CORRIGENDUM

Please refer to our NOTICE INVITING GLOBAL TENDER published on 12/10/2012 for purchase of Machinery & Equipment for Dr. R.P.Centre (Already Published). A pre bid meeting was held on 19/11/2012 at 3.30 PM & 20/11/2012 at 3.30 P.M at Dr. R.P.Centre against following Tender No.:-

1. GT-1/U-1&2/RPC/SSK/12-13 for purchase of Vitrectomy Machine 5000 Cuts/Minute to 7500 Cuts/Minute
2. GT-2/U-1&2/RPC/SSK/12-13 for purchase of Surgical Operating Zoom Microscope For Ophthalmology
3. GT-4/U-1&2/RPC/SSK/12-13 for purchase of 532 Nm Green Laser With Slit Lamp
6. GT-8/U-1&2/RPC/SSK/12-13 for purchase of Digital Fundus Camera For Fluorescein And ICG Angiography
7. GT-9/Bio/RPC/SSK/12-13 for purchase of Clinical Biochemistry Analyzer
8. GT-10/Bio/RPC/SSK/12-13 for purchase of Clinical Immunoassay Analyzer
10. GT-12/Bio/RPC/SSK/12-13 for purchase of Live Cell Imaging System
11. GT-13/Bio/RPC/SSK/12-1 for purchase of Tissue Regenerative Bioreactor
12. GT-14/U-III/RPC/SSK/12-13 for purchase of Slit Lamp Adapted Optical Coherence Tomography
13. GT-15/U-G/RPC/SSK/12-13 for purchase of High Definition Ultrasound Imaging System
14. GT-16/U-III/RPC/SSK/12-13 for purchase of Phaco Emulsification

The undersigned is directed to request to upload the amended specification. The bidders are requested to upload the tender specification from AIIMS website or the tender document can be obtained from the Office of the Stores Officer & quote the tender accordingly as per amended specification. The bidders who will upload the amended specification and tender document from the website will submit the same with Tender fee and EMD along with tender document. The last date of submission of tender is 29/11/2012 upto 4.30 P.M and Date of Tender Opening is 30/11/2012 at 11.00 A.M at LT-6, 6th Floor Dr. R.P.Centre, AIIMS.

Stores Officer
Dr. R.P.Centre, AIIMS

Enclosed: Amended Specifications
**Specification for Vitrectomy Machine 5000 Cuts/Minute to 7500 Cuts/Minute – 4 No.**

**Vacuum**
1. Should have the facility to generate direct venture vacuum of up to 650 mmHg through cassette system having 2 independent aspiration ports.

**CUTTER**
1. Should have the ability to drive vertical guillotine vitrectomy cutter to go up to 7500 cuts / minute
2. Should have the facility to allow surgeon to select from 3 different duty cycle options at any given cut rate.
3. Should have the 3-D technology to linearly control vacuum and cut-rate simultaneously in vitrectomy mode

**IOP Control**
1. Should have the capacity to monitor infusion pressure constantly
2. Should have the capacity to compensate the infusion pressure constantly with results in a more stable IOP.

**Illumination**
1. The system should have at least dual port Xenon Illumination
2. The System should recognize the gauge of illuminator connected and adjust the illumination accordingly.
3. The system should have the facility to monitor the bulb life.
4. The System should have RFID capacity, which recognizes the probe connections.

**MIVS**
1. Should have the capacity to support MIVS options like 23 G and 25G
2. Should have a single entry system

**Laser Facility**
1. Inbuild 532 green laser facility with 2 filters.

**Other Features**
1. The System should have the Automated Silicon Oil Injection Capability
2. The System should have the Automated Silicon Oil Extraction Capability
3. The System should have Auto Fluid / Air Exchange
4. The System should have Auto Gas Fill ( C3F8 and SF6)) option
5. Should have the fully programmable footswitch with the facility to change procedura modes through footswitch.
6. Should have the facility of diathermy.
7. Should have the facility to digitally control the infusion pressure and the facility to toggle between a regular infusion pressure and an higher alternate pressure (to achieve tamponade effect) with the help of footswitch – VGFI Facility.
8. Should have the facility for the extrusion of sub-retinal fluid.
9. Should have the facility of voice re-confirmation
10. Should have programmability to store various parameters.
11. Should have the facility of fragmentation with the help of 4 crystal Ultrasound hand piece.
12. Phacofragmeter handle a) 20G, b) 23G if available
TECHNICAL SPECIFICATIONS FOR SURGICAL OPERATING ZOOM MICROSCOPE FOR OPHTHALMOLOGY – 2

