



*Sher-e-Kashmir*  
**University of Agricultural Sciences & Technology of Jammu**  
**Central Purchase Committee, Chatha, Jammu (J&K)- 180009**

**NIT No: AU/CPC/2018-19/05**

**Date:05-03-2019**

**Notice Inviting e-Tender**

On behalf of the Vice-Chancellor, SKUAST-Jammu, online tenders are hereby invited from the manufacturers, reputed and authorized distributors/ dealers/suppliers for purchase and installation of Machinery and Lab. Equipments.

Date of submission of tender: 06-03-2019 to 26-03-2019 upto 11.50 AM  
Date of opening tenders: 26-03-2019 at 2:00 PM

For detailed information, please visit university website [www.skuast.org](http://www.skuast.org) and [www.jktenders.gov.in](http://www.jktenders.gov.in)

Sd/  
**Member Secy. (Equipments)**  
**Central Purchase Committee**

No: AU/ CPC/2018-19/692-95  
Date: 05-03-2019

Copy to:

1. Chairman CPC, SKUAST-J, Main Campus Chatha
2. Estates Officer, SKUAST-J for uploading on the website [www.jktenders.gov.in](http://www.jktenders.gov.in)
3. Incharge Data Centre for uploading on University Website
4. SVC for timely Publishing of NIT in one national daily and two local dailies for wide publicity.



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Date of submission of tender: 06-03-2019 to 26-03-2019 upto 11.50 AM

Date of opening tenders: 26-03-2019 at 2:00 PM

**Pre-eligibility Conditions:**

The Pre-eligibility Bid should be submitted in separate sealed envelope duly superscribed as **Pre-eligibility bid** which should contain the following documents:

- i. Copy of GST certificate.
- ii. The copy of the relevant ISO/ BIS certificates.
- iii. Copy of PAN/GST Card of the firm/ Authorized Dealership.
- iv. Copy of Registration of Firm
- v. Undertaking of not being blacklisted by any Govt. Agency/ department.
- vi. List of clients presently being served (Agricultural Universities/ Educational Institutes/National Institutes/others separately in the last three years) with Contact name & address with mobile no.
- vii. Certificate for successful completion of similar nature of work at any other organization.
- viii. Bank Details on letter head along with cancelled cheque.
- ix. Offers should be accompanied by a DD of Rs.1000/- (non-refundable) in favour of "Comptroller, SKUAST-Jammu" payable at Jammu towards the Tender fee.
- x. Offers should be accompanied by a CDR/FDR as specified against each Item (refundable) pledged in favour of "Comptroller, SKUAST-Jammu" towards Earnest Money Deposit.
- xi. Those firms who have submitted tenders in response to NIT NO. AU/CPC/18-19/03, dated 08-02-2019, need not apply again.

**Terms & Conditions**

1. The tenders shall only be entertained on the prescribed form of the University. The tender shall be liable to be rejected if it contains mutilation, overwriting and corrections without due attestation by the tenderer.
2. No tender without earnest money in the shape of CDR shall be entertained. The CDR of unsuccessful tenderers shall be released within one month after the purchase process is finalized.
3. Conditional tenders shall be rejected out rightly.
4. The hard copies of the pre-eligibility documents must reach in the office of the Member Secretary (Equipments), Central Purchase Committee, School of

Biotechnology, SKUAST-Jammu, Main Campus, Chatha, Jammu-180009 not later than the specified date and time as stipulated in the NIT.

