



भाकृअनुप-राष्ट्रीय शूकर अनुसंधान केंद्र
ICAR- NATIONAL RESEARCH CENTRE ON PIG
भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
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File No. 255/NRCP/2016-17/Equip/MoFPI

Date: 08.11.2016

TENDER DOCUMENT FOR SCIENTIFIC EQUIPMENTS

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File No .255/NRCP/2016-17/Equip/MoFPI

Date: 08.11.2016

TENDER NOTICE

The Director, ICAR-NRC on Pig, Rani, Guwahati, Assam invites Open Tenders for the purchase of following Scientific Equipments under MoFPI Project from Reputed Manufactures/Authorized Agents.

Sl. No.	Name of the Equipments	Quantity required
1	pH Meter	01 complete unit
2	Analytical Balance	01 complete unit
3	Electronic Precision Balance	01 complete unit
4	Digital Water Bath	01 complete unit
5	Micro-Centrifuge with PCR Tube adaptor	01 complete unit
6	Magnetic Stirrer cum Hot Plate.	01 complete unit
7	Digital Dry Bath with heating blocks	01 complete unit
8	Tube Roller	01 complete unit
9	Mini Incubation Oven	01 complete unit
10	Deep Freezer-400L	01 complete unit
11	Deep Freezer-200L	01 complete unit
12	Microprocessor controlled refrigerated centrifuge with accessories.	01 complete unit
13	Rotary Evaporator with accessories	01 complete unit
14	Ultra Low temperature freeze dryer with accessories.	01 complete unit
15	Digital Autoclave	01 complete unit
16	Hot Air Oven	01 complete unit
17	Bomb Calorimeter with accessories.	01 complete unit
18	Benchtop Muffle Furnace.	01 complete unit
19	Trinuocular microscope with CCD camera and imaging software and accessories	01 complete unit
20	Water Purification System with accessories	01 complete unit
21	Biosafety Cabinet Type II,A2	01 complete unit

22	Microbial Air Sampler with accessories	01 complete unit
23	Hygenic Monitoring System	01 complete unit
24	Single Chamber Incubator for Field use with accessories	01 complete unit
25	Ultra Low temperature freezer with accessories	01 complete unit
26	Spectrophotometer.	01 complete unit
27	Electrophoresis Workstation	01 complete unit
28	ELISA Unit with accessories	01 complete unit
29	Real Time PCR with accessories	01 complete unit
30	Atomic Absorption Spectrophotometer	01 complete unit

Interested bidders may download tender documents from cpp portal i.e <http://www.eprocure.gov.in> & from our website: <http://www.nrcp.in>. **Each Items will be evaluated separately, hence the firms should submit tenders in the prescribed format along with Tender Fees of Rs. 500.00 (Non Refundable) and EMD (Refundable) for each item separately in separate envelopes** as mentioned in the terms & conditions of the tender on or before **11.30 AM, 03-12-2016. Technical bids will be opened on 12.00 PM, 03.12.2016.**

**Sd/-
DIRECTOR
ICAR-NRC on Pig, Guwahati.**

DETAILS OF EMD & TENDER FEE.

SI. NO.	Name of the Equipments	EMD (Refundable) in Rs.	Tender Fees (Non Refundable) in Rs.
1	pH Meter	3500	500.00
2	Analytical Balance	2000	500.00
3	Electronic Precision Balance	1000	500.00
4	Digital Water Bath	3500	500.00
5	Micro-Centrifuge with PCR Tube adaptor	6500	500.00
6	Magnetic Stirrer cum Hot Plate.	1000	500.00
7	Digital Dry Bath with heating blocks	2500	500.00
8	Tube Roller	1500	500.00
9	Mini Incubation Oven	1500	500.00
10	Deep Freezer-400L	500	500.00
11	Deep Freezer-200L	500	500.00
12	Microprocessor controlled refrigerated centrifuge with accessories.	14000	500.00
13	Rotary Evaporator with accessories	20000	500.00
14	Ultra Low temperature freeze dryer with accessories.	20000	500.00
15	Digital Autoclave	4000	500.00
16	Hot Air Oven	3500	500.00
17	Bomb Calorimeter with accessories.	30000	500.00
18	Benchtop Muffle Furnace.	3000	500.00
19	Trinuocular microscope with CCD camera and imaging software and accessories	10000	500.00
20	Water Purification System with accessories	25000	500.00
21	Biosafety Cabinet Type II,A2	9000	500.00
22	Microbial Air Sampler with accessories	7000	500.00
23	Hygenic Monitoring System	9000	500.00
24	Single Chamber Incubator for Field use with accessories	8000	500.00
25	Ultra Low temperature freezer with accessories	10000	500.00
26	Spectrophotometer.	12000	500.00
27	Electrophoresis Workstation	30000	500.00
28	ELISA Unit with accessories	14000	500.00
29	Real Time PCR with accessories	45000	500.00
30	Atomic Absorption Spectrophotometer	70000	500.00

Sd/-
DIRECTOR, ICAR-NRC on Pig, Guwahati

ESSENTIAL TERMS & CONDITIONS & GUIDELINES FOR BIDDERS

TENDER FEE & EARNEST MONEY DEPOSIT (EMD): Tender must be accompanied with Tender Fee of Rs. 500.00 (Non-Refundable), EMD/ Bid Security (Refundable) **separately for each item**, in the shape of Demand Draft drawn in favour of The, Director, ICAR-NRC on Pig payable at SBI Guwahati. **Tenders received without the required Tender Fees & EMD will be rejected** without any communication to Bidder. **If Bidders are exempted from the payment of EMD/Tender Fees, they are required to submit the detail information and necessary documents of exemption for a particular item without which their bids/tenders will be rejected.** The Bidder should write the Name of the Firm & the Name of the Equipment against which the E.M.D is being submitted clearly at the Back side of the Draft.

EVALUATION: Tender for each items are evaluated separately. Bidders are required to prepare tender for each items individually and also submit tender fees and EMD against the each items. Tenders are to be prepared in two bid system i.e Technical and Financial for each item separately. Technical bids will be opened first and after technical evaluations, the firms which are technically qualified will be invited in the opening day of financial bids.

DOCUMENTS REQUIRED: Latest Sales Tax Clearance certificate along with client list must be attached with Tender.

AUTHORISATION LETTER: If the bidder is quoting on behalf of Manufacturer, **valid Authorization letter from the principal must be enclosed, clearly mentioning the duration of Authorization of the firm.**

ACCEPTANCE OF TENDER: The sealed tenders filled in all respect with signatures in all pages must be sent only by **Registered/ Speed Post or Person** to reach **within 11.30 A.M on or before 03.12.2016**. Incomplete Tenders and Tenders received after specified time will not be accepted. NRC on Pig, ICAR is not responsible for any type of delay in arrival of Tender. Once Tender is accepted, it cannot be allowed for withdrawal. The decision of quantity of order shall be subject to approval of The Director; ICAR-NRC on Pig, ICAR and his decision is final and binding.

VALIDITY: Rates quoted must be valid upto the contract period.

SHOULD NOT QUOTE ANY ALTERNATIVE OFFER: Bidder should quote the best suitable model which matches the advertised specification of the Equipment. **No alternative/ option should be quoted.**

OPENING OF TENDER: Tenders (**Technical Bids Only**) will be opened by the committee at **12.00 P.M** onwards on **03-12-2016** at NRC on Pig, ICAR, Committee Hall, Rani, Guwahati, Assam in presence of interested Bidders/ their authorized representatives.

FALSE INFORMATION: The technical specification furnished by the bidder must be simple, clear and as per the actual specification of the equipment. If, the bidder furnished any false information/ any information/assurance in their quotation for which the firm fails to provide such service or material at the time of supply as per their quote, the EMD of such bidder will be forfeited and any other appropriate action may be taken against such firm as desired by the Director, NRC on Pig, Guwahati.

**Sd/-
DIRECTOR
ICAR-NRC on Pig, Guwahati.**

Annexure - IV
TENDER SPECIFICATIONS FOR QC LAB EQUIPMENTS

Item No.	Name of the equipment	Specifications
1	pH meter (01 Number)	<p>Proposed Application: The pH meter is intended to measure and document the pH of meat and meat products both in liquid/slurry and solid state.</p> <p>Specifications for the equipment:</p> <ol style="list-style-type: none"> 1. pH Mode- Range : -2 to 16 or wider 2. Relative accuracy : $\pm 0.002 \text{ pH} \pm 1 \text{ digit}$, $1 \text{ mV} \pm 1 \text{ digit}$ 3. Resolution : 0.1, 0.01dpacid & 0.001 pH 4. Inbuilt auto-buffer recognition facility 5. Temperature compensation, manual & automatic : -5°C to 100°C or above 6. Temperature resolution : 0.1°C 7. Readout: backlit graphic LCD display. 8. Calibration point: Up to 5 point pH calibration. 9. Data Logging point: Min. 1500 data with time and date stamp. 10. International Rating : IP-54 11. Shall include a compatible table top printer with cable. 12. Power input: 220 Vlt AC adapter / Battery: shall support min. 500 hrs. 13. Power supply: 230V, 50/60Hz 14. Warranty: Two years comprehensive warranty. <p>Specifications for pH Electrode:</p> <ol style="list-style-type: none"> 1. pH Range : 0 to 14. 2. pH Precision : 0.02. 3. Shall include glass pH Electrode with waterproof connector for meat applications 4. Electrode body: Double Junction combination with stainless steel cutting blade. 5. Temp Range: $0-60^{\circ}\text{C}$. <p>Supply should include: The equipment should be supplied with main meter, pH/ATC probe, Buffer kit (includes buffer solution of 4, 7, & 10, storage soln., cleaning solution) & pH electrode storage bottle, field case, electrode arm with holder & Universal power adapter along with specialized pH electrode for meat applications, respective filling solution and a compatible table top printer with cable. Offer may also include other accessories, if any which are essential to make the unit a complete system.</p>

