material	SS 304
		External Material	Steel coated with epoxy material
		Shelves/trays	Two, SS 304 adjustable trays with holes or wire mesh trays
		Safety device	Provide with temperature safety device
		Power supply	230V AC
17	RAT METABOLIC CAGE	<ol style="list-style-type: none"> <li>1) Rat metabolic cage should be enabling to collect behavioural information, faeces and urine separately.</li> <li>2) Cage body should be made up of SS sheet (3mm thick) with back support which enables no disturbance to the animal in the cages.</li> <li>3) Cages should be made up of polycarbonate material, transparent, washable, autoclavable with SS-304 heavy casing.</li> <li>4) Cage dimension: 8 inch x 10.5 inch x 16.5 inch (L x B x H).</li> <li>5) Cages should have separate compartment for collection of feces and urine with no trace remain behind.</li> <li>6) Cages should have feed compartment, water bottle holding unit and water bottle with SS nozzle and silicon gasket inside 300 ml capacity.</li> <li>7) Cages should have compartment to collect waste feed, spilled water and ice tray inside.</li> </ol>	
18	RACK FOR RAT METABOLIC CAGES	<ol style="list-style-type: none"> <li>1) Each hanging rack should hold 6 cages (3 cages per row and 2 cages per column) of size 8 inch x 10.5 inch x 16.5 inch (L x B x H).</li> <li>2) Rack should have a inter shelf gap of 22 cm in between shelves.</li> <li>3) 8 inch space at bottom along with provision of wheel. Wheels (4 inch diameter) with SS hub having locking system in two wheels and other two wheel should have movable arrangement with PU wheel</li> <li>4) (4 inch diameter) and brakes.</li> <li>5) Length, breath and height of the rack should be sufficient to hold 6 cages (3 X 2).</li> <li>6) Joint to hold wheels should be of stainless steel.</li> <li>7) Rack made up of stainless steel hollow pipes 38 mm x 38 mm of 304 qualities, 16 gauge thick sheet on vertical and horizontal side.</li> <li>8) For hanging SS hollow pipes 50 mm x 25 mm and 38 mm x 25 mm of 304 quality 16 g sheet should be used.</li> <li>9) Stainless steel should be of 305 qualities in every component.</li> </ol>	

		<p>10) There should be no sharp edges, protrusion anywhere in the rack. All corners as well joint argon are welding should be rounded of nicely</p> <p><b>11)</b> One hook should be provided for label at the corner.</p>
19	RACK FOR RAT CAGES	<p>1) Hanging type racks for holding rat cages.</p> <p>2) Each hanging rack should hold 30 cages (5 cages per row and 6 cages per column) of size 43 x 28 x 16 cm (l x b x h).</p> <p>3) Rack should have a inter shelf gap of 22 cm in between shelves.</p> <p>4) 8 inch space at bottom along with provision of SS caster wheel (4 inch diameter) and brakes.</p> <p>5) Length, breath and height of the rack should be sufficient to hold 30 cages.</p> <p>6) Joint to hold wheels should be of stainless steel.</p> <p>7) Wheels with SS hub having two wheels should have locking and two wheels should have movable arrangement with PU wheel.</p> <p>8) Rack made up of stainless steel hollow pipes 38 mm x 38 mm of 304 qualities, 16 gaugethick sheet on vertical and horizontal side.</p> <p>9) For hanging SS hollow pipes 50 mm x 25 mm and 38 mm x 25 mm of 304 quality 16 g sheet should be used.</p> <p>10) Stainless steel should be of 305 quality in every component.</p> <p>11) There should be no sharp edges, protrusion anywhere in the rack. All corners as well joint argon are welding should be rounded of nicely.</p> <p>12) One hook should be provided for label at the corner.</p>
20	RACK FOR RABBIT CAGES	<p>1) Each hanging rack should hold 2 cages</p> <p>2) Cage size approximately 24 inch x 18 inch x 35.5 inch (L x B x H)</p> <p>3) Rack should have a inter shelf gap of 15-22 cm in between shelves.</p> <p>4) 8 inch space at bottom along with provision of wheel. Wheels (4 inch diameter) with SS hub having locking system in two wheels and other two wheel should have movable arrangement with PU wheel</p> <p>5) Length, breath and height of the rack should be sufficient to hold 2 cages.</p> <p>6) Joint to hold wheels should be of stainless steel.</p> <p>7) Rack made up of stainless steel hollow pipes 38 mm x 38 mm of 304 qualities, 16 gauge thick sheet on vertical and horizontal side.</p> <p>8) For hanging SS hollow pipes 50 mm x 25 mm and 38 mm x 25 mm of 304 quality 16 g sheet should be used.</p> <p>9) Stainless steel should be of 305 qualities in every component.</p> <p>10) There should be no sharp edges, protrusion anywhere in the rack. All corners as well joint argon are welding should be rounded of nicely</p> <p>11) One hook should be provided for label at the corner.</p>

21	RABBIT CAGE	<ol style="list-style-type: none"> <li>1) Rabbit metabolic cage should be enable to collect behavioral information, feces and urine separately.</li> <li>2) Cage body should be made up of SS-304 wire and angle.</li> <li>3) Cages should be washable and rust free.</li> <li>4) Cage dimension: 24 inch x 18 inch x 35.5 inch (L x B x H).</li> <li>5) Cages should have separate compartment for collection of feces and urine with no trace remain behind.</li> <li>6) Cages should have feed compartment, water bottle holding unit and water bottle with SS nozzle and silicon gasket inside 650 ml capacity.</li> <li>7) Cages should have compartment to collect waste feed and spilled water.</li> </ol>
22	CREAM SEPARATOR MACHINE	<ul style="list-style-type: none"> <li>• Machine Capacity : 80 Litre / Hr.</li> <li>• Tank Cap. :12 Litre.</li> <li>• No of Discs : 12</li> <li>• Motor : Single Phase Electric Motor 0.25 HP</li> <li>• Separation Temperature: 35 - 40 C / 95-108 F</li> <li>• Solid Removal Time : 1.5 Hour</li> <li>• Machine Weight :Gross : 6 Kg</li> <li>• Bowl Material: Aluminium</li> <li>• Spout Set Material: Aluminium</li> <li>• Receiving Tank Material: Aluminium</li> <li>• Electric Operated</li> <li>• Useful Laboratory, Small farms.</li> </ul>
23	EGG CANDLER	<ul style="list-style-type: none"> <li>• LED : 10 Watt</li> <li>• Max Output (Luminous Flux): 1000 Lumens</li> <li>• LED life : 50,000 hours</li> <li>• Battery : Lithium ion battery, 4400mAh</li> <li>• Battery Run time : 180 minutes (100% brightness)</li> <li>• Battery lifespan : Rechargeable 500-800 times</li> <li>• Power supply : 110-230 V</li> <li>• allowing the user to candle both white and brown eggs in any environment</li> <li>• portable LED with battery/main electric supply operated</li> </ul>
24	BUTTER CHURNER	<ul style="list-style-type: none"> <li>• Capacity 10 litre</li> <li>• Made us of stainless steel</li> <li>• Electric operated</li> <li>• Barrel capacity 20 litre</li> <li>• Butter churning capacity 10 litre with automatic input output system</li> <li>• Drain outlet</li> <li>• Air discharge nipple</li> <li>• Mounted on proper stand</li> </ul>
25	AUTOMATIC SCALDER	<ul style="list-style-type: none"> <li>• 3/4 hp, 110 V Motor</li> <li>• 10:1 Gear Reduction</li> <li>• 23" Diameter Drum</li> <li>• Water Spray</li> <li>• 60Gal &amp; Burner Capacity : 80000</li> <li>• Inside Dimensions : 32"x22"x23"</li> <li>• Weight: 500lb</li> </ul>