5. The envelop in which pre-eligibility documents are submitted must be superscribed as "Procurement of Laboratory Equipments with Item No. and name of the item(s) for which tenders have been submitted".
6. The successful tenderer shall enter into sale agreement on affidavit worth Rs. 100/- as per the terms and conditions given in Annexure-III
7. 100% payment shall be made on installation and commissioning of the equipment. However, the tenderer shall have to furnish a performance bank guarantee equivalent to 5% of the total cost of the equipment(s).
8. The quality of the Laboratory Equipment should conform to the highest standards as per relevant BIS/ISO specifications.
6. Tenderers must state categorically whether or not their offer is exact to tendered specifications and indicate deviations, if any, failing which their offer will be ignored.
7. Tenderers shall enumerate the operational experience in similar environment of the equipment offered along with the names, addresses and other references of user's installations.
8. Late, delayed and incomplete tenders and amendments and additions to the tender after opening of the same will not be accepted.
9. The Tenderers should include in their tender, provision for tools and initial stock of maintenance spares as are essential for proper operation and will ensure maintenance of the equipment/ spares for a minimum period of 15 years. Full particulars of the spare parts should be provided separately.
10. The successful tenderer shall be responsible for erection and installation of the equipment at destination sites and for making it fully operational.
11. The tenderers must provide complete details of space and all infrastructural needs of the equipment which SKUAST-J should arrange before the arrival of the equipment in SKUAST-J to ensure its early installation and smooth operation thereafter.
12. The tenderer shall be fully responsible for the manufacturer's warranty in respect of proper design, quality and workmanship of the equipment (s) accessories etc. covered by the tender for a period of atleast 12 months from the date of satisfactory installation/commissioning of the system. The provision for extended warranty with terms and conditions thereof, if any, may also be specifically mentioned.
13. The tenderers shall make provision for imparting training to our scientists/ maintenance staff on operation and use of Laboratory Equipments, its accessories and trouble shooting repair and maintenance. Cost, if any, of such training and the details regarding the course covered and its duration should be specified.
14. The tenderer should enclose a certificate with the tender stating that
  - i) The equipment is of the latest technology.

- ii) The equipment may be upgraded as and when required by SKUAST-J and
  - iii) The equipment shall be promptly and properly serviced by them whenever desired and such service will remain available to SKUAST-J for 15 years from the date of its installation.
15. Prices should be quoted in the Format as per Annexure – II and must be inclusive of transit insurance, freight, installation and commissioning at destination sites. Discount, if any, should be shown separately. Additional charges on account of Excise Duty, GST, Entry Tax or any other charge / levy must be specifically quoted.
  16. The offer should be valid for a period of 180 days from the specified date of opening of the tenders.
  17. The tenderers and their authorized representatives are at liberty to be present at the time of opening of the tenders.
  18. The competent authority of SKUAST-J does not bind itself/himself to accept the lowest or any tender & reserve the right of accepting the whole or any part of the tender or portion of the quantity offered and the bidders shall supply the same at the rate quoted.
  19. The equipment to be supplied shall not pass to the SKUAST-J unless and until the equipment has been delivered, installed / commissioned and accepted, in accordance with the conditions of the contract and to the entire satisfaction of the competent authority of SKUAST-J.
  20. The University shall not be responsible for any theft or loss sustained by the tenderer during the period of commissioning/installation. In the event of injury or mishap or illness to any of his worker, the University will not be responsible for any compensation.
  21. The tenderer shall be fully responsible for any damage to the University property/ furniture, if any provided to them by the University.
  22. The competent authority i.e., Vice-Chancellor, SKUAST - Jammu reserves the right to revise or alter the specifications of the equipment before the acceptance of the tender.
  23. All questions, disputes, or difference arising under and out of, in connection with the contract shall be subject to the Courts at Jammu (J&K).

Sd/

**Member Secretary (Equipments)**  
**Central Purchase Committee**

No: AU/ CPC/2018-19/692-95  
Date: 05-03-2019

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Sale Agreement

**SALE PURCHASE AGREEMENT**

This agreement has been executed on ..... day of ....., 20-- between M/S \_\_\_\_\_ (hereinafter called the 'Supplier') which expression shall, unless excluded by or repugnant to the context, be deemed to include his executors, representatives, administrators, successors and assigns of the **One Part** and the Vice-Chancellor of Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (hereinafter called SKUAST-Jammu) which expression shall unless excluded by or repugnant to the context be deemed to include his successors in office and assigns of the **Other Part**.

WHEREAS SKUAST-Jammu intends to purchase ----- for the -----, SKUAST-Jammu for the year 2018.