<p>2</p>	<p>Analytical balance (01 Number)</p>	<p>Proposed Application: To accurately weigh chemicals/ samples.</p> <p>Specifications for the balance:</p> <ol style="list-style-type: none"> 1. Capacity : 220 g 2. Readability : 0.1 mg 3. Tare range (subtractive) : 220 g 4. Response time (avg.) : not more than 2.5 s 5. Repeatability : ± 0.1 mg 6. Linearity : ± 0.2 mg 7. Pan diameter : >= 90 mm <p>Standard features required for the balance:</p> <ol style="list-style-type: none"> 1. Built-in Motorized calibration weight for internal auto-calibration. 2. 6-7 segment Backlit display 3. 3-4 user selectable filter levels 4. The balance shall be supplied along with a compatible printer for data management. 5. Bi directional RS-232 data interface port 6. ISP/GLP-compliant printing/ recording of weighing and calibration data when a printer or computer is connected to the balance 7. Hanger for below-balance weighing 8. Overload protection 9. Electronics Filters for adapting the balance to ambient conditions 10. Lock down facility 11. Leveling feet; level indicator 12. AC adapter 13. Integrated application programs (net total, weighing in percent, counting, mass unit conversion by toggling) 14. Facility for both side door opening for ease of operation 15. Dust cover 16. The balance shall have CE mark to meet E.U. Directive 89/336/EEC. 17. Power supply: 230V, 50/60Hz 18. Warranty: Two years comprehensive warranty.
<p>3</p>	<p>Electronic Precision Balance (01 Number)</p>	<p>Proposed Application: To accurately weigh chemicals/ samples.</p> <p>Specifications for the balance:</p> <ol style="list-style-type: none"> 1. Capacity : 210.00 g 2. Readability : 0.01 g / 10 mg 3. Pan size : 116 mm or more 4. Linearity : ±0.01 g 5. Repeatability: ±0.01 g <p>Standard features required for the balance:</p> <ol style="list-style-type: none"> 1. Automatic external calibration 2. LCD Display 3. Multiple weighing modes

		<ol style="list-style-type: none"> 4. Stable reproducible results 5. Ultra fast response time 6. Easy operation 7. Unit conversion 8. Piece counting 9. Percentage weighing 10. Lock down facility 11. Bi-Directional RS-232 Serial interface for Computer/printer connectivity. 12. Power supply: 230V, 50/60Hz 13. Warranty: Two years comprehensive warranty.
4	Digital water bath (01 Number)	<p>Proposed Application: To warm the sample/ media to a desired temperature (wet heating) under controlled conditions.</p> <p>Specifications for the water bath:</p> <ol style="list-style-type: none"> 1. Tank Volume : min. 9 liters 2. Useful Volume : min 7 liters 3. Temperature range : Ambient +5°C to 99.9°C 4. Temperature sensor : Fitted with suitable Control System 5. Programmable PID Microprocessor 6. Temperature sensitivity: 0.1°C 7. Temperature variation < 40°C : 0.2°C 8. Temperature Fluctuation : ± 0.1°C 9. Timer: over 90 hours + Hold Position 10. Delayed Start Timer: 1 min. to 99 hours 11. Internal Material : SS 304 12. External Material : Epoxy-Polyester Powder Coated Steel 13. Power supply 230 V, 50/60 Hz 14. Warranty: Two years comprehensive warranty.
5	Micro-centrifuge with PCR tube adaptor (01 Number)	<p>Proposed Application: To concentrate the relevant test materials in food samples, PCR reaction set-up etc.</p> <p>Specifications for the micro-centrifuge:</p> <ol style="list-style-type: none"> 1. Speed: Min. 14,000 rpm or above 2. Capacity: Min. 16-place rotor for 1.5 and 2.0 ml tubes 3. Unit shall include PCR tube adaptor 4. Should have a safety interlock 5. Should have a 30-minute timer and a quick-spin button 6. Should be supplied with a PCR Tube adapter to hold at least 2 X 8 Tube Strip. 7. Inbuilt imbalance detection system: Advisable 8. The Instrument should be CE or equivalent compliant. 9. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 10. Power supply 230 V, 50/60 Hz 11. Warranty: Two years comprehensive warranty.

<p>6</p>	<p>Magnetic stirrer cum hot plate</p> <p>(01 Number)</p>	<p>Proposed Application: To stir the liquid samples uniformly with or without the application of heat.</p> <p>Specifications for the magnetic stirrer cum hot plate:</p> <ol style="list-style-type: none"> 1. Stirring quantity at a time: up to 10 litres 2. Speed range: 100 to min. 1000 rpm 3. Temperature range: 50°C to Min. 400°C 4. Digital speed and temperature display 5. Stirring bar length: 10-30 mm 6. Temperature accuracy: 0.5°C 7. Set up plate material: Ceramic 8. Set-up plate dimensions [mm]: Min. 160 x 160 mm 9. International rating: IP 21 10. Unit shall include the following: Holding rod, magnetic stirrer bars, stirring bar remover and support rod. 11. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 12. Power supply 230 V, 50/60 Hz 13. Warranty: Two years comprehensive warranty.
<p>7</p>	<p>Digital dry bath with heating blocks</p> <p>(01 Number)</p>	<p>Proposed Application: To incubate test samples which are mostly sensitive to moist heat.</p> <p>Specifications for the digital dry bath with heating blocks:</p> <ol style="list-style-type: none"> 1. The Dry Block shall have a temperature range of Ambient to 150°C 2. Shall have a temperature display resolution of 0.1°C, 4-digit LED 3. Shall have a Temperature uniformity of $\pm 0.2^\circ\text{C}$. 4. Shall have a Temperature accuracy of $\pm 0.3^\circ\text{C}$ 5. The Block chamber shall be Stainless steel. 6. The System Shall be supplied with 4 different blocks, one each for 0.5 ml (min. 20 holding points), 1.5 ml (min. 20 holding points), 2.0 ml (min. 20 holding points), and 15 ml (min. 10 holding points) tubes. 7. The Blocks should be made of High grade, nonporous aluminum with anodized surface. 8. The Instrument should be CE or equivalent compliant. 9. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 10. Power supply 230 V, 50/60 Hz 11. Warranty: Two years comprehensive warranty.

<p>8</p>	<p>Tube roller (01 Number)</p>	<p>Proposed Application: To mix liquid test samples homogenously for selected times.</p> <p>Specifications for the tube roller:</p> <ol style="list-style-type: none"> 1. Load bearing: 0.5 kg or better 2. Tube holding capacity: Shall be able to hold the following tubes 36 x 1.5/2.0 ml (min. holding positions: 30); 15/10 ml tubes (min. holding positions: 8) and 5/7 ml tubes (min. holding positions: 15) and 50 ml conical tubes (min. holding positions: 5). 3. Tilt angle: 0–90° 4. Motor speed: shall be 20 rpm or more. 5. The Instrument should be CE compliant. 6. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 7. Power supply 230 V, 50/60 Hz 8. Warranty: Two years comprehensive warranty.
<p>9</p>	<p>Mini Incubation oven (01 Number)</p>	<p>Proposed Application: The oven is intended to incubate the petri-plates for growth of bacterial cultures over a wide range of temperatures.</p> <p>Specifications for mini incubation oven:</p> <ol style="list-style-type: none"> 1. Oven volume: 18-20 L 2. System shall be a thermostatically controlled 3. Temperature range: Room temperature to 55°C or more. 4. Shall contain a rear port to allow insertion of tube roller or mini rocker for temperature controlled mixing. 5. Temperature indicator shall be prominent. 6. Temperature uniformity : $\pm 1^{\circ}\text{C}$ or better 7. System shall be capable of holding more than 70 numbers of 6.5 cm culture plates 8. Exterior dimensions should be (W x D x H) 25 x 25 x 35 cm with ± 5 cm. 9. System shall be fitted with a Non Mercury Thermometer. 10. System shall have adjustable self option. 11. Instrument shall be CE or equivalent compliant. 12. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 13. Power supply 230 V, 50/60 Hz 14. Warranty: Two years comprehensive warranty.

10	<p>Deep freezer – 400 litre (01 Number)</p>	<p>Proposed Application: The deep freezer is intended to store the test samples under low temperatures.</p> <p>Specifications for deep freezer:</p> <ol style="list-style-type: none"> 1. Capacity: 400 litres 2. Temperature: -20°C 3. Type: Horizontal 4. Number of doors: 2 nos. 5. Type of Door: Hardtop 6. Unit shall include a 3KVA stabilizer 7. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 8. Power supply 230 V, 50/60 Hz 9. Warranty: Two years comprehensive warranty.
11	<p>Deep freezer – 200 litre (01 Number)</p>	<p>Proposed Application: The deep freezer is intended to store the test samples under low temperatures.</p> <p>Specifications for deep freezer:</p> <ol style="list-style-type: none"> 1. Capacity: 200 litres 2. Temperature: -20°C 3. Type: Horizontal 4. Type of Door: Hardtop 5. Unit shall include a 3KVA stabilizer 6. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 7. Power supply 230 V, 50/60 Hz 8. Warranty: Two years comprehensive warranty.
12	<p>Microprocessor controlled refrigerated centrifuge with accessories (01 Number)</p>	<p>Proposed Application: To concentrate the relevant test materials in food samples under controlled temperature conditions.</p> <p>Specifications for Microprocessor controlled refrigerated centrifuge:</p> <ol style="list-style-type: none"> 1. Capacity: 1.3 -1.6 L 2. Temperature range: Min. -10°C or less to +40°C with 10 increments. 3. Speed: Max. 30000 rpm, adjustable from 200 to 30000 rpm with 10 rpm increments. 4. Centrifuge shall be complete with fixed angle rotor for 250 ml (number of holding points – min. 6), speed of rotor at least 8000 rpm, with adapters for 1x 50 ml, 2x30 ml and 4x15ml tubes.

