

**BIHAR AGRICULTURAL UNIVERSITY
SABOUR-813210, (BHAGALPUR), BIHAR**

Re-Tender Notice No. – 27

EOI for Procurement of Laboratory Equipments

Sealed quotations / tenders are invited through registered / speed post / courier services, from Reputed / Registered, Supplier / Dealers / Firms / Company / Enterprises for the supply of Laboratory Equipments under Experiential Learning Equipments for 2016-17 & 2017-18. Sealed envelope containing full information along with supporting documents, must reach in the office of the undersigned on or before **16/03/2017 upto 4.00 P.M.** and the same will be opened on **17/03/ 2017 at 3.00 P.M.** Those who have already applied for the supply of Laboratory Equipments under Experiential Learning Equipments for 2016-17 & 2017-18 in the earlier Tender shall not apply again. Details are available on www.bausabour.ac.in.

O/I Central Store (H.Q.)

BAU SABOUR

BIHAR AGRICULTURAL UNIVERSITY

SABOUR, BHAGALPUR – 813 210 (BIHAR)

www.bausabour.ac.in



TENDER DOCUMENT FOR

**“Supply of Laboratory Equipments under Experiential Learning Equipments
for 2016-17 & 2017-18”**

O.O. No.27/CS (HQ)/BAU, Sabour

EQUIPMENTS FOR (COH NOORSARAI NALANDA AND MBAC SAHARSA)

Sec-I			
WASHING & PROCESSING SECTION			
Sl. No.	Equipments name	Specification	EMD
1.	Fruit & Vegetable Washer	❖ Rotary type, all parts SS with hopper facility ❖ Conveyer type-SS tank and modular conveyor, food grade conveyor belt, capacity 100 Kg/hr, inbuilt water recirculation system	Rs. 12,000.00
2.	Pulper	One stage pulper :- Contact parts SS, supporting parts MS, sieve stainless steel Capacity 100 Kg / Hr With 1 Hp / Single Phase / 1440 rpm SS Jali 36” and 38”	Rs. 1,350.00
3.	Cooking Kettle type-I	Capacity 25 Gallons	Rs. 2,000.00
4.	Vertical holding tank along with Transfer pump	Capacity 200 Ltr	Rs. 2,100.00
5.	Hydraulic Juice Extractor (50 kg /hr)	Hand operated. Rack and cloth type with Hydraulic pump and Hydraulic gauge most suitable for extracting juice from apples, pineapples, carrots, ginger, grapes etc.(with rack and cloth) Wooden racks (12 no.) and cloths	Rs. 2,200.00
6.	Centrifugal pump	Standard	Rs. 1,500.00

Sec-II			
SUGAR SYRUP PREPARATION SECTION			
Sl. No.	Equipments name	Specification	EMD
1.	Steam Jacketed Tank with Insulation & Stirrer	Jacket and kettle both made of 10/12 swg/10/10 swg stainless steel mounted on mild steel stand with tilting arrangement, complete with steam pet cock, Safety valve, pressure Gauge. Capacity 200 lits.	Rs.3,300.00
2.	Duplex Filter	Capacity LPH	Rs. 2,050.00
3.	Sugar Syrup Holding Tank	Capacity 200 Ltr	Rs. 2,250.00

Sec-III			
PROCESSING SECTION FOR RTS JUICES/SQUASH /NECTAR			
Sl. No.	Equipments name	Specification	EMD
1.	Blending Tank	Capacity 200 LPH	Rs. 2,400.00
2.	Pasteurizer (Tube	MOC SS 304, Tube in tube type, Temperature- 50	Rs.13,500.00

	Type)	Degree centigrade to 90 Degree centigrade, holding time 30 sec, Steam Consumption 90 Kg/Hour, with flow diversion valve, 6 HP Pump	
3.	Processing table	Standard	Rs. 1,650.00
4.	Homogenizer	Pressure range 20 mpa-60 mpa , all contacting parts made of SS-304 Material, homogenization pressure display on analogue guage, 1000 LPH Capacity, 10 HP Motor	Rs.9,600.00
5.	Vertical Holding Tank	Standard (200 Ltr.)	Rs. 3,000.00
6.	Overhead Insulated Tank (Without agitator)	Standard (200 Ltr.)	Rs. 2,000.00