		<ul style="list-style-type: none"> <li>• Killing cones</li> <li>• Hot water Scalding with Automatic temperature control</li> <li>• Feather Plucker drum</li> <li>• Screw chiller</li> <li>• Drip Roller drum</li> <li>• Work Table, Evisceration Table &amp; Trolleys</li> <li>• Portioning Cutter machine</li> <li>• Vacuum packing machine</li> <li>• Vacuum suction gun for Lungs</li> <li>• Tools &amp; packing cones</li> <li>• Chicken Plucker</li> <li>• All Stainless Steel</li> </ul>												
26	HAND HELD SLIT LAMP	<table border="1"> <thead> <tr> <th>No</th> <th>Specifications</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Viewing System: Binocular</td> </tr> <tr> <td>2.</td> <td>           Microscope:           <ul style="list-style-type: none"> <li>• Eye piece : 16X</li> <li>• Total magnification : 16X</li> <li>• Dioptres adjustment : +7 to -7</li> <li>• Visual field : 10mm</li> <li>• Working distance : 80mm</li> </ul> </td> </tr> <tr> <td>3.</td> <td>           Illumination:           <ul style="list-style-type: none"> <li>• Slit width: 0-11mm (Step less adjustment is possible.)</li> <li>• Slit length : 11mm</li> <li>• Filters: Cobalt blue, Green, Colour temperature conversion filter</li> <li>• Illumination angle: On the level circumference <math>\pm 30</math>degrees</li> </ul> </td> </tr> <tr> <td>4.</td> <td>           Light source : Day Light Colour LED            Battery:           <ul style="list-style-type: none"> <li>• Voltage : Li-ion battery 7.4 V 680 mAh</li> <li>• Input voltage : AC 100-240 V 60-50 Hz</li> <li>• Output voltage : DC 12 V 500 mAh</li> </ul> </td> </tr> <tr> <td>5.</td> <td>           Operation time : Approximate 2 hours            (In full charged state with maximum illumination)         </td> </tr> </tbody> </table>	No	Specifications	1.	Viewing System: Binocular	2.	Microscope: <ul style="list-style-type: none"> <li>• Eye piece : 16X</li> <li>• Total magnification : 16X</li> <li>• Dioptres adjustment : +7 to -7</li> <li>• Visual field : 10mm</li> <li>• Working distance : 80mm</li> </ul>	3.	Illumination: <ul style="list-style-type: none"> <li>• Slit width: 0-11mm (Step less adjustment is possible.)</li> <li>• Slit length : 11mm</li> <li>• Filters: Cobalt blue, Green, Colour temperature conversion filter</li> <li>• Illumination angle: On the level circumference <math>\pm 30</math>degrees</li> </ul>	4.	Light source : Day Light Colour LED Battery: <ul style="list-style-type: none"> <li>• Voltage : Li-ion battery 7.4 V 680 mAh</li> <li>• Input voltage : AC 100-240 V 60-50 Hz</li> <li>• Output voltage : DC 12 V 500 mAh</li> </ul>	5.	Operation time : Approximate 2 hours (In full charged state with maximum illumination)
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27	INVERTED MICROSCOPE	<ul style="list-style-type: none"> <li>- It should support all transmitted light methods viz., fluorescence, live cell, time-lapse imaging, high-speed multi-fluorescence optical sectioning and micromanipulation of gametes/cells</li> <li>- Supply with phase contrast, Differential Interference Contrast (DIC), bright field and dark field contrast, integrated modulation contrast (IMC), polarization contrast</li> <li>- The viewing angle of the ergonomic tube should be continuously adjusted to ensure the most comfort</li> <li>- Mechanical coarse and fine focus drive</li> <li>- With 4X, 10X and 20X and other phase contrast objectives</li> <li>- Viewing Head: 45°, Inter-pupillary 48-75 mm</li> <li>- Illumination arm with 12V/100 W halogen lamp</li> <li>- Graduated mechanical stage</li> <li>- Condensers with integrated manual aperture diaphragm</li> <li>- With standard attachment for digital photography</li> </ul>												

		<ul style="list-style-type: none"> <li>- Supply with at least 5 megapixel digital camera, USB 2.0/3.0, Digital card</li> <li>- Supply with image analyser software</li> <li>- Supply with all other standard necessary accessories</li> </ul>
28	BOWL CHOPPER	<ul style="list-style-type: none"> <li>• Bowl Capacity – 11 Lts (Preferably)</li> <li>• Speed of the Bowl – 10-25 rpm</li> <li>• Knife Assembly/Blade - 3</li> <li>• Knife Cutting speed – upto 4000 rpm</li> <li>• Heavy Duty S.S. -304</li> </ul>
29	VACUUM CLEANER	Dry vacuum cleaner with 4 wheels, Fabric filter, Air hose, 510 X 510X410 mm, 900 W, Net weight 6.3 kg, 50 l/ sec air flow, 21 litre container capacity, 150 m Bar Maximum Ventilating Pressure, Hose Length: 3 m
30	ULTRA ISOLATION WITH SERVO VOLTAGE STABILIZERS	<p>➤ <b>3 PHASE ULTRA ISOLATION</b></p> <p>Capacity (KVA): 50 KVA  Related Standards: IS 2026, IS 11171  Input Voltage and Output Voltage: A) 1:1  B) 1:2  C) Customized</p> <p>Efficiency @ 100% Load: &gt;97.5%  Regulation: 2-4% for 100% change in current at Unity P.F  Impedance: &lt; 4%  Connection: Delta / Star*  Vector Group: DYn 11** for Delta / Star  Operating Load Power Factor: 0.75 lagging to 0.75 Leading  DC Galvanic Isolation: &gt;1000 Mega Ohms  Dielectric Strength: 2.5 KV, 50Hz for 1 Minute  Coupling Capacitance: 0.001 Pico Farads  Line Leakage Current: &lt; 20 Micro Amps  Noise Attenuation: 120 DB upto 10 KHz  70 DB for range 10 KHz to 50 KHz  50 DB for range 50 KHz to 1 MHz</p> <p>Operating Temperature: 0-45°C  Insulation: Class F  Degree of Protection: IP 31  Type of Cooling: Air Cooled / Oil Cooled  Metering: LCD display as OPTIONAL</p> <p>➤ <b>3 PHASE AIR COOLED SERVO VOLTAGE STABILIZERS</b></p> <p>Capacity: 50 KVA (Three phase)(AIR cooled)  Input Voltage: Three phase: 340-490 VAC (4 wire system)  Output Voltage: 230 VAC for Single Phase (Adjustable: 10 V)  415 VAC for Three Phase (Adjustable &amp; unbalance type)  Regulation: ±1% or 0.5%  Supply Frequency: 47-53Hz  Efficiency: Better than 99%  Wave Form Distortion Nil  Effect of Load Power Factor: Nil</p>