		<ol style="list-style-type: none"> 5. Shall include angle rotor 20-30x 1.5 ml/2.0 ml, min. speed of rotor 15000 rpm. 6. Shall include angle rotor 12-20 x 10ml with min. rotor speed 12000 rpm. 7. Shall include swing out rotor 2x3 microtitreplates, min. speed 4000 rpm. 8. LCD indication of preset and actual values of speed, RCF, time, temperature & running time. 9. Shall have splash proof digital display. 10. Built in timer from 30sec to min. 70 hrs or more. 11. CFC free refrigeration. 12. Shall have stand still cooling & pre-cool programme option. 13. The Centrifuge should have a feature to install and remove rotor in simple and easy ways. 14. Shall have provision for quick key for short runs. 15. Shall have automatic rotor identification & system with over speed protection. 16. Shall have active imbalance identification & cut-off. 17. Shall have audible signal at the end of each run. 18. Noise level < 70 dBA at maximum speed. 19. Instrument shall be CE or equivalent compliant. 20. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 21. Power supply 230 V, 50/60 Hz 22. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories. 23. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.
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<p>13</p>	<p>Rotary evaporator with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The rotary evaporator is intended to remove low boiling organic chemicals, from a mixture of test compounds.</p> <p>Specifications for rotary evaporator:</p> <ol style="list-style-type: none"> 1. Unit shall include heating bath, vacuum pump and chiller. 2. Filling volume: 3 Litres 3. Type of cooling: Vertical 4. Speed range: 20-250 rpm or more 5. Digital speed display provision 6. Cooling surface: Min. 1250 cm² or above 7. Temperature range: Room temp. to Min. 160°C or more. 8. Unit shall include heating bath, evaporation flask vacuum control and all other necessary accessories. 9. Unit shall have integrated timer. 10. Heat control accuracy : $\pm 1^{\circ}\text{C}$ or less 11. Shall have safety temperature circuit and dry Run protection of heating bath 12. Locking function of heating bath for avoiding accidental changes of settings 13. Heating bath shall be able to use as standalone unit for different applications, as and when required. 14. Shall have clock wise and counter clock wise rotation with interval option for faster powder drying. 15. International rating: IP 20 16. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 17. Power supply 230 V, 50/60 Hz 18. Instrument shall be CE or equivalent marked. <p>Specifications for the vacuum pump:</p> <ol style="list-style-type: none"> 1. Pumping speed: Min. 1.5 m³/h or more 2. Final pressure/ vacuum level : Min. 5 mbarr or more 3. Speed range: 1300 rpm or more 4. Diaphragm pumps: Two stage, made of PTFE for protection against aggressive solvents. 5. Front cover: Transparent, for detection of solvent build up. 6. Digital regulator for manual control of vacuum level. 7. Shall have provision to connect a solvent trap ahead of vacuum pump. 8. Offer may also include other accessories, if any, which are essential to make the unit a complete system.
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		<p>Specifications for chiller:</p> <ol style="list-style-type: none"> 1. Temperature range: -20°C to room temperature. 2. Refrigerant: CFC free. 3. Shall have a speed regulated compressor with temperature stability of $\pm 1^\circ\text{C}$. 4. Shall have acoustic and optical warning signal. 5. Bath volume shall be 3 liters or more and should have bath volume level indicator. 6. Pump pressure flow and suction shall be closer to 0.3 and 0.2 bars, respectively. 7. Cooling capacity at 20°C shall be around 300 watt or more. 8. Shall have safety drain and filters in front of the device for easy handling and cleaning. 9. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for all the equipments mentioned above and their accessories.</p> <p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
14	<p>Ultra low temperature freeze dryer with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The freeze dryer is intended to allow the frozen water in the test material to sublimate directly from the solid phase to the gas phase, towards storage/ preservation/ transportation/ further testing.</p> <p>Specifications for ultra low temperature freeze dryer:</p> <p>The instrument shall comprise of freeze dryer, vacuum pump, complete accessories for flask drying, ampoule drying and vial sealing, connection kits and 2 KVA online UPS.</p> <ol style="list-style-type: none"> 1. Shall be supplied with adaptors for different types of flasks with O ring; glass ampoule manifold. It shall also include 2ml & 5ml vials, 100 nos. each. 2. Condenser volume: 3.5 -4.0 litres

		<ol style="list-style-type: none"> 3. Capacity/24 hrs: 2.5-3kg 4. Condenser temperature: -100°C to -110°C 5. Refrigerant: CFC free 6. Shall have built in digital temperature display and front drain valve. 7. International rating: IP 20 & IP 65 8. Instrument shall be CE or equivalent marked. 9. Power supply 230 V, 50/60 Hz 10. Shall include a 2KVA online UPS with required batteries and suitable stand for mounting batteries (shall comply GLP). 11. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Specifications for vacuum pump:</p> <ol style="list-style-type: none"> 1. Vacuum range: up to 0.001 mBar 2. Capacity: 28-30 Litre/min 3. Shall have built in anti-suck back device to prevent back flow of pump oil. 4. Instrument shall be CE or equivalent compliant. 5. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
15	Digital autoclave (01 Number)	<p>Proposed Application: The autoclave is intended to sterilize the media under moist heat for microbiological applications.</p> <p>Specifications for digital autoclave:</p> <ol style="list-style-type: none"> 1. Controller: Programmable, fully automatic PID 2. Capacity: 40-50 Litres 3. Temperature range: Room temperature to 130°C or more

		<ol style="list-style-type: none"> 4. Temp. accuracy: $\pm 0.5^{\circ}\text{C}$ at 121°C 5. Display: Digital LED/LCD 6. Pressure range: 1.2 Kgf/cm^2 (at 121°C) to 2.0 Kgf/cm^2 (at 130°C or above) 7. Loading: Top loading 8. Heater capacity: 1.8-2.0 kW 9. Material for pressure vessel: SS 304 10. Exterior: Powder coated steel 11. Shall have safety devices for over temperature, over pressure and over current protector. 12. Shall include 2 sets of wire baskets. 13. Power supply: 230V, 50/60Hz 14. Instrument shall be CE or equivalent compliant. 15. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 16. Warranty: Two years comprehensive warranty.
16	Hot air oven (01 Number)	<p>Proposed Application: The hot air oven is intended to sterilize the utensils under dry heat for microbiological applications.</p> <p>Specifications for hot air oven:</p> <ol style="list-style-type: none"> 1. Temperature range: 50°C to 300°C or above 2. Capacity: 90-100 Litres 3. Controller: Programmable controller 4. Shall have provision for temperature calibration from time to time 5. Interior material (heating chamber): SS 14301 or equivalent material 6. Shall have automatic overheating alarm 7. Shall be stackable and include necessary stacking kits 8. Display: Vacuum fluorescent/LED display 9. Fan speed: Shall be adjustable 10. Temperature deviation from set value at 150°C, spatial: $\pm 2.5^{\circ}\text{C}$ or less 11. Temperature deviation from set value at 150°C, over time: $\pm 0.3^{\circ}\text{C}$ or less 12. Shall include sample temperature sensor 13. Power supply: 230V, 50/60Hz 14. Instrument shall be CE or equivalent compliant. 15. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 16. Warranty: Two years comprehensive warranty.

<p>17</p>	<p>Bomb calorimeter with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The bomb calorimeter is intended to determine the gross calorific value of food samples.</p> <p>Specifications for the bomb calorimeter: Instrument shall include complete unit viz. measuring cell, decomposition vessel, oxygen filling station, oxygen cylinder, pressure gauge for oxygen, combustible crucible, quartz crucible, crucible holder, pelleting press, measuring cup, cotton thread (1000 nos.), ignition wire, quartz dish, Benzoic acid, Acetobutyrate capsules, consumables for calibration and installation, branded PC, printer, compatible licensed software and any accessories, etc.</p> <ol style="list-style-type: none"> 1. Measuring range max. [J] : 30000 or above 2. Oxygen Filling: Gas filling facility with auto shut off of filling valve after attaining requisite pressure with the help of oxygen filling station. 3. Combustion Vessel: shall be made of high strength stainless steel with Pressure Test Certificate. 4. Sample size requirement: less than 1.5 gm 5. GCV Range: 8000 Kcal/Kg or more. 6. Precision: 0.10 % or Better RSD on benzoic acid 7. Operation: Microprocessor through touch screen or soft key pad arrangement. 8. International rating: IP 20 9. Instrument shall be CE or equivalent compliant. 10. Interface: It should have at least two interface ports to connect with branded PC & Printer and all connecting cables should be provided. The instrument should have built in operational program to perform all calculations such as conversion of result into other units etc. The unit shall include suitable PC, printer and software. 11. Unit shall include compatible advanced version of branded desktop with Intel Core 2 Duo fast processor, genuine windows, RAM-2GB and above, hard disk-500 GB and above and other compatible features with TFT display/monitor, multifunctional laser jet printer. 12. Spare and Accessories: The instrument must be complete with all accessories for ready to use. Consumables which are required for normal running of the instrument at least for 1000 Tests, is to be quoted by the vendor. 13. Offer may also include other accessories, if any, which are essential to make the unit a complete system.
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		<p>14. Power supply 230 V, 50/60 Hz</p> <p>15. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>16. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
18	<p>Benchtop muffle furnace (01 Number)</p>	<p>Proposed Application: The muffle furnace is intended for ashing of organic and inorganic samples and conducting gravimetric analysis.</p> <p>Specifications for the muffle furnace:</p> <ol style="list-style-type: none"> 1. The unit shall include the instrument, thermocouples, line cord, crucibles (4 nos.) and hearth tray (1-2 nos.) compatible for muffle furnace. 2. Capacity : 2.0 – 2.5 Litres 3. Temperature Range: 100° to 1100°C or wider 4. Temperature Uniformity: $\pm 0.5^{\circ}\text{C}$ at 1000°C 5. Display: Digital, shall show set temperature/actual temperature 6. Shall have ceramic fiber insulation to permit faster heat-up 7. Heating element: shall be embedded 8. Shall have a port (<1cm diameter) at the rear for monitoring temperatures with independent measuring devices. 9. Instrument shall be CE or equivalent compliant. 10. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 11. Power supply 230 V, 50/60 Hz 12. Warranty: Two years comprehensive warranty.