WHEREAS the Supplier has agreed to supply the ----- required by SKUAST-Jammu ;

WHEREAS SKUAST-Jammu has placed the order for the supply of ----- with the Supplier / Agent vide No.----- dated .....for placing the direct order with the Foreign Publishers on behalf of SKAUST-Jammu and the Supplier has submitted his willingness in writing for accepting the job of supplying these CD Data Bases;

NOW this agreement witness as follows:

1. The Supplier will make payment form their own source on our behalf for the ----- ordered with them. Afterwards they will raise their bills alongwith the proof of Bank remittance for the amount of the title paid alongwith the proof of exchange rates prevailing on the date of remittance of the subscription amounts to the publishers concerned alone will be accepted against production of bank memo for verification of conversion rates charged in the invoices. The bills of the Supplier will be processed immediately on its receipt.
2. The Supplier shall provide security deposit if any of the total value of order in the shape of Fixed Deposit for a period of 1 year duly lien marked in favour of Comptroller, SKAUST-Jammu.
3. The Supplier shall provide discount if any on the total value of order for supply of equipment which will be deducted from the bill amount itself.
4. Issues of equipment so ordered shall be delivered at SKUAST-J main Campus Chatha District, Jammu (J&K) which will be subject to verification of correctness of supplies to the order placed.

5. Installation, commissioning and demonstration of the equipment has to be done by the Supplier without charging any additional charges.
6. The Supplier will provide all the facilities such as warranty period mentioned in the quotation and other services needed from time to time for the maintenance of the equipment.
7. The Supplier shall be responsible for the job assigned and provide his own man power and no staff will be provided by SKUAST-Jammu.
8. That the Workers deployed by the Supplier shall be well behaved and should obey the orders of University or anybody authorized on his behalf.
9. Staff deployed by the Supplier shall be staff of the Supplier for all purposes and the SKUAST-J shall have no liability on any account. The Supplier shall be liable to comply with requirement of Labour laws applicable and after termination / completion of the work staff shall have no claim against the SKAUST-J for further engagement or regularization.
10. Supplier shall bear the stamp duty, payable on agreement.
11. The Supplier will work under the overall supervision / directions of the SKAUST-Jammu or any other officer who may be specifically authorized in writing in this behalf.
12. The SKUAST-Jammu reserves the right of terminating the Contract by giving one month's notice.
13. All disputes and differences arising out of or in way touching or concerning this agreement (except the decision whereof is otherwise herein before provided for) shall be subject to the jurisdiction of Courts at Jammu.

In witness thereof the parties hereto have signed this agreement ..... day and the year first above written.

**Signature of the approved Supplier  
( with seal)**

**Signature for and on behalf of the  
SKUAST-Jammu**

1.Witness. ....  
Address .....  
.....

1.Witness .....  
Address .....  
.....

Dated .....

Dated .....

2.Witness. ....  
Address .....  
.....  
Dated .....

2.Witness .....  
Address .....  
.....  
Dated .....

NIT No: AU/CPC/2018-19/03

Date: 08-02-2019



*Sher-e-Kashmir*  
University of Agricultural Sciences & Technology of Jammu  
Head Office, Admn. Block Main Campus Chatha,  
Jammu (J&K)- 180009

## **TENDER FORM**

Cost of tender document received vide Bank Draft / Cash Receipt No. \_\_\_\_\_  
Dated \_\_\_\_\_ for Rs. 1,000/-

### **Tender for: - Procurement of Laboratory Equipments**

**Earnest Money** amounting to Rs. \_\_\_\_\_ in the shape of Bank  
CDR / FDR No. \_\_\_\_\_ Dated \_\_\_\_\_ of  
\_\_\_\_\_ Bank enclosed.

To,

**The Comptroller  
SKUAST of Jammu  
Chatha, Jammu.**

I/We \_\_\_\_\_ S/o.Sh. \_\_\_\_\_

R/o \_\_\_\_\_ Prop.M/s \_\_\_\_\_

\_\_\_\_\_ hereby tender for Fabrication of Polyhouses at SKUAST-Jammu  
Main Campus Chatha and declare as under :-

1. That I/We have sufficient experience for supply of laboratory equipments etc .
2. That I/We have carefully gone through the terms and conditions of the NIT and bind myself/ourselves to adhere to the quality and quantity parameters and rates.
3. That the rates quoted in the enclosed tender form have been written by me / us under my/our personal supervision and are firm.
4. That I/We shall be bound by the SKUAST of Jammu's instructions regarding quality and quantity of materials and other condiments.
5. That the revenue stamps worth Rs. 5/- have been affixed by me/us.
6. The rates quoted for each Laboratory Equipment are given as per Annexure-I