**Sec-IV
END PACKAGING**

Sl. No.	Equipments name	Specification	EMD
1.	Vacuum filler (Fitted with SS Covers)	<ul style="list-style-type: none"> ❖ Suitable for filling viscous liquids like ketchup, jam, ❖ SS Material, meeting GMP standards Filling range- 200-1000 ml, 10-12Bottles/min 	Rs.2,600.00
2.	PP cap sealer (Suitable to apply pilfer proof caps on glass/PET bottles)	<ul style="list-style-type: none"> ❖ It is equipped with threading and roller operation for hermetic sealing of the caps ❖ The bottles are placed manually by hand on the base. The sealing operation is done by rotating the handle which conducts integrated operation of threading and rolling of cap onto the bottle neck. ❖ Capacity 20 bottles/min 	Rs.475.00
3.	Form fill & seal Machine	<ul style="list-style-type: none"> ❖ Capacity-60-120 Pouch/ Min ❖ Electric Load-6 KW, 3 Ph ❖ MOC-Mild Steel and Stainless Steel ❖ Packaging- 50 ml -100 ml 	Rs.3,500.00
4.	Shrink Tunnel	<ul style="list-style-type: none"> ❖ Standard 	Rs. 3,000.00
5.	GCG-BL Filler	Suitable for filling viscous liquids like honey, ketchup, jam,SS Material, meeting GMP standards Filling range- 200-1000 ml, 10-12 Fills/min	Rs.4,500.00
6.	Screw on Capper	Standard	Rs. 2,800.00

Sec-V
CANNING LINE (END PACKAGING: CANNING EQUIPMENTS)

Sl. No.	Equipments name	Specification	EMD
1.	Rotary Flat Can Body Reformer	Mounted on mild steel stand and suitable for shaping flattened cans into cylindrical bodies of 301dia. Equipped with 3 HP, 3 Phase, 440 V motor and starter. Capacity approx 600/800 cans per hour	Rs.2,600.00
2.	Flanger	A complete hand flanger with flanging dia and adopter plate suitable for flanging round cans body of 2 & 1/2 size	Rs.2,600.00
3.	Can body Bearer	Standard	Rs. 2,700.00
4.	Double Seamer	Mounted on mild steel stand. Capacity approx. 600-800 cans per hour. Equipped with 1 HP, 1 Phase, 440 Volts Motor and Starter. Cost of Seaming Chucks: 301 and seaming rollers Ist& 2nd operation (Set of 2 rollers) should be inclusive and all other accessories required for smooth operation of the unit	Rs.2,000.00
5.	Straight line Exhaust Box	Two A 2 1/2, cans at a time. SS chain, Bottom and cover of aluminum. In three desired speeds (overall length 12/14 ft. with 1.5 HP motor)	Rs.2,400.00
6.	Flange Rectifier (310 Dia& 401 Dia)	Standard (310 Dia& 401 Dia)	Rs.750.00
7.	Can hand Tester	Standard	Rs. 225.00
8.	Seam Checking Gauge	Standard Complete seam checking & adjustment equipments, vacuum gauze etc.	Rs. 15.00
9.	Empty Can sterilizer / Washer	Standard	Rs. 1,500.00
10.	Working Table	Standard	Rs. 2,700.00
11.	Sugar Refractometer	<ul style="list-style-type: none"> ❖ Range: 0-85% brix, 0-80 C temp ❖ Resolution: 0.1% brix, 0.1 C ❖ Accuracy: 0.2% brix, 0.3 C ❖ Temperature compensation: auto, 10-40 C ❖ Sampling time: 1.5 seconds ❖ Auto off Battery operated.	Rs. 150.00
12.	Treadle Lid Embossing Machine	Standard	Rs. 1,500.00
13.	Can opener Table Model	Standard	Rs.450.00