		<p>Rate of Correction: Phase: 70 V/sec  Type of Control: Digital micro controller based control  Ambient Temp 0 to 45 (Max.)  Environment: Designed for indoor tropical use. (Outdoor unit also available)  Accessories: @ Indications :  Output on/input on(R-Y-B) @AC V-meter :  I/P: R-Y-B-RN-YN-BN  : O/P: R-Y-B-RN-YN-BN : @ Controls  Auto/manual selector switch  I/P / O/P selector switch  INC/DCR selector switch  O/P Volt Adjustment</p> <p><b>Protection</b></p> <ul style="list-style-type: none"> <li>• O/P over/under volt trip</li> <li>• Over load &amp; short circuit through MCB at I/P</li> <li>• Single phase preventer (SPP)</li> <li>• Phase sequence changer trip</li> </ul> <p><b>* Connection must be customize as per NAU office requirement</b>  <b>**Vector group will vary according to the connection</b></p>
31	INFRARED CANOPY TEMPERATURE METER	<b>CO<sub>2</sub> Gassing :</b> The optional gas guard for CO <sub>2</sub> and O <sub>2</sub> /N <sub>2</sub> permits 2 respective gas supplies to be connected with the controller which switches automatically to the second supply when first supply is empty and sounds an alarm
32	CHLOROPHYLL METER (SPAD)	<b>O<sub>2</sub> Gassing:</b> Auto calibrated O <sub>2</sub> -control with at least two optional O <sub>2</sub> control ranges. Choose between 1 to 21 % O <sub>2</sub> or a wide range setting from 5 to 90 % O <sub>2</sub> . Sensor must be protected in the incubator during the 90 °C decontamination routine.
33	SOIL TENSIO METER	<b>Display :</b> Two or more large illuminated displays which provide instant status of incubator parameters like temperature and CO <sub>2</sub> -concentration at the same time.
34	SPECTROPHOTO METER	<b>Inner Doors:</b> Doors can be set up for left or right handed usage with removable door gaskets by hand and smooth surfaces for easy cleaning. incubators now should offer 3 inner glass door. Inner doors allow access to defined sections of the incubator without disturbing the inner atmosphere.
35	BRIX METER	<b>Temperature and CO<sub>2</sub> maintenance :</b> Consistent culture conditions should exist throughout the incubator interior by the air jacket temperature control with double (additional) upper temperature limit protection. So that exact incubation temperature can be ensured even in the event of a primary temperature sensor failure. CO <sub>2</sub> sensor is of Infra Red or TC type Sensor and must



		responds extremely fast to gas concentration changes, The range of CO <sub>2</sub> must be between 0-20 % with 0.1 % precision . supplier of instrument must ensure it to be resistant a 90 °C thermal decontamination procedure. An auto-zero function for long-term stability of CO <sub>2</sub> concentrations.																								
36	LEAF AREA METER	<b>Humidity sensors:</b> Ambient to 95 % humidity at 37°C .Instruments should be equipped with water-level sensor which should be provided with an audible and visual alarm in time when the water reservoir has to be refilled. Water pan about 3 litre capacity with SS 304 quality.																								
37	VERNIER CALLIPER	<b>Automatic decontamination :</b> Automatic decontamination routine that should use moist heat at or above 90 °C. The surface temperature should be constant on all contamination-prone surfaces. Decontamination efficiency should be tested by an accreditation laboratory.																								
38	WEIGHING BALANCE	Capacity upto 220 gm Readability : 0.005 mg to 0.1 mg Touch screen facility Compact ionizer Open/close door system Automatic documentation fulfil system																								
39	D.G. SET	<ul style="list-style-type: none"> <li>The specification given below is minimum. However bidder may give higher capacity D.G. set as per their design &amp; considering 10% extra load.</li> </ul> <table border="1"> <thead> <tr> <th colspan="3">Technical specification for DG Set</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Make &amp; Model of the engine</td> <td>To be specified by the bidder</td> </tr> <tr> <td>2</td> <td>30 KVA - 1 Phase</td> <td>30 KVA, Separate cylinder for more efficiency of engine</td> </tr> <tr> <td>3</td> <td>PF rating</td> <td>0.8</td> </tr> <tr> <td>4</td> <td>BHP rating of the engine</td> <td>48 BHP</td> </tr> <tr> <td>5</td> <td>Type of engine cooling</td> <td>Air cooled</td> </tr> <tr> <td>6</td> <td>Aspiration</td> <td>Turbocharged</td> </tr> <tr> <td>7</td> <td>With alternator, control panel &amp; all essential accessories</td> <td>To be specified by the bidder</td> </tr> </tbody> </table>	Technical specification for DG Set			1	Make & Model of the engine	To be specified by the bidder	2	30 KVA - 1 Phase	30 KVA, Separate cylinder for more efficiency of engine	3	PF rating	0.8	4	BHP rating of the engine	48 BHP	5	Type of engine cooling	Air cooled	6	Aspiration	Turbocharged	7	With alternator, control panel & all essential accessories	To be specified by the bidder
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40	PP CAP SEALING MACHINE	Suited for all size of bottles for threading and sealing operation: heavy duty hand worked pedestal model, hand worked table model																								
41	CAN FLANGING MACHINE:	Heavy duty model hand operated machine for simultaneous langing of both sides of round can. A toggle motion balanced hand enables the machine to be operated with minimum exertion. Supplied with flanging die...201 dia., 301 dia, 401 dia, 603 dia, 700 dia.																								
42	LID EMBOSSING MACHINE:	Standed end with required reference letters and figure. The machine is operated by a foot treadle, deposed embosses the lid by virtue of marker dies, without piercing it. Supplied with one set of double row die holder, with 5 set of alphabets and numbers.																								
43	FRUIT PRESSURE	Monitoring maturation progress, pressure of fruits, for apple, pear																								