**Name and address of the tenderer**

## Annexure-II

### FORMAT FOR QUOTING OF PRICES TO Laboratory EQUIPMENTS

NAME OF THE EQUIPMENT \_\_\_\_\_

S.No.	Specification as per NIT	Specification of Quoting Firm	Name of the Firms with complete address/ Ph. No. Fax, etc	Unit Price (Rs. /€ /£/\$)	Terms & Conditions
		Deviation if any between the Specification as per NIT and Specification of		(a) cost of total unit _____ (b) Taxes _____ (c) Carrying forwarding, air freight, insurance, transportation charges, etc (item wise) _____ (d) Training cost (if any) _____ e) State Entry Tax if applicable _____ <b>Total Cost at Jammu</b> _____	FOR  Mode of payment  Delivery period  Warranty



		<b>Quoting Firm</b> <hr/> <hr/> <hr/>			
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The prices to be quoted should be equipment wise and separate page should be used for every equipment.

**Signature of the tenderer  
(With Company Seal)**

## List of Equipments/Instruments

Item No.	Name of the Equipment/Instrument	Detailed Specifications	Qty.	Budgetary Provision (Rs.)	EMD (Rs.)
01	<b>Refrigerated Table Top Centrifuge</b>	<ul style="list-style-type: none"> <li>• Table top centrifuge for high volume applications</li> <li>• Temp. range -9 to + 40 deg C</li> <li>• Centrifuge should have a minimum capacity of 1Litter</li> <li>• Short spin key</li> <li>• Rotor imbalance indicator</li> <li>• Fast cool option &amp; stand by cooling</li> <li>• Facility to put “at set rpm” function</li> <li>• 10 acceleration &amp; 10 breaking ramps</li> <li>• Should have a 35 user-defined programs</li> <li>• Ability to spin 15 ml and 50 ml falcon tubes and U-shaped bottom tubes at 11000 rpm</li> <li>• Adaptor should be available for volumes from 1.5 ml to 85 ml in the Fixed angle rotor. (Such as 2ml, 7ml, 15 ml , 18ml,20ml, 30ml,50ml)</li> <li>• Swing-bucket rotors and adapters accommodate tubes and bottles from 0.2 mL to 250 mL.</li> <li>• Ability to spin Plate rotor for centrifugation of all types of MTP, PCR, cell culture, or Deepwell Plates</li> <li>• Power Consumption should not more than 1650W</li> <li>• Noise level should not more than &lt;58 dB</li> <li>• Should have a built in condensation drain to avoid the corrosion of the chamber.</li> <li>• Centrifuge should be European CE Certified.</li> <li>• IQ,OQ,PQ should be provided at the time installation.</li> </ul> <p>Required Rotors:</p> <ul style="list-style-type: none"> <li>• Fixed angel metallic autoclaveable rotor with 14000rpm or 20000 g or more.</li> <li>• 6x15/50ml tubes fixed angel metallic and autoclavable rotor with minimum 14400g/11000rpm or more</li> <li>• Swing out metallic autoclvaeable rotor for 2 PCR/10MTP/8 Cell Culture plates/4DWP with 2000g/3600rpm or more.</li> </ul>	01	615000.00	12300.00

02	Infrared thermometer/Radiometer	<ul style="list-style-type: none"> <li>• Calibration Uncertainty : <math>\pm 0.3</math> C (-20 to 65 C)</li> <li>• Measurement Repeatability : <math>\pm 0.1</math> C</li> <li>• Field of view : 22° half angle</li> <li>• Spectral Range : 8 to 14 <math>\mu</math>m; atmospheric window</li> <li>• Operating Environment : 0 to 50°C</li> <li>• Meter Dimension : 12.6 cm length,7.0cm width, 2.4 cm height</li> <li>• Cable : more than 2m of four conductor, shielded, Twisted-pair wire Additional cable required Santoprene rubber jacket (high water resistance, high UV stability, flexibility in cold conditions)</li> </ul>	01	160000.00	3200.00
03	Line Quantum Sensor	<ul style="list-style-type: none"> <li>• Calibration Uncertainty : +5%</li> <li>• Measurement Repeatability : Less than 1%</li> <li>• Long-term Drift : Less than 2%</li> <li>• Non-linearity : Less than 1% (up to 3000 <math>\mu</math>mol m<sup>-2</sup> s<sup>-1</sup>)</li> <li>• Response time : Less than 1 ms</li> <li>• Field of view : 1800</li> <li>• Spectral range : 410 to 655 nm (wavelength where response is greater than 50% of maximum)</li> <li>• Directional (Cosine) response : +5% at 750 angle</li> <li>• Temperature Response : 0.06+0.06% per c</li> <li>• Meter Dimensions : 113.9 mm height 59.9 mm width</li> <li>• Cable : 2 mm of shielded, twisted-pair wire; additional cable available; TPR jacket (high water resistance, high UV stability flexibility in cold conditions).</li> </ul>	01	115000.00	2300.00
04	Digital SLR with zoom kit lens	<ul style="list-style-type: none"> <li>• 24MP - Full frame Sensor</li> <li>• Tilting/flip-out LCD Screen</li> <li>• 1920x1080 video resolution</li> <li>• Built-in Wireless</li> <li>• 1230 shot battery life</li> <li>• Double card slot</li> <li>• Built-in flash</li> <li>• Full HD movie up to 60p</li> <li>• Build-in HDR and time lapse</li> <li>• 6.5 fps continuous shooting</li> <li>• ISO up to 12800</li> <li>• 51 autofocus points</li> <li>• With 24-120 mm VR zoom lens kit</li> </ul>	01	148000.00	2960.00