Sec-VI DEHYDRATION LINE			
Sl. No.	Equipments name	Specification	EMD
1.	Blancher	Tank 24'' x 24'' x 24''	Rs. 3,000.00
2.	Tray Dyer (included tray & Trolley)	<ul style="list-style-type: none"> ❖ Digital temperature controller with option to regulate the moisture level in the final product. ❖ Capacity 50 Kg/Hr ❖ No of Tray- 12Nos ❖ Electric Load 9 Kw, 3 Ph ❖ MOC- Mild Steel and Stainless Steel 	Rs.2,100.00

Sec-VII UTILITIES			
Sl. No.	Equipments name	Specification	EMD
1.	Boiler with Interconnecting pipelines & Fittings	100 kg water/hr, diesel operated automatic with safety arrangements, and all other accessories required for smooth operation of the unit (Thermex)	Rs.18,000.00
2.	Air Compressor	5 HP	Rs. 3,800.00
3.	RO Plant (500 LPH)	Raw Water Pump, Dual Media Filter, Activated Carbon Filter, Micron Filter, Dosing Pump, UV Sterlizer, Storage Tank, filter choking resistance, Ability to reduce the TDS upto 99%, SS-316 material, 4 HP Motor	Rs.5,000.00
4.	Interconnecting SS Pipelines & Fittings with insulation	Standard	Rs.4,500.00

Sec-VIII OTHERS			
Sl. No.	Equipments name	Specification	EMD
1.	Powder making Machine- 100	100 Kg/hr	Rs.8,000.00
2.	Automatic Pouch filling & Sealing Machine	<ul style="list-style-type: none"> ❖ Capacity-1800 Pouch/Hr ❖ Electric Load-6 KW, 3 Ph ❖ MOC-Mild Steel and Stainless Steel ❖ Packaging-200gm, 250 gm, 500 gm 	Rs.4,600.00
3.	Perform Blower Machine with all	Standard	Rs.19,000.00

	accessories		
4.	SS tank with Stirrer facility	Lab scale tank with stirrer and juice filling outlet, Capacity- max. 30 Litter	Rs.3,800.00
5.	Interconnecting SS pipelines & Fittings	Standard (1 lot)	Rs.4,500.00
6.	Shrink wrapping Machine	Standard	Rs.20,000.00
7.	Lab Analysis Glassware / Apparatus and Chemicals	Standard (1 set)	Rs.6,500.00
8.	Pipelines /Elbow /Valves	Standard	Rs.6,000.00

SOIL SCIENCE AND AGRICULTURAL CHEMISTRY			
Sl. No.	Equipments name	Specification	EMD
1.	ICPAES (Inductively Coupled Plasma Atomic Emission Spectroscopy)	R.F. Generator: Maximum of 1.6 KW, 27.12 MHz Plasma: Radial plasma, having capability to analyse aqueous solutions with high dissolved solid content. Aqueous solutions can be acidic, basic or neutral. Spectrometer: Wavelength Range: 130 nm to 770 nm, Resolution: approx. 9 pico meter, having capability to scan full spectrum to have qualitative information about the content of the sample. Detector: 29 or 32 Linear Charge Coupled Devices (CCD) (High Speed). Optical System: Czerny-Turner Optical System or equivalent. Light Source: Vertical Torch assembly having fully demountable quartz torch with individual tubes as well as a Ceramic Fully demountable torch for HF based solutions. Nebulizers: Concentric, cross flow, organic nebulizer (hydrocarbons, solvents) as well as cross flow nebulizer for HF containing solutions. Spray Chambers: HF Resistant Cyclonic Chamber and hydrocarbon solution spray chamber. Spray chambers should be suitable for cross flow Nebulizers. Supply to be made with updated software based PC and printer, dedicated UPS (if required) and all accessories such as gas cylinders etc. Quotation	Rs.8,000.00