<p>19</p>	<p>Trinocular microscope with CCD camera, imaging software and accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The trinocular microscope is intended to view, analyze and document the sharp and clear images/videos of test samples with less chromatic aberration.</p> <p>Specifications for trinocular microscope: The unit shall include trinocular microscope with eyepiece tube and lens; condenser; objectives; digital CCD camera system with chip; licensed image analysis software; suitable branded PC and colour printer etc.</p> <ol style="list-style-type: none"> 1. Microscope, camera and imaging software shall be from same manufacturer for best compatibility. 2. Shall be upgradable to epi-fluorescence, simple polarizing and teaching head in future. 3. Infinity corrected optical system. Uniform illumination in entire field of view. Anti-mould design. 4. Total Magnification: 40X-1000X 5. Trinocular Eyepiece Tube (Inclination: 30°. Eye: Camera Port- 100:0, 0:100). 6. Inter-pupillary distance: 45mm-75mm or more. 7. Eyepiece Lens 10X with Field of View of 20mm, Built-in Diopter Adjustment on both the Eyepieces. Should be lockable to prevent damage or theft. 8. Quadruple nosepiece reversed type that can hold 4 objectives simultaneously. 9. Rectangular Stage 210 X 140mm or better, surface stage mounted on the main body. Stage should accommodate 2 slides at a time. Cross Travel 75(X) x50(Y) mm or better. Refocusing mechanism preferable. 10. Objectives: 1) 4X N.A. 0.10, W.D. 30.0 mm; 2) 10X A N.A. 0.25, W.D. 7.0 mm; 3) 40X F N.A. 0.55, W.D. 2.1 mm; and 4) 100X Oil A N.A. 1.25, W.D. 0.23 mm, spring-loaded. 11. Phase Contrast Condenser with Objective position guide marking, Green Filter. 12. High Luminescent White LED illuminator for Uniform Illumination 13. Lamp (Halogen Lamp) life: 50000 hours or more. 14. Shall have fine/coarse focusing provision.
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		<p>15. Shall be “Anti mould” treated.</p> <p>16. Shall include immersion oil, vinyl dust cover etc. for microscope.</p> <p>17. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>18. Power supply 230 V, 50/60 Hz</p> <p>Specifications for digital camera:</p> <ol style="list-style-type: none"> 1. Shall be dedicated scientific grade microscopic camera. 2. Effective picture resolution: 5MP or more 3. Shall include high density CCD chip 4. Shall have networking facility 5. Sensitivity: equivalent to ISO 80 6. Frame rate-30fps or more 7. C-mount: 0.6X or more 8. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Specifications for image analysis system:</p> <ol style="list-style-type: none"> 1. Shall have licensed image analysis software compatible to branded PC. 2. Unit shall include compatible advanced version of branded desktop with Intel Core 2 Duo fast processor, genuine windows, RAM-2GB and above, hard disk-500 GB and above and other compatible features with TFT display/monitor, multifunctional color laser printer. 3. Image documentation software: shall support measurement acquisition, AVI Live-stream, (Video Recording) capture, Live Image Capture, Calibration, measurement, count, length, area, angle, circle and ellipse, large image (image stitching) etc. 4. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Optional: An additional set of objectives mentioned under Sl.No. 10 may be quoted as optional for future use. [4X N.A. 0.10, W.D. 30.0 mm; 2) 10X A N.A. 0.25, W.D. 7.0 mm; 3) 40X F N.A. 0.55, W.D. 2.1 mm; and 4) 100X Oil A N.A. 1.25, W.D. 0.23 mm, spring-loaded].</p> <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for all the equipments mentioned above and their accessories.</p>
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		<p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
<p>20</p>	<p>Water purification system with accessories (01 Number)</p>	<p>Proposed Application: The water purification system is intended to produce ultra pure Type – I water for various microbiological, LC-MS, AAS applications.</p> <p>Specifications for water purification system:</p> <ol style="list-style-type: none"> 1. The instrument shall comprise complete system to produce ultra pure Type I water, broadly a) pre filter, Type – II system, c) water storage tank, and d) Type –I system. All these components shall be from same manufacturer for best compatibility. 2. The feed water will be the tap water available in the QC lab. In case properties of feed water are essential at the time of quoting, the vendors are encouraged to collect the water samples from the lab and get it analyzed. <p>Specifications for pre-filter:</p> <ol style="list-style-type: none"> 1. System should contain inbuilt pre-filtration containing 0.5µm or less filter, activated carbon etc. 2. Additional Iron removal filter 200 Liter per Hour or more shall be provided. 3. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Specifications for Type –II system:</p> <ol style="list-style-type: none"> 1. Product Water should meet or exceed Type II water quality corresponding to analytical grade water as defined by ASTM, and ISO 3696/BS 3997. 2. Product Water Technical Specifications: Resistivity : 10-15 MΩ.cm at 25°C, TOC Levels less than 30 ppb, Bacteria : < 1 CFU/1000 ml, Flow rate : 6 liter/hr or more, Particle, microorganism Retention: >99%, TOC reduction: more than 90%. 3. Purification system shall be automatic EDI based. 4. Water recovery rate should not be less than 50%. 5. Display: Glass display with touch function to display conductivity of output water, rejection rate monitor, tank level, temperature etc.

		<ol style="list-style-type: none"> 6. Serial Interface RS-232 & PLC interface for external communication. 7. System should have facility to control remotely with the help of software interface. 8. The system shall have temperature compensation of product water temperature of max +/- 0.1 degree irrespective of temperature changes. And system shall have co axial resistivity meter with 0.01 per cm coefficient. 9. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Specifications for water storage tank:</p> <ol style="list-style-type: none"> 1. Capacity: Min. 30 Litres 2. Shall have Automatic sanitization module 3. Material: Polypropylene/SS 4. Shall have provision to attach height adjustable vent/dispense gun having 0.25µm or less sterile-grade filter. 5. Offer may also include other accessories, if any, which are essential to make the unit a complete system. <p>Specifications for Type – I system:</p> <ol style="list-style-type: none"> 1. Product water quality: Ultrapure Water (Type 1) Flow Rate: 1.5 -2 L/min; Resistivity (MΩ.cm at 25°C): 18.2; Microorganisms: <0.1 cfu/mL; Particulates < 0.22 µm (/ mL):< 1; Pyrogen Levels (EU/mL) : <0.001; RNase Level (ng/mL) : < 0.01; DNase Level (pg/µL) : < 4; and TOC (ppb): < 5. 2. If found necessary, after installation the successful vendor may be asked to analyze and provide a conformity report of the quality of Type-I water generated at QC lab at a third party laboratory for confirmation. 3. Shall have suitable filter to remove volatile organic compounds. 4. Dispensing arm: shall be of adjustable height and rotating arm-adjustable to any glassware. 5. Data Documentation: shall have provision for detailed data documentation with SD Card, PC or Printer. 6. Preferably shall have software which provides features such as e-signature, audit trail, and account management for full system control. 7. Shall have facility to control remotely with the help of software interface. 8. Shall include a compatible software and printer to document the data from time to time in the QC lab.
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		<p>9. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>10. Instrument shall be CE or equivalent compliant.</p> <p>11. Power supply 230 V, 50/60 Hz</p> <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
21	<p>Biosafety cabinet, Type II, A2</p> <p>(01 Number)</p>	<p>Proposed Application: The bio-safety cabinet is intended to carry out routine microbiological works related to food samples under safe and comfortable environment.</p> <p>Specifications for bio-safety cabinet:</p> <ol style="list-style-type: none"> 1. Class II Biosafety Cabinet Type A2 design. 2. Shall include a germicidal UV lamp, set of arm rest, electrical outlet and support stand provided with leveling bases. 3. Control: Microprocessor controlled. 4. Internal Dimensions: HxWxD (Minimum, mm): 650 x1200x450. 5. Front window must have sash opening with working surface and drain Pan of stainless steel 304. 6. Motor should be DUAL DC & must automatically adjust the airflow speed (balancing inflow and down flow) without the use of a damper to ensure continuous safe working conditions. 7. The microprocessor based Cabinet should use differential pressure sensor to display the inflow and down flow air velocities in real-time on an LED/LCD display. 8. Should have port for vacuum tubing and cables on the sides.

		<ol style="list-style-type: none"> 9. HEPA/ULPA Filter shall be over 99.90% MPPS (Most Penetrating Particle Size). 10. UV light must be programmable to allow for specific exposure times from 0 to 24 hours. 11. Lightening power: >1000 Lux (100fc) 12. Cabinet noise level : less than 65 dBA 13. Cabinet should be NSF (National Sanitation Foundation) certified and certificate of the quoted model should be attached. 14. Instrument shall be CE or equivalent complaint. 15. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 16. Power supply 230 V, 50/60 Hz 17. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories. 18. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.
22	Microbial air sampler with accessories (01 Number)	<p>Proposed Application: The microbial air sampler is intended to routinely monitor the air quality of food processing units/ QC lab etc. to ensure high product quality, to maintain a safe work environment and to meet regulatory requirements such as ISO 14698-1 (Bio-contamination Control).</p> <p>Specifications for microbial air sampler:</p> <ol style="list-style-type: none"> 1. Flow rate: Min. 100 litre / minute 2. Flow rate accuracy: $\pm 5\%$ 3. Biological Efficiency: has to be fully validated according to ISO 14698 4. Optimum Impaction Speed: <20 m /s or less 5. Rotor speed: over 8000 rpm, rotor shall be autoclavable. 6. Calibration: automated calibration

		<ol style="list-style-type: none"> 7. Operation: Portable device with colour touch screen. 8. Sample volumes: 10, 20, 50, 100, 200, 500 and 1000 L. Shall have option for customizing the sample volumes. 9. Battery performance: shall be rechargeable, shall support more than 25 x 1000 L measurements with one full charging cycle. 10. Interface: Serial RS232 interface, USB adapter 11. Shall have automatic power off provision 12. Compressed GAS Adapter: Shall be included or quoted as optional. 13. Calibration certificate shall be included. 14. Shall include the required software, rotor, protection cap, USB adaptor, power supply cables, metallic carrying case and user manual. 15. In case the equipment is a proprietary item, a document thereof shall be included. 16. Provision for user-defined settings for Date/time, language, time delay, interval sampling, QA Management etc. 17. Shall include a Declaration of Conformity as per IEL 61010-1. 18. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 19. Power supply 230 V, 50/60 Hz 20. Warranty: Two years comprehensive warranty for the complete unit.
23	<p>Hygiene monitoring system</p> <p>(01 Number)</p>	<p>Proposed Application: The hygiene monitoring system is intended for rapid detection of microbial activity in the food contact surfaces as well as in rinse liquids based on ATP bioluminescence.</p> <p>Specifications for hygiene monitoring system:</p> <ol style="list-style-type: none"> 1. Shall work based on ATP bioluminescence and results shall be expressed in relative light units (RLU).