	TESTER	peach etc.... Range : 0-13 kg,0—5 kg
44	FRUIT AND VEGETABLE SLICER	The offered slicer is designed using premium quality components and advanced technology in sync with industry norms. Our prestigious clients can avail this slicer from us at affordable prices. In addition to this, we offer this slicer in various sizes, designs and specifications for our customers to choose from. <b>Features:</b> <ul style="list-style-type: none"> <li>• Minimum maintenance</li> <li>• Long-lasting service</li> <li>• Optimum performance</li> </ul> <b>Specifications:</b> Machine Capacity: 1" hp motor, 100 kg/hr,Dimension: 16" X 13" X 34" ht,Electric use: 220V or 440V
45	HYDRAULIC JUICE PRESS	Hand operated unit with hydraulic pump of capacity 10 tones unit is monted on very heavy based and pillars with hand screw arrangement. Supplied with teak wood circular plank held together with stainless steel strip. Thick MS based tray lined with S.S. is provided with the unit. Suited with the unit.
46	DOUBLE SEAMER MACHINE	<ul style="list-style-type: none"> <li>• Mounted on a mild steel stand. Suitable for seaming cans between 201-700dia range and 2• height range.</li> <li>• Equipped with 1 HP 1440 RPM motor (suitable for 400 V +5%, 3 ph, 50 Hz supply) starter standard base plate, V-belt, pullies etc.</li> <li>• Capacity approx. 600 - 800 cans per hour</li> <li>• Mounted on a mild steel stand. Suitable for seaming cans between 202-700dia range and 2" - 9 3/8" height range. Equipped with 1 HP 1440 RPM motor (suitable for 400 V +5%, 3 ph, 50 Hz supply) starter standard base plate, V-belt, pullies etc. Capacity approx. 600 -800 cans per hour (cost of seaming chucks &amp; rolls would be extra).</li> </ul>
47	DEEP FRIZEER	<ul style="list-style-type: none"> <li>• 650 lit capacity, 5 star 2 door, direct cooling with adjustable temperature, micro- control based indicator cum controller having dual display window.</li> <li>• 167x50x78 cm (WxDxH) inner dimension</li> <li>• Inner chamber made of stainless steel outer chamber made of mild steel/GI duly power coated paint.</li> </ul>
48	DIGITAL HYGROMETER	Humidity 0-100% RH Temperature -40 to +85 °C Collect temperature/ Humidity data for quality control water resistant with {C soft ware, Cable and Craddle HT-350 temperature and humidity meter provide fast and accurate measurements for analysis of critical environmental conditions with dew point temperature and web bulb temperature. Humidity Range: 0 ~ 100% RH Temperature Range: -30 ~ 100 (-22 ~ 199) Dew Point Temperature: -30 ~ 100 (-22 ~ 199) Wet Bulb Temperature: 0 ~ 80 (32 ~ 176)

		<p>Humidity Accuracy:</p> <ul style="list-style-type: none"> <li>- At 20% RH ~ 80% RH, /-2% RH</li> <li>- All other ranges, /-2.5 RH</li> </ul> <p>Air Temperature Accuracy:</p> <ul style="list-style-type: none"> <li>- At 25 or 77, /-0.5 or /-0.9</li> <li>- All other ranges, /-0.8 or /-1.5</li> </ul> <p>Resolution: 0.01% RH, 0.01, 0.01</p> <p>Response Time: 10s(90% RH, at 77 / 25 still air)</p> <p>Battery Type: 9V battery NEDA 164, IEC 6F22(Not Include)</p>
49	DIGITAL THERMOMETER	<p><b>General</b></p> <p>Model: GM700  Material: Plastic, ABS  Type: Measuring instruments  Certificate: RoHS, CE, FCC</p> <p><b>Classification</b></p> <p>Temperature and humidity instrument: Infrared thermometer</p> <p><b>Specification parameter</b></p> <p>Primary functions: Surface temperature measurement  Features: Non-contact temperature measurement  Measurement range: -50 to 700 C  Working Mode: Infrared temperature measurement  Maximum Show Value: 700 C  Resolution: 0.1 C / 0.1 F</p>
50	HOT PLATE	<p>LED and PCB <b>Soldering Hot Plate</b> -946b is flatbed micro-computer controlled heating plate. It features high-performance micro-controller which ensures precise temperature display and control, automatic fault judgment and analysis. The heating plate is made from high quality aluminum alloy which ensures fast warming, stable temperature, high efficiency, uniform heating and temperature control, it is ideal heating tools for various industries. SMD LED soldering.</p> <p>Components heating operation  SMD recycling operations  PCB board desoldering operation  Physical, chemical containers heating other equipment or appliances heating</p> <p><b>Technical data:</b></p> <p>microcomputer heating plate</p> <ul style="list-style-type: none"> <li>• Input voltage: 220 v ± 10% ac</li> <li>• Heater power: 800 w</li> <li>• Heating area: 200 mm * 200 mm</li> <li>• Temperature control range: 50°c - 350°c</li> <li>• Temperature display: 3 digit</li> <li>• Display resolution: 1°c</li> <li>• Thermostatic stability: ±1.5°c</li> <li>• Overall size: 218 mm * 218 mm * 130 mm</li> </ul>
51	WATER BATH	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▪ Sturdy construction</li> <li>▪ Optimum performance</li> <li>▪ Less energy consumption</li> </ul> <p><b>Specifications:</b></p>