05	Gravity Based Water Purifier	<ul style="list-style-type: none"> <li>• Gravity based water purification, non-electric with storage</li> <li>• Capacity 23 litres, with water storage capacity 9 litres</li> <li>• 4-stage water purification, Manual filling</li> <li>• Food grade non-toxic plastic</li> <li>• Activated Carbon Germ-kill Processor, purification up to 1500 litres of water</li> <li>• Transparent chamber</li> <li>• Warranty minimum 6 months against manufacturing defects</li> </ul>	100	260000.00	5200.00
06	Rotary manual Microtome	<ul style="list-style-type: none"> <li>• With 2-step mechanical trimming,</li> <li>• Silent retraction with ON/OFF selection,</li> <li>• Ergonomically positioned lateral coarse feed wheel with user selectable turn directions</li> <li>• Unique large volume magnetized anti-static section waste tray,</li> <li>• Precision orientation with quick clamping system for specimen clamps,</li> <li>• Universal cassette clamp,</li> <li>• Two-in-one blade holder E for high and low profile blades with lateral displacement function, with colored safety guard and safe blade ejection</li> <li>• Blade holder base for two-in-one blade holder E.</li> <li>• Two independent hand-wheel locking systems.</li> <li>• Operator-adjustable force balancing system with spring force compensation</li> <li>• Section thickness setting 1-60 <math>\mu\text{m}</math></li> <li>• Trimming section thickness setting 10 <math>\mu\text{m}</math>, 30 <math>\mu\text{m}</math></li> <li>• Specimen feed Max. 24 mm <math>\pm</math> 2 mm</li> <li>• Max. specimen size up to 68 x 48 x 15 mm</li> </ul>	01	826000.00	16520.00
07	Horizontal Gel Electrophoresis Unit with Power Pack (Maxi Unit)	<ul style="list-style-type: none"> <li>• Complete set should be provided that should include base gel running unit, safety lid, at least two sets of each type of casting trays and combs.</li> <li>• Gel trays should be UV-transparent with fluorescent ruler</li> <li>• Electrodes should be easy to remove for easy cleaning</li> <li>• Should have gel-casting gates to cast gels right in the cell, should also be provided with gel caster with a feature of leak proof and tape-free casting</li> </ul> <p>Specifications for Gel Caster and Combs</p> <ul style="list-style-type: none"> <li>• Dimensions (LXWXH) (cm): 52x28x10</li> <li>• Gel size (WXL) (cm): 26x32</li> <li>• Combs sizes (2 sets of combs): 0.75 mm to 1 mm (25 to 100 wells) and 1.5 mm to 2 mm (25 to 100 wells)</li> <li>• Sample throughput: upto 300</li> <li>• Base buffer volume: 1200-1400ml</li> <li>• Bromophenol blue dye migration rates should be 4.5 cm/hr</li> <li>• No. of Trays: 2</li> </ul>	01	155000.00	3100.00