		<ol style="list-style-type: none"> 2. Working range: Linear: 0 - 99.000 RLU, Logarithmic: 0 - 5.00 log₁₀ RLU. 3. Unit shall include luminometer with built-in printer; pens for both surface and liquid applications; CD ROM with compatible licensed software; printing paper rolls, PC cable, mains power supply with worldwide adapters, batteries for field applications; battery holder; test kits and metallic carrying case. 4. Printing paper rolls: Min. 10 nos. of paper rolls shall be included in the quote. 5. Batteries for portable operations: Min. two sets of batteries shall be included in the quote. 6. Test kits: Quote shall include test kits for at least 500 tests including dilutions tubes, test pens (both for surface and rinse applications), hygiene swabs, etc. 7. Self-checks: Shall have automatic self-check against a built-in standard, automatic correction of the background signal, and automatic temperature compensation during each measurement. 8. Data handling: Shall have provision for data storage and printing. 9. Printer: Shall have built in thermal printer. 10. Connections: Shall have at least two serial RS232 interfaces for data transfer between system and a computer. One low-voltage socket for power supply unit. One ROM key port. 11. In case the equipment is a proprietary item, a document thereof shall be included. 12. Instrument shall be CE or equivalent compliant. 13. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 14. Power supply 230 V, 50/60 Hz 15. Warranty: Two years comprehensive warranty for the complete unit.
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<p>24</p>	<p>Single chamber incubator for field use with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The incubator is intended for incubating coliforms, staphylococci and other microorganisms in field conditions.</p> <p>Specifications for single chamber incubator for field use:</p> <ol style="list-style-type: none"> 1. Capacity: shall be able to incubate 40-70 nos. of 47mm petri-dishes per cycle. 2. Temperature range: 30-44°C 3. The complete unit for field application shall comprise of incubator, thermometer, external power supply cord, rechargeable batteries, battery charger, adapter cables, carrying bag and field kits. 4. Number of shelves: Minimum 5 nos. 5. Internal dimensions (cm): 10 H × 16 W × 15 D or more. 6. Instrument shall comply with standard methods requirements 7. Shall have provision to view samples through clear plastic inner door without opening, to prevent temperature fluctuations. 8. Shall be compact, light weight and portable for field use. 9. In case the equipment is a proprietary item, a document thereof shall be included. 10. Instrument shall be CE or equivalent certified. 11. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 12. Mains power supply 230 V, 50/60 Hz 13. Warranty: Two years comprehensive warranty for the complete unit.
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<p>25</p>	<p>Ultra low temperature freezer with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The ultra low temperature freezer is intended to store the test samples/ reagents/ standards at low temperatures.</p> <p>Specifications for ultra low temperature freezer:</p> <ol style="list-style-type: none"> 1. Temperature range: freezer shall be programmable temperature range from -50°C to -80°C or lower, in 1°C increments, even at 32°C ambient temperature. 2. Type: vertical Freezer with Microprocessor-controlled temperature facility and alarms with non- volatile memory. 3. Capacity: shall be 400 Liters or above. 4. Internal dimensions (WxDxH): Min. 80 x 85x 190 cm 5. Defrost facility shall be available with the unit. 6. Compartments: shall have 5 numbers of compartments with equal number of insulated inner doors. 7. Freezer shall have Vent Plunger to prevent vacuum formation and keyed lock. 8. Interior: polished 304L stainless steel. 9. Exterior: Min. 18 gauges steel, more than 1 mm thick, powder coated, scratch and rust resistant. 10. Freezer should have the facility for Automatic Reset, Automatic Restart with Non-Volatile memory, programmed Restart. 11. Freezer shall have Unique Password to prevent unauthorized changes in settings. 12. Freezer should have Hermetically-sealed two-stage cascade refrigeration system with CFC, HCFC free refrigerants. 13. Freezer should have diagnostic software to trace and solve system errors. 14. Freezer shall be CE or equivalent compliant. 15. Freezer should be supplied with 5 KVA Servo Controlled Stabilizer.
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		<p>16. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>17. Power supply 230 V, 50/60 Hz</p> <p>19. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>20. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
26	<p>Spectrophotometer (01 Number)</p>	<p>Proposed Application: The spectrophotometer is intended for flexible applications under UV-VIS range in molecular biology, biochemistry or cell biology of both micro and macro volume samples.</p> <p>Specifications for spectrophotometer:</p> <ol style="list-style-type: none"> 1. Wavelength range: Min. 200 to 1000 nm or more 2. Shall have both micro and macro cuvette assembly, include both cuvette holders and cuvettes. 3. Shall allow both stand-alone operation and complete control through PC. 4. Branded PC with compatible PC software and laser jet printer shall be supplied along with the unit for data documentation in QC lab. 5. Shall have minimum 3 USB ports for PC and printer connectivity. 6. Shall include a 4GB memory stick for data storage and transfer. 7. Cuvette size: a) Micro volume: 1-5µl sample volumes (cuvette/plate); b) Macro volume: standard quartz cuvettes of 3-3.5 ml capacity (Minimum 4 nos. of each cuvette).

		<ol style="list-style-type: none"> 8. Resolution: shall have high 1 nm spectral bandwidth over entire wavelength range. 9. Wavelength setting and display: in steps of 0.1nm 10. Wavelength reproducibility : + 0.1nm 11. Absorbance range : 15 to 125A or more 12. Absorbance accuracy : ± 2% at 260nm 13. Photometric accuracy : + 0.002 Abs at 0.5 Abs 14. Photometric repeatability : <+0.001 Abs at 0.5 Abs 15. All operational modes as standard – Photometric; spectrum; quantitation; kinetics, DNA and protein quantitation in standalone and PC mode. 16. Shall have built in validation program, diagnostic and security functions. 17. Shall include a 1 KVA UPS. 18. Regulatory certification: CE or equivalent compliant. 19. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 20. Power supply 230 V, 50/60 Hz 21. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories. 22. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.
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<p>27</p>	<p>Electrophoresis workstation</p> <p>(01 Number)</p>	<p>Proposed Application: The electrophoresis workstation is intended to perform different steps involved in genomic/ protein application studies.</p> <p>Specifications for Electrophoresis workstation: The electrophoresis workstation shall have following components:</p> <ol style="list-style-type: none"> 1. Electrophoresis setup comprising of horizontal submarine electrophoresis unit, vertical electrophoresis unit, essential power supply system with 1KVA online UPS and acrylamide kit with TEMED and APS. 2. Imaging system comprising of hardware, licensed software, sample trays (UV/white/blue), branded PC, printer and other accessories. 3. Professional micropipette sets with backpack 4. Mini rocker 5. Mini centrifuge 6. Vortexer <p><u>*The quote shall be a composite one, including all the above mentioned equipments/ accessories. Tenders without this offer will not be considered. Also, the cost for individual component shall be mentioned separately in the price bid. Plea for making any changes at a later stage will not be considered.</u></p> <p>I. Specifications for Electrophoresis setup:</p> <ol style="list-style-type: none"> 1. Shall include horizontal submarine electrophoresis unit, vertical electrophoresis unit and all essential power supply system. 2. Number of gels: 1-4 (quoted model shall be able to run min. two gels at a time, but shall have the provision to run 4 gels simultaneously, if required). 3. Gel size: 8 x7 cm or above (for vertical) and 7x10 cm or above (for horizontal). 4. Shall include UV transparent gel trays with integrated fluorescent ruler. 5. Shall include casting frames for precision alignment on any flat surface.
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		<ol style="list-style-type: none"> 6. Should include casting stand for easy tape free and Agarose Plug free gel casting. 7. Shall have thermoplastic casting gaskets ensure leak-free casting. 8. Shall have glass plates with permanently bonded or Integrated 1.0 mm spacers for perfect alignment and leak-free and grease free casting. 9. Glass plates and combs shall be labeled with thickness and number of wells for instant identification. 10. Plastic combs shall not inhibit polymerization and should have a built-in ridge to eliminate air contact during gel casting for uniform gel polymerization. 11. Shall come with 10 well sample loading guides to prevent skipped or repeated loading lanes. 12. Shall have the provision for future up gradation to blotting, eluter and 2-D tube gel electrophoresis. 13. Shall be provided with 5 nos 10 well comb, 5 short plates, 5 integrated spacers plates with 1.0mm thickness and a Gel Loading guide for new users to know where the wells are. 14. Shall have a capability to run precast gels of 10 well, 12 well, 15 well, IPG well, Prep+1 well, without any additional modifications or up gradations. 15. The tank shall preferably be made up of single frame injection plastic and should not have any joints. 16. Shall include with gel solutions to cast a minimum of 50 gels. 17. Shall include acrylamide kit with TEMED and APS, 10% (min. for casting 50 gels). 18. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 19. Power supply 230 V, 50/60 Hz 20. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.
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		<p>21. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p> <p>Specifications for Electrophoresis power supply:</p> <ol style="list-style-type: none"> 1. Shall have output range (programmable) of 10–300 V, fully adjustable in 1 V steps 4–400 mA, fully adjustable in 1 mA steps 75 W maximum. 2. Shall give constant voltage, constant current with automatic crossover. 3. Shall have 4 pair output terminals to run 4 system at a time. 4. Shall have Timer of 1–999 min, fully adjustable. 5. Shall have Pause/resume run function 6. Shall have LED Display 7. Safety features: shall include no-load detection, sudden load change detection, overload/short circuit protection, input line protection, auto power-up after power failure. 8. Should have Input protection of Fuse on both hot and neutral. 9. Shall have a fan fitted at the back to keep the internal board cool. 10. The Power pack shall be EN-61010, CE compliant. 11. Shall include a 1 KVA online UPS with batteries and suitable stand for mounting batteries (shall comply GLP). 12. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 13. Power supply 230 V, 50/60 Hz 14. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories. 15. AMC: The firm shall separately quote for Annual
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		<p>Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p> <p>II. Specifications for imaging system:</p> <ol style="list-style-type: none"> 1. Image resolution: more than 4 mega pixels 2. Shall be able to image gels of different sizes, especially of mini and medium sizes. 3. System shall be completely automatic & user does not have to zoom, focus, adjust aperture or select light source. 4. System shall be modular with different sample trays & flexible to image a wide variety of applications, including nucleic acid. 5. System shall have trays for UV, White light, & Blue light. 6. System shall have stain-free capability for stain-free gels and blots. 7. Sample trays shall be customizable per user and recognized automatically. 8. System shall be able to accommodate a large portfolio of detection methods viz. ethidium bromide, SYBR® Green, SYBR® Safe, SYBR® Gold, Gel Green, Gel Red, Fast Blast™, SYPRO Ruby, Flamingo™, Oriole™, CY3, rhodamine, green fluorescent protein, Hoechst, Krypton, silver stain, copper stain, zinc stain, Coomassie Brilliant Blue, Coomassie Fluor Orange, and other spectrally similar stains, labels, and dyes, using single emission filter. 9. Shall have lens flat-fielding calibration for each sample tray to delivers image data that are always optimized and reproducible without imaging artifacts, providing superior image uniformity and quantitation. 10. The system shall be quoted with a Stain free kit for casting a minimum of 100 gels. 11. Shall be supplied along with branded computer and Laser Printer with following specifications, for analysis or results: latest Intel processor, min. 500 GB hard disk, 2 GB RAM, Windows 8 or above OS, 18.5" TFT monitor, 1
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		<p>KVA UPS, keyboard, mouse and other essential accessories. The printer shall be a compatible colour laser jet printer.</p> <p>12. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>13. Power supply 230 V, 50/60 Hz</p> <p>Specifications for imaging system software:</p> <ol style="list-style-type: none"> 1. The system shall be supplied with compatible licensed software to analyze the results. 2. Software shall have highest level of automation in hardware calibration, image optimization, capture, and analysis. 3. Shall have automated workflow recorded in a protocol file from image capture to results thus eliminates need for training. 4. Shall allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow. 5. Shall have automated image capture driven by a selected gel or blot application. 6. Shall have one-button acquisition from image capture to result. 7. Shall generate the publication ready images with one click export option. 8. Shall be able to generate customizable reports. <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
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		<p>III. Specifications for professional micropipette set with backpack :</p> <ol style="list-style-type: none"> 1. Shall supply set of 4 Professional and fully autoclavable micro pipettes of P10, P20, P200, P1000 (1 each). 2. Shall include carousel pipette rack, 4 racks of pipette tips, and relevant back pack(s). 3. Shall supply professional micropipette, 8 channel, adjustable volume, 5-50 ul with suitable backpack (1 no.). 4. Shall supply professional micropipette, 8 channel, adjustable volume, 20-200 ul with suitable backpack (1 no.). <p>IV. Specifications for Mini Rocker:</p> <ol style="list-style-type: none"> 1. Shall supply a Rocker for staining purpose. It shall have 2 holding trays. 2. Speed range: 10–35 rpm or better 3. Motion tilting: $\pm 7^\circ$ or better 4. Platform dimensions (W x D): 25 x 20 cm or better 5. Platform clearance: 6-7 cm or better 6. Load capacity: 4. Kg or better 7. Regulatory certification: CE compliant 8. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 9. Mains power supply 230 V, 50/60 Hz 10. Warranty: Two years comprehensive warranty for the complete unit. <p>V. Specifications for Mini Centrifuge:</p> <ol style="list-style-type: none"> 1. Maximum speed: 6,000 rpm (2,000 x g) 2. Capacity: 6 x 1.5/2.0 ml or 0.4/0.5 ml tubes, 16 x 0.2 ml PCR tubes 3. Dimensions (W x D x H): 15 x 15 x 11 cm or better 4. The Instrument should be CE Marked 5. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 6. Power supply: 230 V, 50/60 Hz. 7. Warranty: Two years comprehensive warranty.
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		<p>VI. Specifications for Vortexer:</p> <ol style="list-style-type: none"> 1. Speed range: 0–3,000 rpm 2. Operating modes: Continuous operation or touch control 3. Temperature range: 4–65°C 4. Dimensions (W x D x H): 12 x 16 x 13 cm or better 5. Shall include Flathead Dimpled Adaptor. 6. Regulatory certification: CE compliant 7. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 8. Mains power supply: 230 V, 50/60 Hz 9. Warranty: Two years comprehensive warranty for the complete unit.
28	<p>ELISA unit with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The ELISA unit is intended to perform wide range of photometric applications in food industry including detection of allergens/ adulterants etc., apart from regular serological and immunological applications.</p> <p>Specifications for the ELISA unit with accessories: The ELISA unit shall include 1) Absorbance reader with compatible software and accessories, 2) Plate washer with accessories and 3) compatible external printer for A4 paper applications.</p> <p>I. Specifications for absorbance reader:</p> <ol style="list-style-type: none"> 1. Wavelength range: 400-750 nm or more. 2. Number of wells: 96 nos. 3. Photometric range: 0.00- 3.50 OD or more 4. Resolution: 0.0001OD 5. Shall have self diagnostic at start up and LCD display for data and protocol visualization. 6. Shall be able to store 60-70 protocols, standard curves and graphs. 7. Linearity: ≤1.0% from 0.0–2.0 OD or comparable. 8. Accuracy: ±1.0% or 0.010 from 0.000–3.000 OD at 490 nm or comparable. 9. Precision: 1.0% or 0.005 OD from 0.0–2.0 OD; 1.5% from 2.0–3.0 OD or comparable.