		<ul style="list-style-type: none"> <li>▪ Digital temperature control with indicator light</li> <li>▪ Maintains temperature of 32 °C to 80 °C (89.6 °F to 176 °F)</li> <li>▪ Stainless Steel Casing</li> <li>▪ Removable stainless steel pan</li> <li>▪ Accommodates Hanau water bath pan</li> <li>▪ Unit stops heating when pan is removed</li> </ul>
52	DIGITAL / ELECTRONIC BALANCE	<ul style="list-style-type: none"> <li>• high-legible LCD display</li> <li>• Rechargeable battery operation</li> <li>• Auto power-off function</li> <li>• Capacity up to 1 kg</li> </ul>
53	FREEZE DRYER	<ul style="list-style-type: none"> <li>• Freeze Drying Capacity-3 kg/ batch,</li> <li>• Batch Time- 8 to 12 Hr.,</li> <li>• 3. Usable freeze drying area 0.6 M2,</li> <li>• Power connection 415 V 3 Ph,</li> <li>• Connection load for machine 3 Kw</li> <li>• Connection Load for Heater 3 Kw</li> <li>• Chamber dimension 700mm * 400mm * 700mm</li> <li>• Tray size 400mm * 500 mm * 30 mm</li> <li>• Load per tray 1 kg (can be loaded with 2 kg for 24 hr batch)</li> <li>• Number of trays 3</li> <li>• Total Usable area 0.6 Square Meter</li> <li>• Tray material SS316L</li> <li>• Chamber material SS 304</li> <li>• Condenser and its piping material SS 304</li> <li>• Condenser Capacity &gt; 3 kg per batch</li> <li>• Heater plate SS 304</li> <li>• Refrigeration compressor Bitzer make 2EES 2Y</li> <li>• Vacuum pump 10 m3 precise vacuum make</li> <li>• Roots pump NA</li> <li>• cooling tower and heater motor Air cooled condenser</li> <li>• cooling tower Air cooled condenser</li> <li>• Heater body and steam coils SS304 seam less pipes</li> <li>• Expansion valve Donfoss make</li> <li>• HPLP protector Donfoss make</li> <li>• Liquid oil separator Donfoss make</li> <li>• Oil pressure Protector Donfoss Make</li> <li>• Condenser Bitzer make</li> <li>• Solenoid valve, sight glass Donfoss make</li> <li>• PIC Fuji electric WSZ 24MC series</li> <li>• Touch screen HMI Fuji electric VSFT touch soft series</li> <li>• DATA logging Though USB port to PC or USB storage devic</li> </ul>
54	MICROWAVE OVEN	<ul style="list-style-type: none"> <li>• Type : Convection</li> <li>• Capacity : 32 L</li> <li>• Control Type : Tact (Buttons)</li> <li>• Auto Cook Menu : 301</li> <li>• Auto Indian Cook Menu : 211</li> <li>• Power Output : 900 W</li> <li>• Dimensions (WxHxD) : 53 cm x 32.2 cm x 53.3 cm</li> <li>• Door Opening Mechanism : Pull Down Handle</li> <li>• Turntable Diameter : 34 cm</li> <li>• Cooking Modes : Convection, Grill, Solo, Combination</li> </ul>
55	NITROGEN DISTILLATION AND	<p><b>Specification of Digestion system:</b></p> <ul style="list-style-type: none"> <li>✓ Graphical auto sequencing</li> </ul>