		<p>required complete with installation and demonstration followed by warranty and extended AMC for 5 years after warranty. During the warranty and AMC period, free upgrades of the software, if any, should be provided. A technical pre-bid presentation be made for detailed features in consultation with the indentors.</p>	
2.	UV-VIS-NIR Spectrophotometer	<p>Double beam, double monochromator UV-VIS-NIR Spectrophotometer. Wavelength Range: 175-3300 nm (With N2 purging below 185 nm). Wavelength Accuracy: Better than or equal to ± 0.08 UV/VIS and ± 0.30 for NIR range. Wavelength Reproducibility: Better than or equal to 0.02 nm for UV/VIS range and better than or equal to 0.08 nm for NIR range. Source Lamps: Tungsten halogen and Deuterium. Stray Light: Better than or equal to 0.00007% T at 220 nm (10 g/l NaI ASTM method) and better than or equal to 0.0004% T at 1420 nm with water. Resolution: Better than or equal to 0.05 nm for UV/VIS range. Better than or equal to 0.2 nm for NIR range. Photometric range: Better than or equal to 8A. Photometric Accuracy: Better than or equal to 0.003 A or 0.08% T at 2A with NIST filter 930D. Optical system: Suitable reflecting optical system with high end coating (preferably SiO₂ coated) with holographic grating monochromator with not less than 1440 lines/mm, blazed at UV/VIS and NIR regions; System should come with littrow mounting with sample thickness compensated detector optics and pre-aligned tungsten-halogen and deuterium sources. Sample type: Suitable for measuring the reflectance, transmittance and absorbance of bulk samples, thin films, liquid samples and powders. Sample compartment: Dual sample compartment for accommodating snap-in accessories such as 150 mm integrating sphere. The primary sample compartment should have at least 200 mm wide and second sample compartment should have greater than or equal to 400 mm width to accommodate the reflectance accessory attachments. Signal correction: Chopper design based four segmented signal correction for dark/sample/dark/reference for high absorbance scan quality. Modes: Scan, Time Drive, Wavelength program, Concentration Calibration, Concentration 2 (o) Detectors: Photomultiplier R6872 and Peltier cooled PbS detectors for UV/VIS and NIR range,</p>	Rs.4,600.00

		<p>respectively or better detectors. Baseline Flatness: Better than or equal to $\pm 0.00007\text{\AA}$ from 200-3000 nm, 2 nm slit. Noise Level UV/VIS: Better than or equal to 0.000050 A RMS at 500 nm, 0A, better than or equal to 0.001 A RMS at 500nm, 4A, better than or equal to 0.0001 A RMS at 190 nm, 0A. Noise Level NIR: Better than or equal to 0.00004 A RMS at 1500 nm, 0A, better than or equal to 0.001 A RMS at 1500nm, 2A, better than or equal to 0.005 A RMS at 1500 nm, 3A. Support computer: Branded laptop (HP/Compaq/IBM) with following configurations: 3.5 GHz or Intel third or fourth generation core i7 processor, 2 GB RAM and expandable to 4 GB, 500 GB hard disk, original Intel motherboard, DVD Rewritable drive, 3 button wireless optical mouse with pad and multimedia wireless keyboard, 1 serial port, 1 parallel port, 4 USB ports rear side, 4 USB ports front side, 10/100/1000 Gigabit NIC, additional bays to increase HDD capacity, Microsoft Windows 7 or latest version operating system and MS Office. Printer: HP Laserjet color printer with a minimum resolution of 1200x1200 dpi. Software: Original licensed software for the comprehensive operation of the spectrophotometer, computer, integrating sphere and automated reflectance accessory attachments. Software for acquiring the optical constants of thin films, bulk and liquid samples. The software should be embedded in the spectrophotometer control software. Latest version of Microsoft Office utility. Calibration: Accessories (standards) for calibration of reflectance, transmittance and absorbance. Support kit: Tungsten halogen and deuterium spare lamps – 2 Nos. each, Quartz Cuvette - 10 mm path length – 5 Nos. and solid sample holders for transmittance measurements– 2 Nos. Mandatory accessories: Integrating sphere: Snap-in 150 mm diameter integrating sphere accessory with powder and solid sample holders for reflectance and transmittance measurements. This accessory should come with special calibration material like Spectralon standard for calibration. Horizontal sample mounting is preferable to avoid the vertical clamping damage. Polarizer and Depolarizer drive: Accessory to measure the s and p-polarized light. Optional accessories: Quote should also include provision for 3 types of lamps – Tungsten, halogen and Deuterium lamps – 2 Nos each. Manuals: The following manuals in English should be supplied free of cost along with the system: Detailed user instruction manual,</p>	
--	--	---	--