		<p>10. Filter wheel: Min. 8-position and shall have over 5 pre-installed filters.</p> <p>11. Plate shaking capacity: with 3 speeds of low, medium and high and timer of 0-999secs.</p> <p>12. Should conduct automatic calibration before each reading.</p> <p>13. Shall provide compatible software for external computer control.</p> <p>14. Shall have USB 2 port for external computer control.</p> <p>15. Should be able to accommodate flat-, U-, or V-bottom plate or 8- or 12-well strip plates.</p> <p>16. Printer: shall have an onboard thermal printer. In addition, an external laser jet printer with A4 paper compatibility shall be included in the quote. Shall also include 10 roll printer papers for onboard thermal printer.</p> <p>17. The software shall have following features: Multiple-plate processing with automated data export, custom reporting function that provides one-button screening for predefined assays, such as for Comprehensive Curve-Fit Analyses, external standard curves for multiple plates and curve-fit graph overlay for comparison.</p> <p>18. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>19. Power supply 230 V, 50/60 Hz</p> <p>II. Specifications for plate washer:</p> <ol style="list-style-type: none"> 1. Shall be compatible with 96 well plates that have flat, U or V bottom wells and strips. 2. Residual well volume: 2µl or less. 3. Should come with required bottle and tubing set and aerosol protection cover. 4. Hardware manifolds: 8- or 12-channel 5. Vacuum: shall have integrated vacuum pump. 6. Waste bottle volume: 1500 ml or more.
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		<ol style="list-style-type: none"> 7. Shall have provision for dispenser speed control and adjustable plate shaking. 8. Shall be able to perform single cycle and two cycle washing methods. 9. Shall have priming sequence of hydraulic system during change of wash solution, and separate disinfection program. 10. Shall include a maintenance kit, if any. 11. Regulatory certification: CE or equivalent compliant. 12. In case a starter kit is essential to commission the equipment, the bidder should provide starter kit along with the equipment. 13. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 14. Power supply 230 V, 50/60 Hz <p>Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
29	<p>Real Time PCR with accessories</p> <p>(01 Number)</p>	<p>Proposed Application: The Realtime PCR unit is intended to perform quantitative detection and qualitative analysis of food safety and quality including GMOs, food allergens, food authentication and food borne diseases.</p> <p>Specifications for Real Time PCR with accessories:</p> <p>Real Time PCR unit should include 1) real-time PCR detection system with compatible software, 2) licensed primer/ probe design software, 3) standard test kits for food borne pathogens, 4) SYBR GREEN mix 5) concentrated, ready-to-use reaction master mix for probe and dye based quantitative PCR, 6) compatible branded PC, laser colour printer, and 7) 3KVA online UPS.</p>

		<ol style="list-style-type: none"> 1. Real time PCR with block of 96 x 0.2 ml tubes or plate to run typical 0.2ml tubes, strips, and plates. 2. System should be Gradient enabled. 3. Temperature range 4– 100°C with accuracy of ± 0.2 OC and uniformity of $\pm 0.4^{\circ}\text{C}$ within 10 sec of arrival at 90°C. 4. The unit shall have an automated system for both real-time PCR and post-PCR (end-point) analysis using in-built Peltier based PCR machine. 5. System should support applications including absolute quantification, relative quantification, multiplex-PCR, allelic discrimination (SNP), melt curve analysis as well as pathogen detection and plus/minus assay using internal positive control. 6. The normalization of reaction due to non-PCR related fluctuations should be possible by using any calibrated dye. 7. System should be standardized for TaqMan and SYBR Green Chemistry with pre-validated and functionally tested TaqMan Gene Expression Assays as well as TaqMan SNP Genotyping Assays. 8. Shall be able to detect 5 or more different fluorescent reporters in the same tube. 9. Ramping speed: 2.5°C per sec or higher. 10. The system should be able to detect five-six dyes and perform multiplexing for more than three colors. 11. The hardware must provide Peltier thermal cycling for Fast-PCR as well as Standard-PCR run in the same block. 12. Unit shall have a channel dedicated for FRET experiments and shall be capable of performing FRET Experiments without the need of any filter modifications or calibrations. 13. System should support reaction volume 10-30μl and universal thermal cycling conditions to eliminate optimization of PCR conditions for running the templates from different sources simultaneously. 14. Software should have preset protocols for common foodborne pathogens viz. <i>Listeria</i>, <i>E. Coli</i>, <i>Salmonella</i>, <i>Compylobactor</i>, or more.
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		<ol style="list-style-type: none"> 15. Dedicated licensed full version software for primer and probe design must be included in the supply. 16. Shall include testing kits for detecting <i>Listeria monocytogenes</i>, <i>Salmonella</i> spp., <i>E. Coli</i> O 157:H7, <i>Compylobacter</i> spp. (Min. 500 reactions). 17. Shall include SYBR Green Mix containing dNTPs, DNA Polymerase, MgCl₂, SYBR Green, enhancers, stabilizers and fluorescein (Min. 500 x 50 µl reactions). 18. Shall include concentrated, ready-to-use reaction master mix for probe-based quantitative PCR. 19. Shall include concentrated, ready-to-use reaction master mix for dye-based quantitative PCR. 20. Application notes: relevant application notes for detection of adulterants and mentioned microorganisms in foods system, especially in the meat system shall be provided at the time of installation. 21. Unit shall include compatible advanced version of branded desktop with Intel Core 2 Duo fast processor, genuine windows, RAM-2GB and above, hard disk-500 GB and above and other compatible features with TFT display/monitor, multifunctional color laser printer and scanner. 22. Unit shall include 3KVA online UPS with matching batteries and suitable stand for mounting batteries (shall comply GLP). 23. Regulatory certification: CE or equivalent compliant. 24. In case a starter kit is essential to commission the equipment, the bidder should provide starter kit along with the equipment. 25. Offer may also include other accessories, if any, which are essential to make the unit a complete system. 26. Power supply 230 V, 50/60 Hz 27. Optional: Training - Bidders may arrange for a comprehensive service training to staff of the QC Lab on the model offered at his/her expense, if needed. 28. Warranty: Two years comprehensive warranty and one year non-comprehensive warranty, free of cost for the equipment and accessories.
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		<p>29. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
<p>30</p>	<p>Atomic Absorption Spectrophotometer (01 Number)</p>	<p>Proposed Application: The AAS is intended to perform quantitative detection of trace elements, quality assurance and testing for heavy metal contamination in food systems.</p> <p>Specifications for Atomic Absorption Spectrophotometer:</p> <p>The atomic absorption spectrophotometer shall be able to detect Pb, Cd, Sn, Ar, Se, Hg, K, Na, Mg, P, Mn, Ca, and Fe in ppb levels and shall have the following components:</p> <ol style="list-style-type: none"> 1. Complete AAS unit for Flame analysis (Flame model) with suitable detector and licensed software. 2. Graphite furnace atomizer (Furnace model) with suitable detector and licensed software. 3. Auto sampler suited for both flame and furnace models 4. Auto atomizer changer, if any, for easy switching between burners. 5. High temperature burner head for N₂O-C₂H₂ flame. 6. Hydride vapour generator. 7. Pyro coated graphite tubes. 8. Hollow cathode lamps for all the mentioned elements. (In case multi-element lamps are quoted, it shall be included in optional and the complete list of elements which can be detected by each of them in single step analysis shall be clearly indicated). 9. Exhaust's fume hood assembly, preferably made of SS body and wide mouth. 10. UHP grade filled in gas cylinders for Argon, Acetylene and Nitrous Oxide (2 nos. each). 11. Regulators for each of the above gas cylinders. 12. Oil free air compressor, if required.