	DIGESTION SYSTEM	<ul style="list-style-type: none"> <li>✓ PC compatible</li> <li>✓ Four place macro block digestion system</li> <li>✓ Data logger</li> <li>✓ Auto lifting</li> </ul> <p><b>Specification of Distillation System:</b></p> <ul style="list-style-type: none"> <li>➤ Fully automatic sequencing</li> <li>➤ Microprocessor based PC compatible Distillation System</li> <li>➤ In-built software with programmable steps</li> <li>➤ Pre-definable user storage</li> <li>➤ Automatic receiver solution addition (boric acid)</li> <li>➤ Automatic dilution</li> <li>➤ Automatic &amp; manual alkali addition</li> <li>➤ Automatic KMnO<sub>4</sub> addition for available Nitrogen</li> <li>➤ Fully automatic reaction delay time, steam injection, residue delay time, tube drain, water level monitoring</li> <li>➤ In built safety features</li> </ul>																
56	ANALYTICAL BALANCE.	<ul style="list-style-type: none"> <li>• Max : 220 gm</li> <li>• Readability : 0.01 mg</li> <li>• Pan Size (mm) : 85 Ø</li> <li>• Alpha numeric LCD Display</li> <li>• Perfect Auto Internal</li> <li>• Separate Measurement system</li> </ul> <p><b>Standard Features</b></p> <ul style="list-style-type: none"> <li>• Easy to read Large backlite GRAPHICAL LCD display with A.E.P. (Advanced Eye Protection) (NEW)</li> <li>• Standard RS-232 C interface / Ps2 output.</li> <li>• Hanger for below Balance Weighing</li> <li>• Fully automatic Internal calibration with built in weight</li> <li>• Complies GLP/GMP.</li> <li>• Dye cast aluminium design for long term stability and accurate results</li> <li>• Various weighing units like gm, mg, ct, oz, dwt, mon, GN</li> <li>• User selectable stability and filter level Spacious draft shield interior</li> <li>• Improved Repeatability For Better Result</li> </ul>																
57	INCUBATOR. (SHAKER)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">External Dimensions (W X D X H)</td> <td style="width: 50%;">63 x 68 x 60 cm</td> </tr> <tr> <td>Platform Size (Approximately)</td> <td>45 x 50 cm (±3 cm)</td> </tr> <tr> <td>Chamber Volume (Litres)</td> <td>170 to 200 liters</td> </tr> <tr> <td>Temperature</td> <td>Digital Display Temperature Controller</td> </tr> <tr> <td>Temperature Range</td> <td>Ambient to 60 °C</td> </tr> <tr> <td>Shaking Speed</td> <td>20 RPM to 250 RPM</td> </tr> <tr> <td>Shaking Capacity</td> <td>Interchangeable clamps of assorted sizes for different capacity of flasks.</td> </tr> <tr> <td>Display</td> <td>Digital display of speed with preset facility Automatic restart at preset speed in case of power failure</td> </tr> </table>	External Dimensions (W X D X H)	63 x 68 x 60 cm	Platform Size (Approximately)	45 x 50 cm (±3 cm)	Chamber Volume (Litres)	170 to 200 liters	Temperature	Digital Display Temperature Controller	Temperature Range	Ambient to 60 °C	Shaking Speed	20 RPM to 250 RPM	Shaking Capacity	Interchangeable clamps of assorted sizes for different capacity of flasks.	Display	Digital display of speed with preset facility Automatic restart at preset speed in case of power failure
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		Chamber light	Chamber illumination with fluorescent																												
58	DIGITAL HOTPLATE	<table border="1"> <thead> <tr> <th colspan="2">Technical Specifications</th> </tr> </thead> <tbody> <tr> <td>Magnetic stirrer and digital display</td> <td>yes</td> </tr> <tr> <td>Power (W)</td> <td>1050</td> </tr> <tr> <td>Max. stirring quantity (Water)(Liters)</td> <td>10</td> </tr> <tr> <td>Stirring Paddle (PTFE coated)</td> <td>Q-20A (13 x 50mm)</td> </tr> <tr> <td>Speed range (rpm)</td> <td>100-1500</td> </tr> <tr> <td>Speed display resolution (rpm)</td> <td>1</td> </tr> <tr> <td>Top Plate Material</td> <td>Glass Ceramic</td> </tr> <tr> <td>Dimension of Top Plate (mm)</td> <td>184 x 184</td> </tr> <tr> <td>Heating power (W)</td> <td>1000</td> </tr> <tr> <td>Temperature Range</td> <td>Up to 550°C</td> </tr> <tr> <td>Residual Heating Warning Alarm</td> <td>Above 50°C</td> </tr> <tr> <td>Dimensions (WxDxH) (mm)</td> <td>360x215x112</td> </tr> <tr> <td colspan="2">Supply 220/240 Volts, 50 Hz</td> </tr> </tbody> </table>		Technical Specifications		Magnetic stirrer and digital display	yes	Power (W)	1050	Max. stirring quantity (Water)(Liters)	10	Stirring Paddle (PTFE coated)	Q-20A (13 x 50mm)	Speed range (rpm)	100-1500	Speed display resolution (rpm)	1	Top Plate Material	Glass Ceramic	Dimension of Top Plate (mm)	184 x 184	Heating power (W)	1000	Temperature Range	Up to 550°C	Residual Heating Warning Alarm	Above 50°C	Dimensions (WxDxH) (mm)	360x215x112	Supply 220/240 Volts, 50 Hz	
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59	SOX LET APPARATUS	Soxhlet Extraction Unit (Without glass parts & clamps) Unit of 6 Test Ideal heater for the extractors of Soxhlet and other types. This apparatus is suitable to heat soxhlet flasks. To work on 220/230 A.C. Supply Steel chamber, complete with corrugated rubber tube and mouth piece.																													
60	FRUIT CRUSHER	Crushing fruits and vegetables mounted on heavy duty mild steel stand equipped with motor and starter. Material is fed into stainless steel hopper which fed in to crushing drum, consist of stationary blades and rotary beater which crush loaded product, with 1.0 HP motor.(Cap. 500 kg/hr).																													
61	DIGITAL MEASURING SALT TEMPERATURE	<ul style="list-style-type: none"> <li>LCD Display salt 0.00 to 10. 00%</li> <li>TDS 0-2000 ppm, mg/lit.</li> <li>Temperature- 0-100 °C</li> </ul>																													
62	WATER BATH INCUBATOR SHAKER	<table border="1"> <tbody> <tr> <td>Internal Dimensions (L X WXD)</td> <td>400 x 300 x 150mm</td> </tr> <tr> <td>Approx. Capacity</td> <td>18 Ltr.</td> </tr> <tr> <td>Approx. Heating Load</td> <td>2.5 KW (To work on 220/230V AC supply)</td> </tr> <tr> <td>Top Lid</td> <td>made of Stainless Steel</td> </tr> <tr> <td>Temperature</td> <td>Controlled by microprocessor based digital temperature indicator cum controller.</td> </tr> <tr> <td>Temperature Range</td> <td>Ambient to 90 °C</td> </tr> <tr> <td>Shaking Speed</td> <td>40 to 140 cycles/min.</td> </tr> <tr> <td>Shaking Tray</td> <td>Can hold 12 Erlenmeyer flasks of 250 ml</td> </tr> </tbody> </table>		Internal Dimensions (L X WXD)	400 x 300 x 150mm	Approx. Capacity	18 Ltr.	Approx. Heating Load	2.5 KW (To work on 220/230V AC supply)	Top Lid	made of Stainless Steel	Temperature	Controlled by microprocessor based digital temperature indicator cum controller.	Temperature Range	Ambient to 90 °C	Shaking Speed	40 to 140 cycles/min.	Shaking Tray	Can hold 12 Erlenmeyer flasks of 250 ml												
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63	CENTRIFUGE MACHINE	Table Top General Purpose Centrifuge (Digitally Controlled) With																													

		solid state speed regulator, indication lamp and see through acrylic lid, with head puller but without rotor heads. Maximum speed 5000 rpm. Fitted with digital speed meter and digital timer. Head And Accessories For Above: 16x15 ml. Swing out or angle head.
64	CO2 GAS CYLINDER	Capacity 4.5 kg
65	SEMI AUTOMATIC MICROTOME WITH TOUCH SCREEN PANEL	<ul style="list-style-type: none"> <li>• System should have Touch Screen Panel.</li> <li>• section should be precise, more reliable and quiet.</li> <li>• The touch screen panel shows section and trimming thickness ,section counter ,distance stroke of Clamp, easy to do adjustment of Trimming or Section thickness in the touch screen panel</li> <li>• Should have Special function of specimen retraction which avoid the damage due to the attrition between sample and the back of knife so that the sectioning is more smooth and the life of the knife is more longer .</li> <li>• The hand wheel could be locked in any position to ensure the sectioning as safe and convenient as possible</li> <li>• Should have Universal cassette clamp and standard specimen clamp</li> <li>• The waste tray can be disassembled easily</li> <li>• Safety alarm system, overload protection function, sleep mode protection</li> <li>• System Should have Universal cassette clamp and standard specimen clamp</li> <li>• Systems should have CE, ISO Certified.</li> <li>• Section thickness range : 0- 100um</li> <li>• Setting values : <ul style="list-style-type: none"> <li>From 0-10 um in 1 um- increments</li> <li>From 10-20um in 2um-increments</li> <li>From 20-50 um in 5um-increments</li> <li>From 50-100um in 10 um-increments</li> </ul> </li> <li>• Trimming section thickness range: 0-500um</li> <li>• Precision error :max ± 5%</li> <li>• Less than Net weight : 30kg.</li> <li>• Power Supply : AC110V-220V 50Hz/60Hz</li> </ul> <p><b>Accessories</b> 2 types Clamp,1 Blade Carrier (for disposable blade),1 Waste Tray 4 pcs Tissue Molds , 50 pcs Cassettes, 2 pcs Fuse, Microtome Disposable Blade, Steel Knife</p>
66	GPS	sunlight-readable color screen High-sensitivity GPS and GLONASS receiver with quad helix antenna 3-axis compass with barometric altimeter Wireless connectivity via Bluetooth technology Dual Battery System Long battery life
67	BIOMASS CHARCOAL MACHINE	5 HP Three phase Electric motor, production capacity 150-20 kg/hr, 3 dies, Screw conveyer based, complete installation with foundation cost
68	GREENHOUSE MODEL	Size: 2 x 4.5 x 1 ft. covered with UV stabilized sheet having supporting structure
69	SOLAR WATER HEATER	Flat plate collector having five components like glass cover,