		<p>Specifications for Power Supply:</p> <ul style="list-style-type: none"> <li>• Power Supply should be suitable for horizontal gel electrophoresis, semi-dry and mini tank blotting.</li> <li>• Constant voltage and constant current modes with automatic crossover</li> <li>• Output Voltage: Adjustable from minimum voltage 5-10V to maximum voltage 300-350V with an increment of 1 V or less</li> <li>• Output Current: up to 400/500 mA with increment of 1 mA or less</li> <li>• Output power: Maximum output power should be between 70 to 100 W</li> <li>• Should have at least 4 pairs of terminals / sockets</li> <li>• Digital display (LED)</li> <li>• Safety: All necessary safety provisions like over load, No load, Sudden change in load, power failure indication, Over Temperature and safe plugs and sockets</li> <li>• Input Voltage: 230V <math>\pm</math>10VAC, 50Hz</li> </ul>			
08	Spectrometer with Nano Volume identification (Nano drop)	<ul style="list-style-type: none"> <li>• Quantification of sample volumes from 'Microlitres to Millilitres'.</li> <li>• Optics must have the combination of xenon flash lamp with holographic aberration-correctedconcave grating and receiver as CMOS photodiode.</li> <li>• Operating principle must be with two beams: Absorption single-beam spectrophotometer withthe reference beam.</li> <li>• Instrument should operate moment switched on with no warming up time.</li> <li>• Should be compact &amp; stand-alone system to handle sample volume ranging from 1.5 <math>\mu</math>L to 4 mL.</li> <li>• UV/Vis wavelength range from 200 nm to 830 nm, with spectral scanning feature.</li> <li>• Low volume measuring surface must be of quartz and must be hydrophobic.</li> <li>• System should also allow using conventional quartz/glass/plastic cuvettes in addition to lowvolume measurement.</li> <li>• Must allow rapid and reliable quantification of Nucleic acids and proteins, OD600, dye methods(to calculate the FOI (both nucleic acid &amp; protein).</li> <li>• Should allow acquire data at user-defined wavelengths from 200 nm to 830 nm and at userpreferred pathlength</li> <li>• Detection range for dsDNA: 2.5 ng/<math>\mu</math>L – 1500 ng/<math>\mu</math>L (with defined pathlength of 1 mm).</li> <li>• Concentration via standard series must have curve fit evaluations viz., Regressions (linear,cubical, quadratic), and Interpolations (linear &amp; Spline) with curve sections in detail with viewdirectly on the instrument display.</li> <li>• Should allow transfer of measured data to PC by connecting the device directly to PC withoutany additional software in addition to transfer the</li> </ul>	01	600000.00	12000.00

		<p>data via USB stick.</p> <ul style="list-style-type: none"> <li>• Must have evaluation methods with factor, standard or standard series.</li> <li>• Must have Multi – wavelength, Dual-wavelength applications with subtraction and division analysis.</li> <li>• Pre-programmed methods for a quick start.</li> <li>• Direct operation on the device.</li> <li>• Measuring results (&gt;1,000) can be saved directly on the device.</li> <li>• &gt;100 method programs in memory.</li> <li>• Spectral band width: &lt; 4 nm</li> <li>• Photometric measuring range: 0 A to 3.0 A at 260 nm</li> <li>• Random error: <math>\leq 0.002</math> if A = 0, <math>\leq 0.005</math> (0.5 %) if A = 1</li> <li>• Systematic error: <math>\pm 1\%</math> if A = 1</li> <li>• Instrument should be European CE Certified.</li> <li>• Instrument should be supplied with disposable uvettes pack of 80.</li> <li>• Instrument should be supplied with MacOS based operating system, 8Gb RAM, 128gb Solid State hard drive system to save the data from spectrophotometer.</li> <li>• Instrument should have one year warranty</li> </ul>			
09	Raw Milk Quality Analyser with Adulteration Screening	<ul style="list-style-type: none"> <li>• Range for FAT, SNF and Protein in Raw unhomogenised Cow, Buffalo as well as mixed Milk Samples. Values of each Milk Parameters should be independent. <ul style="list-style-type: none"> <li>a. 0-13% Fat</li> <li>b. 0-8% Protein</li> <li>c. 0-15% SNF</li> </ul> </li> <li>• Accuracy of the Instrument <ul style="list-style-type: none"> <li>a. Fat: 0.10 SD – (Ref method Rose-Gottlieb)</li> <li>b. Protein: 0.08 SD – (Ref method Kjeldahl)</li> <li>c. SNF: 0.14 SD – (Ref method Oven drying minus Fat)</li> </ul> </li> <li>• Repeatability <ul style="list-style-type: none"> <li>a. Fat: 0.04 SD</li> <li>b. Protein: 0.04 SD</li> <li>c. SNF: 0.08 SD</li> </ul> </li> <li>• Instrument should be able to detect five specific adulterations with their name and able to identify difference between pure and non – pure milk spectrum</li> <li>• Adulteration in Milk should not affect the result of SNF value</li> <li>• Analysis speed required: 70 – 80 Samples per hours</li> </ul>	01	400000.00	8000.00