		<p>13. Branded PC, printer and accessories.</p> <p>14. 10KVA online UPS with matching batteries.</p> <p>15. Microwave digestion system for sample preparation.</p> <p>16. Standard solutions for all the mentioned elements (i.e. Pb, Cd, Sn, Ar, Se, Hg, K, Na, Mg, P, Mn, Ca, and Fe).</p> <p>17. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p><u>The quote shall be a composite one, including all the above mentioned equipments/ accessories. Tenders without this offer will not be considered.</u></p> <p><u>In case, any of the above mentioned items are not essential or if any additional items are essential for making a complete unit, it shall clearly be specified in the technical specifications.</u></p> <p><u>Also, the cost for individual component shall be mentioned separately in the price bid.</u></p> <p><u>Plea for making any changes at a later stage will not be considered.</u></p> <p>Detailed technical specifications for Atomic Absorption Spectrophotometer:</p> <ol style="list-style-type: none"> 1. Elements to be detected: Unit shall be able to detect Pb, Cd, Sn, Ar, Se, Hg, K, Na, Mg, P, Mn, Ca, and Fe in ppb levels. 2. Wavelength range: 185 -900 nm. Shall have automatic wavelength selection and peaking facility. 3. Defraction grating: 1800 lines/mm 4. Background correction: shall have built in background correction features. 5. Spectral bandwidths: shall have 3-4 user selectable, automatic switching, slit widths between 0.2 to 2. 6. Lamps: Unit shall have 6-8 lamp turrets with built in power supply slots. Shall have Hollow Cathode lamps for Pb, Cd, Sn, Ar, Se, Hg, K, Na, Mg, P, Mn, Ca, and Fe.
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		<p>* Bidders shall invariably quote hollow cathode lamps for each of the above elements, even if they quote multi-element lamps. In case multi-element lamps are quoted, it shall be included in optional and the complete list of elements which can be detected by each of them in single step analysis shall be clearly indicated.</p> <ol style="list-style-type: none"> 7. Software: All relevant compatible licensed software (s) for complete automatic analysis shall be included in the quote. 8. Gas controls: Should have fully computer-controlled with oxidant and fuel monitoring. Keyboard-activated remote ignition system with air-acetylene. Acetylene flow should be automatically adjusted prior to the oxidant change when switching to or from nitrous oxide-acetylene operation. 9. Safety functions: Interlocks to prevent ignition in absence of proper burner head, the nebulizer/end cap, or the burner drain system preferred. 10. Sample introduction system: Auto sampler with mounting for both flame and furnace units. Alignment of the flame in the light beam shall be fully automatic and automatic software-controlled self-optimization of the burner position. Auto atomizer changer, if any, for easy switching between burners shall be included. 11. High temperature burner head: Unit shall have high temperature burner head for $N_2O-C_2H_2$ flame. 12. Graphite furnace atomizer: Shall have heating range Ambient up to $2600^{\circ}C$ or more. Unit shall have Auto atomizer changer, if any, for easy switching between burners. Shall include minimum 5 nos. of pyro coated graphite tubes. 13. Hydride vapour generator: Shall have hydride vapour generator to facilitate analysis of hydride forming elements in ppb levels. 14. Data control system: Unit shall include compatible advanced version of branded desktop with Intel Core 2 Duo fast processor, genuine windows, RAM-2GB and above, hard disk-500 GB and above and other compatible features with TFT display/monitor, multifunctional color laser printer. 15. Exhaust's fume hood assembly: preferably made of SS body (made of SS sheets with min. 1mm thickness) and wide mouth (Min. 2' x 2' mouth) (shall comply GLP).
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		<p>16. Gas cylinders and regulators: UHP grade filled in gas cylinders for Argon, Acetylene and Nitrous Oxide (2 nos. each) shall be included. Regulators (one no. each) for each of the above gas cylinders also shall be provided.</p> <p>17. Oil free air compressor, if required, shall be included in the quote.</p> <p>18. UPS: Unit shall include a 10KVA online UPS with matching batteries and suitable stand for mounting batteries (shall comply GLP).</p> <p>19. Sample preparation unit: Microwave digestion system for sample preparation shall be provided along with the unit.</p> <p>20. Standard solutions: standards from reputed manufacturers for all the mentioned elements (i.e. Pb, Cd, Sn, Ar, Se, Hg, K, Na, Mg, P, Mn, Ca, and Fe) shall be supplied.</p> <p>21. Application notes: relevant application notes for detection of mentioned elements in foods system, especially meat system shall be provided at the time of installation.</p> <p>22. In case a starter kit is essential to commission the equipment, the bidder should provide starter kit along with the equipment.</p> <p>23. Offer may also include other accessories, if any, which are essential to make the unit a complete system.</p> <p>24. Regulatory certification: CE or equivalent compliant</p> <p>25. Power supply : 230 V, 50/60 Hz</p> <p>26. Optional: Training - Bidders may arrange for a comprehensive service training to staff of the QC Lab on the model offered at his expense, if found essential.</p> <p>27. Warranty: Three years comprehensive warranty and two years non-comprehensive warranty, free of cost for the equipment and accessories.</p> <p>28. AMC: The firm shall separately quote for Annual Maintenance Contract (Comprehensive/ Non-comprehensive) for three years after completion of the warranty period. Shall clearly indicate the number of visits/ year, time for attending breakdown calls, coverage etc.</p>
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TERMS & CONDITIONS

1. The Quotation(s) should be sealed and Superscripted on cover “Quotation for Equipment (Name).....and addressed to the undersigned.
2. The rates Quoted (in Indian Rupees) should be F.O.R. NRC on Pig, ICAR, Rani, Guwahati-781131 excluding VAT/Taxes. For imported items/quotes, the rates should be quoted on F.O.B. & C.I.F. basis. **Taxes, if any should mentioned separately.**
3. **The firm is responsible/liable to pay all the local taxes and also to arrange Road Permit Certificate. Documents, if required for such purpose may be provided on request.**
4. Indian Agents quoting behalf of their foreign principals should provide necessary authorization letters from their principal along with quotation.
5. The terms & conditions, period of warranty, A.M.C and time required for supply/installation should be mentioned clearly.
6. In the event of material supplied not in conformity with the same standard and specification furnished in the quotation, the items/material supplied is liable to be rejected and returned to the supplier at their cost.
7. (A) **Payment for goods quoted in Indian Rupees:** 100% payment will be made after satisfactory supply and instillation of items ordered subject to submission of 10% of total value of consignment towards performance security money.

(B) **Payment for goods supplied from abroad:** 100% of FOB Value of Orders will be made in the shape of Foreign Demand Draft/ Letter of Credit after satisfactory supply and installation of items ordered subject to submission of 10% of total value of consignment as Performance Security Money. Indian Agency commission should be quoted separately and will be paid in Indian Rupees to the bidder’s agent against the submission of claim.
8. **In case of imported goods.**
(A) The Institute will issue DSIR certificate on request, for Custom Duty Exemption. However Custom clearance charges, if any will be borne by the firm/Indian agent on behalf of the institute, for which necessary documents will be produced & consignment should be forwarded to the

Institute NRC on Pig, Rani, Guwahati, immediately after custom clearance.

Further, the custom clearance charges as per GOI norms will be reimbursed by the institute on production of relevant Documents in original.

(B) Air Freight & Insurance Charges up to F.O.R Rani, Guwahati will be borne by firm/Indian Agent on behalf of this Institute & amount of which will be reimbursed in Indian currency, by the Institute on production of relevant documents in original.

9. The Director NRC on Pig, ICAR, Rani, Guwahati does not bind himself to accept the lowest quotation or any other quotation and reserves the right to cancel any quotation or all quotations without any notice. The decision of the Director, NRC on Pig, Rani, Guwahati is final.

10. The firms should submit Quotation/Tender only if, they are capable to **supply the items within 90 days of the date of issue of supply order. Liquidation charges for delay in supply will be applicable @ 0.5% per month.**

11. **The Institute has adopted two bid systems therefore “Technical Bid” & “Financial Bid” should be kept separately in two different sealed envelopes.** Superscripted thereon TECHNICAL BID and FINANCIAL BID within a larger sealed packed/envelope. The larger outer cover should indicate Tender Number, Name of the Equipment, Sl. No. and opening date on the top of right hand corner.