	MODEL	absorber plate with heat transport tubes, Aluminium foil, Glass wool, outer casing, 10 liter water tank with piping and stand
70	RO WATER PURIFIER WITH COOLER 50 LTR.	Type - Hermetically Sealed gas compressor Capacity - 100 lph Cooling Capacity 60 liter Power Consumption - 220 V, 50 Hz Volts Make - Emerson or equivalent Body Make - SS Cooling Temperature - 12° to 18 ° C Pre Filter - 20" 5 Micron Poly Propylene (2 Dia.) Pre Filter - 20" Granulated Activate Shell Carbon (2" Dia.) Carbon Filter - 20" Activated Carbon Block Filter (2 Dia.) Booster Pump - To Pressurize (250 GPD) - 3 Nos. Membrane (300 GPD ) - 3 Nos. Post Carbon Filter - 3 Nos. Production Rate - Up to 100 lph Cooling Tank - 60 liter Normal Tank - 40 liter Recovery - App. 45% Automatic with Float Switch
71	ROOT SCANNER	1.The system should be compact to measure in-situ living roots in the soil 2.Allows observing root growth and behaviour during an entire growing season 3.Portable, quickly operated and designed to scan living roots in the soil. 4.Linear scanning with no distortion 5.The image should be analyzed with imaging analysis software imaging analysis software with facility to zoom in any area of image to see the details of living roots and dead roots. 6.Measurement option for root length, width etc. and soil particles. 7. Scanner resolution: Up to 25 million pixels (approx.) super high resolution image (approx 500- 1000 dpi). 8.Scan Speed: 300 DPI 9.Image Size: 21.6W X 19.6L cm OR more (Approx.) 10. Interface: USB port · 11. Power Supply : Computer USB port/ 12. Standard Clear Tube, Dimensions: 6.4 inner diameter X 105cm length OR custom should available for specific crops/small plants · 13. Scanner Unit Weight: Portable & light weight · 14. Portable, quickly operated and designed to scan living roots in the soil. 15. Linear scanning with no distortion. · 16. Supplied with compatible laptop computer with preloaded MS office software and other root analysis software scanner, scanning software and a laptop computer for field operation, an USB connecting cable, Root image analysis software · 17. Supplied with scanner, a laptop computer for field operation, an USB connecting cable, Root image analysis software. Auger set with 3" diameter 34" length, 3 standard clear tubes with end caps and manual.
72	SURFACE PLATE WITH TABLE	Granite Surface Plate Size: 1000 x 1000 mm Grade: 02 Thickness 150 mm The Table fabricated of heavy angle iron with leveling screws. The overall working height of surface plate with stand and leveling screw will be 900 mm (approx), from floor level. The stands are designed to withstand the weight of the granite surface plates. Plate will be supply with a suitable Rexine Cover to protect both the working surface and side faces of the plate
73	VERNIER HEIGHT GAUGE	Vernier Height Gauge (Only Standard Make) Specification: 0-600mm/24" Resolution: 0.02mm/0.001" Accuracy: ±0.04mm Made of stainless steel, With magnifier reading glass, can help to Vernier to read that the number obtain, The main ruler is adjustable, adjustable opposite zero, Carbide tipped scriber and case/cover
74	GEAR MODELS (SPUR GEAR WITH INTERMEDIATES, WORM GEAR, HELICAL GEAR, EPICYCLIC	Gears are to be used for Demonstration purpose of students and made from hard cast iron Spur gear with intermediates, Worm Gear, Helical gear, Epicyclic gear Sun and Planet type, Differential gear, Herringbone gear



	GEAR SUN AND PLANET TYPE, DIFFERENTIAL GEAR, HERRINGBONE GEAR )																	
75	MECHANISM MODEL	<ol style="list-style-type: none"> <li>1. Four bar Mechanism</li> <li>2. Hand pump Mechanism</li> <li>3. Simple jeep crane apparatus</li> <li>4. Triangle and polygon of forces apparatus</li> <li>5. Slider Crank Mechanism</li> <li>6. Scotch Yoke Mechanism</li> <li>7. Inclined plane apparatus</li> </ol> <p>All Mechanism Should be standard for laboratory purpose</p>																
76	CUT SECTION MODEL OF LUBRICATION SYSTEM OF 4 CYLINDER PETROL ENGINE	Standard live working model (Made from Cast Iron) Combination of splash and forced feed lubrication system Size 3 feet x 2 feet and mounted on frame 1.5 feet height Component having cut section of splash trough ,oil deeper scoop, lubrication gear pump, supply line, timing gear fan, piston, cylinder, oil filter etc.																
77	ONLINE UPS	<table border="1"> <tr> <td>Capacity</td> <td>15 KVA or Higher (3 Phase input – 1 Phase output)</td> </tr> <tr> <td>Input</td> <td>Voltage range: 320 - 480 V Frequency range: 50 ± 10Hz Generator input support Power factor: &gt; 0.8 or above</td> </tr> <tr> <td>Output</td> <td>Voltage: 220/230/240 V± 1% Frequency: 50Hz ± 0.1%</td> </tr> <tr> <td>Transformer base</td> <td>Isolation transformer</td> </tr> <tr> <td>Battery</td> <td>Type: Sealed maintenance free Backup: Minimum 2 hour or more</td> </tr> <tr> <td>Protection</td> <td>Over and under voltage at input Output short circuit Optional manual/static bypass</td> </tr> <tr> <td>Indicator and Alarm</td> <td>LED/LCD base indicator system</td> </tr> <tr> <td>Certification</td> <td>ISO certified with CE certification</td> </tr> </table>	Capacity	15 KVA or Higher (3 Phase input – 1 Phase output)	Input	Voltage range: 320 - 480 V Frequency range: 50 ± 10Hz Generator input support Power factor: > 0.8 or above	Output	Voltage: 220/230/240 V± 1% Frequency: 50Hz ± 0.1%	Transformer base	Isolation transformer	Battery	Type: Sealed maintenance free Backup: Minimum 2 hour or more	Protection	Over and under voltage at input Output short circuit Optional manual/static bypass	Indicator and Alarm	LED/LCD base indicator system	Certification	ISO certified with CE certification
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78	MINI TRACTOR	<ul style="list-style-type: none"> <li>➤ 18-20 HP Self start</li> <li>➤ Diesel engine</li> <li>➤ 3 cylinder 4-wheel drive with reverse gear</li> <li>➤ Power steering</li> <li>➤ Compact model</li> <li>➤ Suitable for both wet and dry land</li> <li>➤ Adjustable track width</li> <li>➤ Automatic depth and draft control, Hydraulic control</li> <li>➤ Ground clearance up to 180-200 mm</li> <li>➤ Plough depth up to 200-220 mm</li> <li>➤ Tilling depth up to 120-150 mm</li> <li>➤ Suitable for different operations like rotary, cultivator, ploughing, pudling, sprayer and transportation</li> </ul>																
79	WHEEL TROLLY	<ul style="list-style-type: none"> <li>➤ Can be operated with mini tractor</li> <li>➤ Minimum one folded hedge</li> </ul>																

		<ul style="list-style-type: none"> <li>➤ Low weight</li> <li>➤ Easily movable</li> <li>➤ Carrying Capacity 800-1000kg</li> </ul>
80	PAR LINE SENSOR WITH METER	<ul style="list-style-type: none"> <li>➤ workmanship Calibration Uncertainty : <math>\pm 5\%</math></li> <li>➤ Measurement Repeatability : Less than 1 %</li> <li>➤ Non-stability (Long-term Drift): Less than 2 % per year</li> <li>➤ Non-linearity : Less than 1% (up to <math>3000 \mu\text{mol m}^{-2} \text{s}^{-1}</math>)</li> <li>➤ Response Time : Less than 1 ms</li> <li>➤ Field of View : <math>180^\circ</math></li> <li>➤ Spectral Range : 410 nm to 655 nm (wavelengths where response is greater than 50 % of maximum)</li> <li>➤ Directional (Cosine) Response : <math>\pm 5\%</math> at <math>75^\circ</math> zenith angle</li> <li>➤ Temperature Response : <math>0.06 \pm 0.06\%</math> per C</li> <li>➤ Operating Environment : 0 to 50 C, less than 90 % non-condensing relative humidity up to 30 C, less than 70 % non-condensing relative humidity from 30 to 50 C, Separate sensors can be submerged in water up to depths of 30 m</li> <li>➤ Meter Dimensions : 126 mm length, 70 mm width, 24 mm height</li> <li>➤ Sensor Dimensions : 700 mm length, 15 mm width, 15 mm height</li> <li>➤ Mass : 380 g</li> <li>➤ Cable : Min. 2m of shielded, twisted-pair wire. Santoprene rubber jacket (high water resistance, high UV stability, flexibility in cold conditions)</li> <li>➤ Warranty : 4 years against defects in materials and workmanship</li> </ul>
81	PYRANOMETER WITH METER	<ul style="list-style-type: none"> <li>➤ Non-stability (Long-term Drift) : Less than 2 % per year</li> <li>➤ Non-linearity : Less than 1 % (up to <math>1750 \text{Wm}^{-2}</math>)</li> <li>➤ Response Time : Less than 1 ms</li> <li>➤ Field of View : <math>180^\circ</math></li> <li>➤ Spectral Range : 360 nm to 1120 nm (wavelengths where response is greater than 10 % of maximum)</li> <li>➤ Directional (Cosine) Response : <math>\pm 5\%</math> at <math>75^\circ</math> zenith angle</li> <li>➤ Temperature Response : <math>0.04 \pm 0.04\%</math> per C</li> <li>➤ Operating Environment : 0 to 50 C, less than 90 % non-condensing relative humidity up to 30 C, less than 70 % non-condensing relative humidity from 30 to 50 C, Separate sensors can be submerged in water up to depths of 30 m</li> <li>➤ Meter Dimensions : 126 mm length, 70 mm width, 24 mm height</li> <li>➤ Sensor Dimensions : 24 mm diameter and 28 mm height</li> <li>➤ Mass : 180 g</li> <li>➤ Cable : Min. 2m of shielded, twisted-pair wire. Santoprene</li> </ul>

		<p>rubber jacket (high water resistance, high UV stability, flexibility in cold conditions)</p> <ul style="list-style-type: none"> <li>➤ Warranty : 4 years against defects in materials and workmanship</li> </ul> <p><b>B.1 Sensor Leveling Plate with accessories</b></p> <ul style="list-style-type: none"> <li>➤ Weight : 0.113 kg (0.25 lb)</li> <li>➤ Dimensions : 7.938 x 0.7938 cm (3.125 x 0.3125 in)</li> </ul> <p><b>B.2 Sensor Mounting Bracket with accessories</b></p> <ul style="list-style-type: none"> <li>➤ Weight : 0.32 kg (0.7 lb)</li> <li>➤ Dimensions : 8.89 x 11.43 x 6.35 cm (3.5 x 4.5 x 2.5 in)</li> </ul>
82	WATER PURIFICATION SYSTEM (BYBACK SCHEME TO BE PROVIDED)	<ul style="list-style-type: none"> <li>i) Resistivity &gt; 5 MΩ·cm</li> <li>ii) Typically 10 to 15 MΩ·cm</li> <li>iii) Conductivity &lt; 0.2 μS/cm,</li> <li>iv) Typically 0.067 to 0.10 μS/cm</li> <li>v) TOC typically &lt; 30 ppb</li> <li>vi) Bacteria count &lt; 1 cfu/ml</li> <li>vii) [CO<sub>2</sub>] ≤ 30 ppm in feed water</li> </ul>
83	YODER TYPE MOTOR DRIVEN SIEVE SHAKER FOR WET SIEVE ANALYSIS OF SOIL WITH WATER RESRVOIR & 4 HOLDERS OF 8" DIAMETER FOR 7 SIEVES	<ul style="list-style-type: none"> <li><input type="checkbox"/> The shaker is driven by ½ HP motor (Branded) through a belt drive, Shaker mechanism moves the sieves up and down in the reservoir, The reservoir has a water outlet for draining out the used water.</li> <li><input type="checkbox"/> Fitted with heavy duty motor.</li> <li><input type="checkbox"/> Electrically Operated.</li> <li><input type="checkbox"/> Suitable to operate on 230 volts, 50 cycles, single phase A.C.</li> <li><input type="checkbox"/> Features: Corrosion-resistance, High strength, Sturdy construction</li> <li><input type="checkbox"/> Unit with Automatic Digital ON/OFF Timer</li> <li><input type="checkbox"/> ISO Certification</li> <li><input type="checkbox"/> Capacity: For 4 sets with four holders</li> </ul>
84	AUTOMATIC CRUDE FIBRE ANALYSER	<p>Automatic four place PC computable autosequencing regular version fibre estimation system.</p> <p>For estimation of crude fibre analysis, NDF, ADF,ADL, cellulose, hemicelluloses, lignin and related parameters in plant material, compound feed, food etc (in accordance with weende, van soset and other recognised methods)</p>