		<ul style="list-style-type: none"> <li>• Sample Quality: Raw Milk in a temperature range of 5<sup>0</sup>C – 40<sup>0</sup>C</li> <li>• Sample Volume: Should be minimal around 5 ml</li> <li>• Display: LCD, Graphical Display</li> <li>• Data Interface: SD Card and RS 232</li> <li>• Conformance: IP41</li> <li>• Electrical Interface: 12V DC, Power Consumption &lt;40 W</li> <li>• Built-in Diagnostics: Interferometer test Cuvette test Stability test Cleaning Message display Error Message display</li> <li>• Technology of analyser should be meet / approved by global standards IDF and AOAC for Milk Analysis based on spectrum technology.</li> <li>• Instruments should be operated in field conditions of Chilling Centres, Bulk Milk Coolers and Village Level Milk Collection Centres. The instrument should be fully functional and installed at minimum 1000 locations including reputed Co-operative Milk Societies and Private Dairies anywhere in India. Installation certificates of important locations to be provided.</li> <li>• Training and Installation services should be offered along with the Instrument at site and should be supplied with one year on warranty.</li> </ul>			
10	Multipurpose Refrigerated Micro centrifuge	<ul style="list-style-type: none"> <li>• Centrifuge 230V/50-60Hz</li> <li>• Automatic rotor recognition</li> <li>• Compatible with plate, microcentrifuge tube and falcon tube/oakridge tube specific rotors</li> <li>• Stores up to 50 routine programs</li> <li>• Fast temperature attainment and temperature attainment at preset time</li> </ul> <p><b>Technical specifications:</b></p> <ul style="list-style-type: none"> <li>• Maximum speed: at least 17,500rpm with fixed angle rotors and at least 4000 rpm with swing bucket rotors</li> <li>• Maximum RCF: 30,130 x g</li> <li>• Acceleration time to max.rpm:&lt;20s</li> <li>• Braking time from max.rpm:&lt;20s</li> <li>• Soft ramp: adjustable</li> <li>• Timer: 30 s – continuous</li> <li>• Noise level – &lt;56dB</li> <li>• Temperature range: -10°C to 40°C</li> <li>• Power requirement: &lt; or equal to 750 W</li> </ul>	01	500000.00	10000.00
11.	Bench Top Refrigerated	<ul style="list-style-type: none"> <li>• Max speed : 20000 RPM</li> </ul>	01	320000.00	6400.00

	Centrifuge	<ul style="list-style-type: none"> <li>• Max RCF : 37570g</li> <li>• Max. tube size : 100ml</li> <li>• Max. capacity : 400ml</li> <li>• Lowest temperature : -8°C</li> <li>• W x D x H : 775 X 575 X 475</li> <li>• LCD Display.</li> <li>• CFC free refrigeration system.</li> <li>• Pre cooling.</li> <li>• 9 Acceleration &amp; 9 Deceleration Profiles.</li> <li>• Calibration window on lid for speed.</li> <li>• Digital Control Communication.</li> <li>• Self-Diagnostics of Errors.</li> <li>• Parameters setting switches: Bi-directional encoder.</li> <li>• Brushless motor with frequency drive.</li> <li>• Inverter fault detection with auto shut down.</li> <li>• 99 No. of programs.</li> <li>• Last set parameters recall.</li> <li>• Choice of RPM/RCF setting.</li> <li>• Temperature display: oC/ oF.</li> <li>• Digital countdown timer 0-99 min. &amp; continuous run.</li> <li>• Log of cumulative run time.</li> <li>• User defined program name for 5 programs.</li> <li>• Angular rotor of capacity 24x1.5ml(20,000 RPM), 6 strips of 8 x 0.2 ml(11,000 RPM)</li> <li>• Angle Heads suitable for Falcon Tubes : 12 x 15 ML(11,000 RPM) ,</li> <li>• Supply : 220-240 Volts, 50 Hz, Single Phase</li> <li>• With Voltage Stabilizer 3 KVA</li> <li>• CE Certificate, ISO Certified, Calibration Certificates and IQ, OQ and PQ Documentation.</li> </ul>			
12.	Large Animal Anaesthesia Machine	<p>Large animal anaesthesia machine for inhalation anaesthesia in Cattle, Buffalo and Equines:</p> <ul style="list-style-type: none"> <li>• Isoflurane vaporiser.</li> <li>• Time cycled and electrically controlled inbuilt ventilator.</li> <li>• Breathing bag 15 L and 30L.</li> <li>• Endotracheal tubes (ET) for cattle, buffalo and equines of different sizes.</li> <li>• Provision for both closed as well open circuit.</li> </ul>			