12. **The quoted specification should be prepared after taking into consideration the advertised specification and the terms & conditions of the Tender strictly.**

13. **Technical Bid & Financial Bid** (Page No. 50 & 51) must be prepared in the prescribed format (**Annexure VI and Annexure VII**) **without which tender is liable to be cancel.** The Bidder must also furnish the specific answers as per the **Questionnaire** (**Annexure- VIII**, Page No. 52-56) as enclosed along with the Tender Document.

Sd/-
DIRECTOR,
ICAR-NRC on Pig, Guwahati.

Annexure- VI

PREPERATION OF TECHNICAL BID

Technical Bid should be prepared in the following format:

SL. No	Name of the Equipment	Advertised Specification	*Quoted Specification	Whether Quoted Specification Matches with the Advertised Specification	Difference between Advertised specifications with Quoted Specification	Any Advantage/ Disadvantage

* Technical Specifications of the offered Instrument must be supported with the original detailed technical brochures.

Note: Bidder should also enclose all the technical brochures which provide sufficient information for the quoted specifications.

Annexure-VII

PREPERATION OF FINANCIAL BID

Financial Bid should be prepared in the following format:

A. For Goods Manufactured in India.

SL. No.	Description of Goods.	Quantity	Ex-factory price	Excise Duty if any	Inland Transportation	Insurance Charges	Sales Tax/VAT	Total Amount (Rs.)

Total Bid Price

Rupees.....

B. FOR Goods Manufactured Outside India.

S L. No.	Description of Goods.	Qty.	*Net F.O.B Price (Inclusive of F.O.B Charges) in foreign Currency	Net F.O.B Price (Inclusive of F.O.B Charges) in Indian Currency	Net Freight/ transportation & Insurance Charges upto Indian Air/ Sea Port in Foreign Currency.	Net Freight/ transportation & Insurance Charges upto Indian Air/ Sea Port in Foreign Currency.	Net Freight/ transportation & Insurance Charges upto Indian Air/ Sea Port in Indian Currency.	Inland Transportation upto NRC on Pig, ICAR, Rani, Guwahati in Indian Rupees	Agency Commission (In Indian Currency)	Total cost upto NRC on Pig, ICAR, Rani, Guwahati

Signature of the Bidder
Name & Address

*Note: No extra cost towards packing, forwarding, documentary etc charges will be paid by this Institute.

ANNEXURE- VIII

QUESTIONNAIRE TO BE FILLED BY BIDDERS

[BIDDERS SHOULD FURNISH SPECIFIC ANSWERS TO ALL THE QUESTIONS GIVEN BELOW. IN CASE A QUESTION DOES NOT APPLY TO A BIDDER, THE SAME MAY BE INDICATED. IF THE ANSWERS FURNISHED ARE NOT CLEAR AND /OR ARE EVASIVE, THE BID WILL BE LIABLE TO BE IGNORED/ REJECTED].

Sl. No.	Question to be answered	Answer
1	Bid No. _____ date for bid opening on _____	
2	Offer is open for acceptance	Yes/ No
3	Brand of goods offered :	
4	Name & address of manufacturer:	
5	Station of Manufacturer:	
6	What is your permanent Income Tax A/C No (PAN no):	
7	Confirm whether you have attached your sale tax and Income Tax Registration no. (PAN No.):	Attached/ Not attached
8	Status: (a) Are you currently registered with the Directorate General of supplies & Disposals (DGS&D) for the items(s) quoted? If so, indicate the date up to which you are registered and whether there is any monetary limit on your registration. (b) Are you a small scale unit currently registered with the National Small Industries Corporation (NSIC) UNDER Single Point Registration Scheme for the item(s) quoted? If so, indicate the date up to which you are registered and whether there is any monetary limit on your registration. (c) If you are not registered either with NSIC or DGS&D, please state whether you are currently	Yes/ No If Yes, details: Yes/ No If Yes, details: Yes/ No

	<p>registered with Directorate of industries of the State Government concerned. If so, indicate the date up to which you are registered and whether there is any monetary limit on your registration.</p> <p>(d) Are you registered under the Indian Companies Act. 1956 or any other Act? Please attach certified copy (copies) of the relevant registration certificate(s) in confirmation to your above answer(s).</p>	<p>If Yes, details:</p> <p>Yes/ No</p> <p>If Yes, details:</p>
9	<p>Please indicate:</p> <p>Name & full address of your Banker(s): (SWIFT Code/ IFS Code/ Branch Code etc. shall be clearly mentioned)</p>	
10	<p>Whether you are:</p> <p>(i) Manufacture of the goods quoted; or (ii) Manufacture's authorized agent for those goods.</p>	<p>Yes/ No</p> <p>Yes/ No</p>
11	<p>In case the bidder is an authorised agent, valid documentary proof to this effect must be enclosed with the quotation.</p>	<p>Enclosed / Not enclosed</p>
12	<p>State whether business dealings with you have been currently banned by any Ministry/Deptt. Of Central Govt. or any State Govt.</p>	<p>Yes/ No</p>
13	<p>Details of Tender fee and EMD submitted against the Bid:</p>	
14	<p>Reputed manufacturers of equipment (Specified in the tender notice) or their authorised agents with well established sales and services facilities only need to respond to the tender notice.</p>	<p>Conform / Do not conform to requirement</p>
15	<p>Separate quotations must be submitted for each item as per the format given in the Tender document. (Please refer Annexure-VI and VII).</p>	<p>Complied / Not complied</p>
16	<p>The make, model no., detailed specifications, illustrative pamphlets must accompany the quotations without which the quotations are liable</p>	<p>Complied / Not complied</p>

	to be rejected.	
17	The bidder must furnish a list of customers to whom the equipment quoted has been supplied preferably in Eastern and North Eastern India. Name and contact telephone no. of the customer may be furnished.	Enclosed / Not enclosed
18	Bidders are requested to carefully go through the specifications given in the tender and comply all the terms and conditions mentioned in the tender document and quote only when they are sure they have the product specified to offer. In case of any doubts, the bidders can contact Director, ICAR-NRC on Pig, on any working day with prior appointment.	Complied / Not complied
19	Details of Warranty, AMC and other essential requirements of the tender must be provided as mentioned in the tender. If any component of the equipment quoted is not covered by the warranty, the same must be specified.	
20	It is to be noted that the warranty will start after proper installation of the equipment and after obtaining users satisfactory report.	Complied / Not complied
21	The bidder should provide on-site training to the users at the time of installation.	Complied / Not complied
22	In case a starter kit is essential to commission the equipment, the bidder should provide starter kit along with the equipment.	Complied / Not complied
23	Where the equipment offered is modular (viz. Electrophoresis workstation), the price break-up of individual modules/accessories/parts must be given. The bidder may not be given a change to indicate the price breakup at a later date. Wherever possible price breakup of components/modules forming a system must be given.	Complied / Not complied
24	Where calibration is required, the bidder will furnish a test certificate along with complete test results and test conditions for the equipment specifications offered in case an order is placed.	Agreeable / Not agreeable
25	a) If an order is placed with the bidder, the bidder will install and test the equipment to its specifications at the site of installation free of charge.	Agreeable / Not agreeable

	b) If it is not possible to test some specifications, the same may be indicated.	Complied / Not complied
26	The bidder is agreeable to install and test the equipment and undertake after-sales-service only through a factory trained certified engineer.	Yes/ No
27	Equipment offered should form a complete system. Plea that an item essentially required to make it functional, but not quoted since not specifically asked for in the tender, will not be accepted. An incomplete offer is liable to be rejected on that ground.	Quoted complete system/ Not quoted complete system
28	The bidders must ensure that GLP principles are complied with. He must ensure that qualified and well-trained personnel are available to install the equipment and test the functions. The bidders must ensure that GLP compliance programmes are built in to the system and all these tests are carried out at the site of installation. Wherever required, the standards required to carry out such tests, must be provided by the bidder with all the particulars of the standards like composition, weight, atmospheric and operating conditions etc., specified.	Specified/ Not specified
29	Technical bid and price bid should be submitted separately under sealed covers, and both the envelopes put together in another cover which should also be sealed. This is to ensure that if the technical bid qualifies with the laid down specifications and configurations, only then price bid will be opened. Otherwise, the price bid will automatically get rejected along with the technical bid not fulfilling the specifications/configurations. The envelopes should super-scribed as “ Technical bid for _____ (name of the equipment) ”, “ Quotation for Price Bid for _____ (name of the equipment) ” both envelopes together in third envelope super-scribing “ Quotation for name of the equipment & tender document Name & No. _____ ” respectively.	Complied/ Not complied
30	TENDER DOCUMENT FEE AND EMD FEE SHOULD BE SUBMITTED IN A SEPARATE COVER ALONG WITH THE TECHNICAL BID.	Complied/ Not complied

31	If a bidder is quoting for more than one item, he/she shall submit separate quotes for each item in separate envelopes . Also, separate tender fee and EMD shall be submitted along with each quote .	Complied/ Not complied
32	a) Whether the firm is exempted from paying Tender Fee and EMD	Yes/ No
	b) If Yes, whether the details of exemption is mentioned clearly in the technical bid/covering letter.	Yes/ No
	c) Also, copy of letter of such exemption shall also be enclosed as proof .	Complied/ Not complied
33	<p>The technical bid must have the following enclosures:</p> <ol style="list-style-type: none"> 1. Technical Bid: It shall be a true copy of the price bid but with the prices omitted. All items quoted must be clearly indicated. Also, technical bid shall be prepared as per Annexure-VI of the tender document. 2. Detailed literature, illustrative pamphlets, company profile and customers list. 3. Duly filled Questionnaire (Each point shall be indicated clearly). 4. Original Tender Fee, EMD in a separate cover. 5. Covering letter. 	Complied/ Not complied

NOTE :

i) Unless the questionnaire is completely filled in and detailed information provided as required, your offer is liable to be rejected.

ii) Complete questionnaire should be signed by the bidder and sent along with the quotation in Technical Bid and a copy in Price Bid.

Signature of Witness

Name & address of Witness

Signature of Bidder

Full name, designation &
Address of the person signing above
(Name and address of the bidding firm).

Date:

Date: