

## KERALA UNIVERSITY OF FISHERIES AND OCEAN STUDIES

GA7/1801/16

Panangad, Dated: 10/10/2017

### TENDER NOTICE

Sealed Competitive Tenders are invited for the supply of following Laboratory Equipments for the School of Ocean Science and Technology. Detailed specifications of items on offer, Terms & Conditions of supply, guarantee period, after sales service details, delivery period, customer list etc. should be furnished in the tender and should be submitted at its lowest rate. The rate quoted should be inclusive of all taxes and for supply at Kerala University of Fisheries & Ocean Studies, Panangad. This University is eligible for customs duty exemption in terms of Government notification No 51/96-Customs dated 23 July, 1996 and central Excise duty exemption in terms of Government notification No 10/97-Central Excise dt.1<sup>st</sup> March, 1997 as per DSIR Registration certificate No.TU/V/RG-CDE(1168)/2015 Dt.05.02.2016.

The cover containing the tender should be superscripted "**Tender for the supply of Equipment for School of Ocean Science & Technology**" and should be sent to **Director, School of Ocean Science & Technology, Kerala University of Fisheries & Ocean Studies, Panangad, Kochi -682 506.**

Late Tenders will not be accepted under any circumstances. The tenders will be opened in the presence of bidders or their authorized representatives who may be present at the venue at the time of opening. Cost of tender form and **EMD @1%of the quoted amount ,subject to a minimum of Rs. 1500/-** (Rupees One Thousand and Five Hundred only) should be furnished by means of DD drawn in favour of **Finance Officer, Kerala University of Fisheries & Ocean Studies, Panangad**, payable at SBI, Vyttila and sent along with tender. Tenders which are not in the proper form and without cost of tender and EMD will be summarily rejected. (Please refer to [www.kufos.ac.in](http://www.kufos.ac.in) for tender form and further details.)

<b>Last date &amp; time for the receipt of tender</b>	<b>: 26.10.2017, 11.00 a.m.</b>
<b>Date and time of opening the tender</b>	<b>:26.10.2017, 11.30 a.m.</b>

All the terms and conditions applicable to University/Government quotation/Tenders are admissible to this Tender also. The undersigned reserves the right to accept or reject the tender in full or in part without assigning any reason whatsoever. If you require further clarifications, you may contact the Director, School of Ocean Science & Technology on all working days.

Sd/-  
**REGISTRAR**

### Tender Specifications

Sl.No.	Equipment	Specifications	Quantity
1	viscometer	<ul style="list-style-type: none"> <li>• <b>Viscosity Range (Min) : 1 Cp</b></li> <li>• <b>Viscosity Range (Max) : 2 M</b></li> <li>• <b>Speed (RPM) : 0.3-100</b></li> <li>• <b>Number of Increments : 18</b></li> <li>• <b>Accuracy: +/-1.0% of range</b></li> <li>• <b>Repeatability: +/-0.2%</b></li> <li>• <b>For the measurement of low viscosity materials and Should measure the thin materials like inks, oils, and solvents</b></li> </ul>	1 No.
2.	Automatic Solvent Extraction System	Number of Samples: Eight, Display: LCD, Temperature Range: 35°C (Ambient) to 300°C with temperature controller, Solvent Recovery: 60 to 85%, Program memories, Sample Size: 0.1 to 8 g (depending on the type of sample), Nature of Samples: Solid & Semi Solid Samples, sediments, biological tissues.	1 No.
3	<b>KJELDHAL SYSTEM-Digestion</b>	<p><u>Automatic Nitrogen/ Protein Estimation System</u></p> <p>A. <u>Automatic Macro Block PC Compatible Digestion System</u></p> <ul style="list-style-type: none"> <li>• Twelve Place 250 ml capacity PC Compatible Block Digestor</li> <li>• Direct USB Port for PC/Laptop Connectivity, TFT Graphic Touch Screen Display.</li> <li>• Unique wireless mouse to operate touch screen without PC at a distance of 2 mtrs</li> <li>• 70 programs &amp; 12 sequence steps, PC chart software for Live graphical representation</li> <li>• Live Schematic process flow feature with display of various stages with facility to print</li> <li>• Software enables multiple unit monitoring with multi user login feature</li> <li>• Auto lift for automatic loading of samples tubes before digestion and automatic lifting of hot digestion tubes after completion of digestion, Mother board of digestor controls the auto lift mechanism</li> <li>• Inbuilt software program for micronutrient, macro nutrient, trace element,</li> <li>• Remote Control Module for wireless data monitoring, control and transfer to PC at 30 feet from equipment,</li> <li>• Upgradable data logger module</li> </ul>	1 No.

4	Vis-spectrophotometer	<p>High accuracy and reliability  4 Digit Seven Segment LED  340 – 960 nm Range  %T, Abs, Conc. measuring modes  Resolution 0.1%T, .001 Abs.  10 nm Bandwidth  Cuvette Capacity- 0.5/1.0ml  Accuracy 5mn  Sample Holder 10mm- Two sample multi option holder</p>	1No.
5	<b>Gel documentation system</b>	<p>Supported with softwares and branded PC; UV and white sample trays emission filter to accommodate ethidium bromide, SYBR green safe, gold, Gel green and Gel red rhodamine fluorescent protein, Silver stain coomassie brilliant blue etc. Software suitable for area quantification, 3D viewer, automatic band lane detection, Mol. Wt. determination, etc.</p>	<b>1No.</b>
6	Trinocular research Microscope with photographic attachment	<p>Microscope for Life science Research application. Transmitted light with LED illumination, with height adjustability of focus knobs, integrated LED and fixed 5-fold revolving nosepiece for bright field objectives with stage carrier and centrable condenser holder for vertical adjustment, with adjustable height stop, focus drive coarse and fine with focus stop.</p> <p>Eyepiece HC PLAN 10x/22 or better</p> <p>Should have Dark Field and Phase contrast. Universal condenser UCL 0.90/1.25 OIL S1 for dry and immersion observation. With 5-position condenser disc for bright field, light rings for darkfield and phase contrast.</p> <p>High resolution and anti-fungus treated Objectives 4x, 10x/0.25 PH1, 20x/0.40 PH1, 40x/0.65 PH2 and 100x/1.25 (OIL) PH3</p> <p>Ergo-Stage for right- or left-hand operation. Stage plate with ultra-hard ceramic surface, travel range 76mm x 25 mm, with vernier reading.</p> <p>Ergonomic phototube HC L 1 VT 0/4/4, with variable viewing angle 0-35° for comfortable work, with inter-pupillary adjustment 55-75 mm, with constant focus and beam-splitter positions vis/phot: 50/50%, fixed, fixed photoport for one camera.</p> <p>Upgradable for Hg 100W Fluorescence with 3 filters.</p> <p><b>Camera</b></p>	1No.

		<p>Camera should be capable of capturing Fluorescence image.</p> <ul style="list-style-type: none"> <li>- Digital Color Camera with CMOS sensor (1/2")</li> <li>- Image format 2048x1536 pixel, 3.1Mpixels</li> <li>- Fast live image XGA 1024x768 with 30 fps</li> <li>- Pixelsize 3.2µm x 3.2µm</li> <li>- Dynamic range 55dB / 600:1</li> <li>- Optimized Image Processing in HW (CIE-Lab)</li> <li>- Fast USB-3 connection, single cable with screw lock</li> <li>- Complete camera kit including Software for camera control, USB-3 cable 2.5m,</li> <li>- Supported Operating systems Win7/Win8</li> <li>- Recommended c-mount adapter 0.5x</li> </ul>	
7	<p>Trinocular Microscope with photographic attachment</p> <p>And</p> <p>Binocular Microscope</p>	<ul style="list-style-type: none"> <li>* Ergonomically designed rugged stand for longtime comfortable usage. Carrying handle should be built-into the stand.</li> <li>* Microscope should be with infinity optics with anti-fungus treatment.</li> <li>* Built-in Transmitted light illumination with 6V 30W halogen lamp with easy lamp changing module and should have provision to replace the same with white light long lasting LED illumination by the user.</li> <li>* External main power supply with electronic main control from 110V to 240V.</li> <li>* <b>Back tilted Quadruple revolving nosepiece</b> with precision click stops confirming paracentric field of view for all objectives.</li> <li>* Condenser with numerical aperture 1.25 with built-in aperture diaphragm or better.</li> <li>* Slide Stage should have ball bearing specimen holder and should have right handed coaxial X and Y movement. The travelling range of the stage should be 75 x 30mm with vernier marking.</li> <li>* The stage focus movement range should be 15mm or more with coaxial coarse and fine focus knobs on either side of the stand. The minimum step size of the fine focus should be 2 micron or better. Focus stop mechanism to protect slide</li> </ul>	<p>1 No. And 4 Nos. Binocular microscope with same specification without camera</p>

		<p>damage should be available.</p> <ul style="list-style-type: none"> <li>* Inclined Trinocular tube with 30deg swiveling eyepiece tube and adjustable viewing height of at least 40mm (Siedentopf tube, viewing heights 385 to 425mm). Interpupillary distance should be variable between 50 mm to 75mm or better. Trinocular tube should be fully made of metallic and should not have any plastic covers.</li> <li>* Paired Eyepieces with <b>10x</b> magnification, field of view <b>20mm</b> and should be suitable for spectacle wearers. Both eyepieces should be with front focusable eye lenses with <math>\pm 5</math> diopre correction.</li> <li>* High contrast Fully Plan Achromatic objectives, 4x/0.10, 10x/0.25, 40x/0.65 and 100x/1.25 oil. 40x and 100x front optics are spring loaded. All the objectives should be of parfocal corrected for easy specimen focusing in various magnifications.</li> <li>* Microscope should be upgradeable for Dark field, Phase contrast and incident light LED fluorescence techniques.</li> <li>* Microscope should include daylight and green filters, immersion oil and dust cover.</li> <li>* Koehler illumination setting with focusable and centering condenser. Microscope should have a variable field diaphragm.</li> <li>* High resolution USB digital colour camera with minimum 5 mega pixel resolution with built in white balance and image storage device (SD card); USB 2.0; S-video should be offered</li> <li>* <b>The microscope camera and imaging software should be provided from the same manufacturer for seamless integration and operation of the microscope, camera and software.</b></li> </ul>	
8	Trinocular Ore Microscope	<p>Viewing Head: Compensation free Trinocular head inclined at 30 0 with 360 0 rotatable  Eyepiece : WF10X/18 mm with Cross hair.  Nose Piece : Backward quadruple Nose Piece  Objectives: Strain free Achromatic objectives 4X, 10X, 40X, 60X  Analyzer : Rotatable Analyzer Graduation 0-90</p>	

		<p>Polarizer: Slide in/ out of Optical Path.  Optical Compensator: First class red slip, <math>1/4\lambda</math> Slip, quartz wedge.  Stage: Revolving Round Stage, diameter 160mm 360 0 rotatable and graduated in 1 0 increment, Using vernier Scale, Centre adjustable  Condenser : N.A 1.25 Abbe condenser with Iris Diaphragm and Filter  Focusing : Co axial Coarse and fine adjustment  Illumination: 6V, 20 W Halogen Lamp  Brightness adjustable  CMOS CAMERA</p>	
9	Table top sieve shaker	Table top shaker, Steel mesh with all ASTM standards	1No.