		<ul style="list-style-type: none"> <li>• Circle absorber.</li> <li>• Adjustable pressure limit valve.</li> <li>• Control system for inspiratory and expiratory flow.</li> <li>• Adjustable tidal volume 5-15 liters.</li> <li>• 0-10 liters per minute oxygen flow meter.</li> <li>• Frequency control variable from zero to ninety breaths per minute in one BPM increments.</li> <li>• Inspiratory flow controlled through operator adjustable regulator.</li> <li>• Touch control tidal volume adjustment.</li> <li>• Vapour exclusion system. <ul style="list-style-type: none"> <li>○ In build foal absorber.</li> </ul> </li> </ul>			
13	<b>Atomic Absorption Spectrophotometer</b>	<ul style="list-style-type: none"> <li>• Operation mode: Atomic Absorption, Flame Emission, AABGC (With D2 Lamp), Molecular Absorption.</li> <li>• Wavelength Range: 175 nm to 900 nm.</li> <li>• Photometric System : High-speed dual frequency simultaneous photometric</li> <li>• System.</li> <li>• Number of lamps that can be lit simultaneously - 01 to 06</li> <li>• Lamp holder accepts six lamps on turret, positioning should be Automatic.</li> <li>• Bandwidth: Variable from 0.1 to 2.0 nm, with step of 0.1 nm.</li> <li>• Wavelength Accuracy : <math>\pm 0.5</math> nm</li> <li>• Absorbance Range : -0.301 to 2.000 Abs</li> <li>• Hyper pulse background correction</li> <li>• Gas control module</li> <li>• Flame Ignition and extinguish: Automatic.</li> <li>• Gas Flow Controls : Automatic Flow rate control</li> </ul>	01	155000.00	31000.00

		<ul style="list-style-type: none"> <li>• Signal Processing : Displays real time signal</li> <li>• Accessories required with AAS, gas Cylinder and regulator with panel, Exhaust Hood, Air compressor.</li> <li>• Data Management System: Computer having Processor i5-quard core and latest version of windows based operating software along with LaserJet printer</li> <li>• System should be supplied with branded Voltage Stabilizer or Compatible UPS with half hour battery backup. Warranty : Three years after installation</li> </ul>			
14	Poultry Incubator	<p>1000-1200 eggs capacity with fully automatic and digitally controlled setter cum Hatcher with following specification:</p> <ul style="list-style-type: none"> <li>• The incubator body is made up of 2.7 mm laminated phylum sheets, highly durable, reinforced and easy to clean.</li> <li>• High density (EPS) Thermo coal for better insulation.</li> <li>• Digital temperature and humidity control with electronic sensor.</li> <li>• Digital display</li> <li>• Temperature measurement accuracy: <math>\pm 0.1^{\circ}\text{C}</math>.</li> <li>• Humidity control accuracy: <math>\pm 5\% \text{RH}</math></li> <li>• Fully automatic egg turning.</li> <li>• Inside light with on-off button in panel.</li> <li>• Stainless inner mechanism.</li> <li>• Air route-perfect laminar flow forced ventilation with unique fan.</li> <li>• Adjustable air ventilation for air current control.</li> <li>• Setter Trays: Specially designed (HIPS) 101 eggs capacity seeting trays.</li> <li>• POWER BACKUP: 2KVA Inverter with 3 batteries and 6 hours backup which is suitable for 1020 Eggs.</li> </ul>	01	367000.00	7340.00

Sd/  
**Member Secy. (Equipments)**  
**Central Purchase Committee**