Main Microscope:

- Approchomatic optics with anti-reflex multi coating
- Motorized zoom system with zoom ratio 1:6 magnification factors: 0.4x to 2.4x
- Focussing range 70 mm
- Speed control for zoom and focus
- Tiltable binocular tube f=170 mm with integrated image inverter, interpupillary distance adjustable from 55mm to 75mm
- Pair of high eyepoint widefield eye pieces 12.5x with diopter setting from -8D to +5D.
- Apochromatic objective f=200 mm with carrier ring.
- Total magnifications: 4.3x to 25.5 with eyepiece 12.5x and objective lens f=200 mm Field of view: 8.6 mm to 51.8 mm with eyepiece 12.5x and objective lens f=200 mm
- Integrated Slit illumination; Slit width 0.2, 2.0, 3.0, 4.0mm & Slit height 12 mm.
- SCI (Stereo coaxial illumination) for constant brilliance and brightness, red reflex illumination and surrounding field illumination both are adjustable.
- Pair of high eye point wide field eye pieces 12.5x with diopter setting from -8D to +5D,
- Provision of red reflex for assistant with equal brightness

XY Coupling

- Range of adjustment 60 mm x 60 mm. Control of automatic reset of XY movements.
- Provision of inversion of XY direction of travel via foot control, Speed control for XY.
Illumination

- SCI (Stereo coaxial illumination) for constant brilliance and brightness, red reflex illumination and surrounding field illumination both are adjustable.
- Fiber light guide, Integrated Xenon illumination system with 180W xenon lamp with back up lamp 180W xenon with availability of Halogen filtered illumination.
- Integrated 408 nm UV filter for protection against infrared exposure
- Blue Blocking Filter, Provision of retina protection device
- Provision of system of magnetic clutches for all locks for positioning of microscope across surgical field

Floor Stand

- Magnetic clutches for effortless movement and positioning, Build in maneuvering handles
- Facility to change to back up lamp in event of lamp failure by fast action change
- Lamp intensity adjustment via foot control panel
- Progressive speed adjustments
- Wireless programmable 14 function foot control panel
- Storage facility of magnification, motor speed, configuration of foot control panel, lamp brightness and focal plane for atleast 9 different users
- Facility for non sterile release of suspension arm

Accessories

- Video Recorder should be integrated in microscope stand.
- Integrated Keratoscope with 610nm wavelength
- Wide angle fundus viewing system (Completely autocleavable) with electrical vario focus unit, lenses-60D & 128D
- Integration of Z ALIGN for torc IOL, K Track for visualisation of Corneal Curvature with microscope.
- LCD Screen (Wall mounted for viewing & recording.
SPECIFICATION FOR 532 NM GREEN LASER WITH SLIT LAMP – 04 Nos.

1. Should be a diode pumped frequency doubled solid state laser
2. Should have a 532 nm operating wavelength
3. Should have a forced air cooling system/ thermo electric cooling system
4. Should have a aiming laser wavelength of 635 nm
5. Should have a output power ranging from 30 mW to 2000 mW (2W)
6. Should have a exposure time of 10 ms – 2000 ms and continuous wave
7. Should be supplied with Good Slit Lamp
8. Should have provision for remote interlock
9. Should have dual laser ports
10. Should have power control in the footswitch
11. Should have Ready – Standby control in the footswitch
12. Should have power source for LIO on the Console itself/ full separate LIO power supply
13. Should have electric requirement of 220V
14. Should have LED in the footswitch for visualization in the dark OT.
Specification of Combined A&B SCAN – 2

1. General
   Display
   • TFT Active Matrix Color LCD (262144 colors)
   • 6.5” (17cm) Diagonal
   • 640 X 480 Pixels
   • High Luminance (250:1)

   Video
   • RS 170 BNC for video printer
   • VCR and remote viewing

   Size: 12.5”W, 3.25 H, 10.0”D (31.7 cm W, 8.2cm H, 4cm D)
   Weight : 5.251bs (2.4Kg)
   Voltage /Hz : 100/120/220/240 Volts and 50 Hz or 60 Hz auto sensed by input voltage.
   Printer : High resolution video printer
   Date/Time : Built in clock calendar
   Data Entry : Full alpha numeric via touch screen.