		<p>operation / instruction manual, trouble shooting manual, CDROM tutorials for Spectrophotometer, Automated reflectance accessory and integrating sphere attachment. Detailed circuit and fault diagnostic software, detailed circuit diagram of the equipment (Spectrophotometer), maintenance and service manual. Maintenance: The supplier shall provide uninterrupted supply of spares and accessories for a period of 10 years after warranty. Up-gradation: The supplier shall supply any software for spectrophotometer and automatic reflectance accessory whenever they are upgraded at free of cost. Application notes: The supplier shall provide detailed application notes of spectrophotometer and integrating sphere accessory in hard and soft copies. A Training on operation and maintenance of the equipment shall be provided by the supplier through the manufacturer's technical persons at the installation site free of cost at the time of installation. Standards Accessories (standards) for calibration of reflectance, transmittance and absorbance will be provided. Quotation required complete with installation and demonstration followed by warranty and extended AMC for 5 years after warranty. During the warranty and AMC period, free upgrades of the software, if any, should be provided. A technical pre-bid presentation should be made for detailed features in consultation with the indenters and a certificate to this effect from the concerned should be attached along with the bid documents</p>	
--	--	---	--

TERMS AND CONDITIONS FOR FILLING TENDER DOCUMENT ON LABORATORY EQUIPMENTS UNDER EXPERIENTIAL EQUIPMENT:

- (a) Bid documents should be submitted in two different envelopes namely: (i) Technical (ii) Financial.
- (b) The firms are required to quote the rates & specification of each item/equipment separately and the name of item/equipment should be clearly written on the top of the envelope.
- (c) All the rates must be quoted on FOR.
- (d) In technical envelope detail specification and required documents should be enclosed.
 - (i) Registration certificate of the firm.
 - (ii) VAT registration certificate and VAT return copy of last quarter.
 - (iii) Photocopy of PAN card
 - (iv) Service Tax Registration Certificate
 - (v) Must have executed similar kind of order in bulk.
 - (vi) Must submit Audited balance sheet of the firm of the last three years.
 - (vii) Conditional tender will not be accepted.
 - (viii) University reserves the right to increase or decrease the quantity and may cancel the tender at any stage without assuring any reason thereof.
 - (ix) Must submit income tax return copy of the last three years.
 - (x) The bidder must quote the shortest possible time during which they will be able to supply the items at designated place decided by the University.
 - (xi) No freight charges will be paid extra other than quoted price.
 - (xii) Tender paper fee for each item/equipment of Rs. 500/- will have to be deposited as DD in favor of Comptroller, BAU, Sabour along with technical bid.
 - (xiii) For each equipment EMD @ 10% will be charged on minimum amount of Rs. 25000/- especially for those whose EMD value has not been mentioned.
 - (xiv) EMD should be deposited in favor of **Comptroller, BAU, Sabour.**
 - (xv) Warranty 3 years from the date of installation will be provided.
 - (xvi) PBG-The vendor shall furnish unconditional Performance Bank Guarantee issued by the nationalized bank in the shape of TDR/FDR in favour of Comptroller, BAU, Sabour @10% of the order value valid for 3 years and 2 months from the date of installation & commissioning.
 - (xvii) Taxes applicable will be deducted.