2. A-Scan:
   Probes: 10 MHz focused internal fixation light; Solid Tip or Soft Touch.
   Measurements: ACD, Lens, Vitreous, and Axial Length using individual zone velocities and movable gates.
   Formulas: Holladay, regression-II, Theoretic/ T Binkhorst, Hoffer-Q, Haigis (Optional)
   Modes Automatic and Manual Cataract, Dense Cataract, Aphakic & pseudophakic (PMMA, Acrylic, Silicone and Custom)
   Review: Stored A-Scan Patterns, A-Scan measurements, and statistics.
   Statistics: Average, Std. Deviation, Range and Maximum difference from average.
   Calculations: 6 constants per user profile, 9 user selected IOL powers vs. refraction, personalized A-constants and surgeon factors.
   Displays: Multiple screens available for tabled, summarized and compared calculations.
   Memory: Stores 5 scans and measurements, selected formula, IOL, constants and user name.
   Accuracy: Electronic: ± 0.23mm
               Clinical : ± 0.1mm
Range: Automatic Mode: 18-33 mm
Manual Mode: 0.5-35mm
Callibration: Automatic with built-in calibration cylinder.
Report Date: Patient Name, ID # Eye Examined, K-readings, User Name, Date, Time, Immersion On/Off.
Post Refractive Formulas: Latkany Myopic Regression, Latkany Hyperopic, Aramberri Double-K.

3. B-Scan
Probe 10 MHz. MHz, Focused Transducer, 30 Frames/Sec.
Measurements Distance and area
Amplifier 100 dB Gain, Logarithmic/Linear/S-Curve, Gain and TVG Controls
Magnification Continuous Zoom (0.5x – 2.0x) with Pan (joystick controlled)
Display Resolution 640 x 480 pixels, color VGA with optimal tissue resolution of 0.15mm
Processing Reject below level, enhance contour and texture
Freeze Foot pedal or touch screen activated
Image B-Scan with simultaneous selectable Vector A-Scan
Display 60 deg. Sector fan, 128 lines, Gray scale, B/a presentation (B emphasized ) Or A/B (A emphasized gain TVG Electronic scale, Amplifier, OD/OS, Velocity, Probe Orientation, Patient and User Name Date/Time
- Maintains high resolution at all magnifications
- Pan feature using built-in “joystick” control
- Gain and TVG controls for optimal diagnostic capability
- Selectable color or Gray scale image
- Software enhancement capability of frozen image
- Selectable, simultaneous A-Scan Ventor
- Sealed B-Scan probe provides smooth scanning with virtually no audible sound
- Five user selections

Electrophysiology System compact all in one stimulator
Bioelectric amplifier with 2 channels with table
Medical isolation transformer 600 VA
Desktop PC with 19 inches color monitor
Small electric table for stimulator
Program for standard flash and pattern ERG and VEP
Program for Standard sensory EOG
Optical correction set with large field size (for Multifocal ERG)
Kit of electrodes (includes 10 ERG jet and 10 Cupula Electrodes) Program for Multifocal ERG
Printer, table for PC

Options
Update from 2 to 5 channels
Additional color stimulator for advanced electrophysiology (high luminance and color)
Portable flash stimulator with white stimuli for flash ERG and VEP on babies
Dynamic EOG (Electronystagmography) 4 channels recommended).

The Flash Stimulator
1. Ganzfeld stimulator with motorized head rest/ flexible stand.
2. In agreement with ISCEV (international society of electro physiology of vision) standards for ERG VEP and EOG
3. With red fixations lights (center, 15 degrees left, 15 degrees right)
4. White background with luminance programmable from 0.1 up to 1000 cd/m2 by step of 0.1 log unit.
5. Stimulus duration programmable from 5 ms up to 200 ms
6. Stimulus intensity programmable from 10-5 up to 15 cdsm-2
7. Background and stimulus colour programmable as white, violet, blue, yellow, red, deep-red,
8. Near infra red video monitoring with capability to measure pupil size.

The pattern Stimulator
1. Pulsed LED backlight in order to reduce variations of measured implicit time between top and bottom of monitor.
2. Luminance controlled LED backlight to eliminate luminance artifacts during patter stimulations in ERG and VEP
3. Minimus resolution of 1024X 768.
4. Programmable luminance (up to 100 cd/m2), contrast and colour.
5. Programmable pattern size, stimulation mode (pattern reversal, pattern on off).
6. Capability to product rapid sweeps of spatial frequency (for the measurement of visual acuity).

Hand held stimulator
1. Hand-held
2. Programmable intensity up to 300 cd.sm-2
3. Stimulates both eyes simultaneously
**Amplifiers and date acquisition**

1. Number of channels = 2 (5 as option)
2. Input impedance = at least 10 Mohms
3. Input noise level <0.5 micro V
4. Resolution level <0.5 micro V
5. Dynamic input range =±3.2m V
6. Common mode rejection ratio >110dB
7. Automated control of electrode impedance.
8. Sampling rate = up to 10 KHz
10. Band pass (Minimus) from 0.1 up to 1000 Hz.
11. Programmable notch filter.

**General specifications for software**

1. Standard PC with standard OS (windows 7)
2. Unique database for all applications
3. Easy back-up of results on DVD or external disk.
4. Database accessible from other PCs through computer network.
5. Easy export of results as digital files
6. Such as pdf.
7. Easy export of data to spread sheet
8. For research studies.

**Specification for VEP and ERG software**

1. Standard test protocols as recommended by ISCEV.
2. Possibility for user to define his own test protocols.
3. Possibility to save all individual responses and to validate / invalidate them individually
4. Automated artifact rejection
5. Automated detection of responses peaks.
6. Automated statistical analysis of responses indicating their statistical reliability.
7. Possibility for user to enter his own normal data and to perform a statistical comparison of normality.
8. Possibility of frequency analysis and oscillatory potential analysis.
<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optical System</strong></td>
<td>Telecentric optics with Three independent Telescopic system (one for each angle)</td>
</tr>
<tr>
<td><strong>Field Angles</strong></td>
<td>50°, 30°, 20°</td>
</tr>
<tr>
<td><strong>Viewing magnification</strong></td>
<td>11x, 19x, 30x</td>
</tr>
<tr>
<td><strong>Tilting Angle</strong></td>
<td>±45 Deg Horizontal, +15 Deg/-10Deg vertically using a hand wheel.</td>
</tr>
<tr>
<td><strong>Observation</strong></td>
<td>Monocular, special 10x eyepieces with focusing reticule.</td>
</tr>
<tr>
<td><strong>Working distance</strong></td>
<td>42mm (Front lens to patient’s eye)</td>
</tr>
<tr>
<td><strong>Ametropia Compensation</strong></td>
<td>± 30 diopter</td>
</tr>
<tr>
<td><strong>Flash rate</strong></td>
<td>1 per second</td>
</tr>
<tr>
<td><strong>Flash steps</strong></td>
<td>25</td>
</tr>
<tr>
<td><strong>Filters</strong></td>
<td>Green (Red free), blue, fluorescein angiography. Indocyanine green (ICG) angiography, auto fluorescence</td>
</tr>
<tr>
<td><strong>Digital Camera for color &amp; FA</strong></td>
<td>At least 5 Mega pixel True Medical grade camera.</td>
</tr>
<tr>
<td><strong>Response time</strong></td>
<td>Response time of viewing image on monitor should not more than 2 sec after image captured.</td>
</tr>
<tr>
<td><strong>Instrument table</strong></td>
<td>Imported asymmetrical motorized suitable for patients in wheelchair.</td>
</tr>
<tr>
<td><strong>Auto Fluorescence &amp; ICG</strong></td>
<td>1.4 Megapixel (1388 x 1388) camera for auto fluorescence &amp; ICG.</td>
</tr>
<tr>
<td><strong>Pixel size</strong></td>
<td>6.45 x 6.45 Micron</td>
</tr>
<tr>
<td><strong>Software for Digital Fundus Image And Archive Management</strong></td>
<td>Advance data base system with Multi visit recall, DICOM conformance, Integration of OCT Image, PDT calculation, Certified measurement accuracy (Absolute measurement), cup to Disc ratio, Disc diameter, Mapping for Montage, Dynamic comparison, Anterior segment imaging, Stereo imaging etc.</td>
</tr>
<tr>
<td><strong>Archiving</strong></td>
<td>Archiving on NAS drive of at least 1 TB.</td>
</tr>
</tbody>
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- Automatic selection for all filters, camera sensor, diaphragm, flash energy.
- The observation & documentation light sources should be placed on two different axis.
Clinical Biochemistry Analyzer

A complete set of Clinical Biochemistry Analyzer system (include fully automated, scalable, biochemistry analyzer instrumentation, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for up-gradation of existing Clinical Biochemistry Laboratory.

1. **Applications of Clinical Biochemistry Analyzer:**
   The hardware and software of the system must be capable to perform following clinical Biochemistry profile:
   (a). General Chemistry
   (b). Electrolytes
   (c). Enzymes
   (d). Diabetes management
   (e). Cardiovascular disease
   (f). Drugs of Abuse
   (g). Toxicology
   (h). Antimicrobials
   (i). Antiarrythmics
   (j). Therapeutic Drug Monitoring
   (k). Immunosuppressive Drug Monitoring
   (l). Specific Proteins

2. **System should be/ have:**
   (a). Floor Model
   (b). Multi-channel
   (c). Fully Automated Random Access
   (d). Auto rerun
   (e). Auto-dilution without operator involvement
   (f). Automatic reflex testing
   (g). Auto-calibration for electrolytes
   (h). Sample level sense warns of low volumes prior to processing

3. System should have on board Disposable cuvette system or/ Reusable hard quartz cuvette system.

4. System should have automatic reagent and sample preparation facility
5. System should have capability to load the reagent and samples without instrument pause.

6. System should have low calibration frequency with minimal maintenance.

7. System should have throughput >450 photometric tests/hour and ISE should be 200 or more test/hour.

8. Assay Modes: End point, Rate, Fixed point and Indirect ISE.

9. Analytical Methods: Colorimetry, Turbidimetry, Latex agglutination, Homogeneous EIA, Indirect ISE.

10. Sample Loading: Minimum of 40 sample or more positions with continuous Loading.

11. System should have true on board refrigeration to give better stability of reagents and samples.


13. STAT Facility: Facility for continuous loading of STAT samples without interrupting the routine run. Minimum 10 STAT sample positions for very urgent samples.


15. Reaction volume: 60 - 400 µl.


17. Photometer: multi-wavelength grating photometer (ranging from 340 - 800 nm).


19. Quality control: real time, individual and cumulative quality control. Automatic QC programming required.

20. Compatible RO Water plant to be supplied.

21. System should have average noise output: <70 dBA at 1 m while operating.

22. System should have facility to open for use of other reagents as per requirement.

23. Data storage: 100,000 patient samples.

24. Interface: uni-directional and bi-directional communication possible.

25. Compatible online UPS with 30 mins backup should be provided along with equipment.

26. System should have DICOM 3.0 compliant interface and enable for networking connectivity to linux/windows based server/clients with patient ID labelling and integration to generic hospital information system (HIS)/ PACS.

27. All necessary reagents for complete workflow should be provided by vendor for demo and training purpose.

28. Rate of all necessary reagents/chemicals for complete workflow should be quoted, which will be valid for 5 years (will be purchased on rate contract basis as per requirement).

29. Onsite application training of all project staff and continuous technical support from qualified application scientist and service engineers should be provided by vendor.
Instructions

- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.
- Vendors are instructed to follow the exact sequence of items as listed/mentioned in the tender specification sheet/s for quoting their tender. The quoted tender for technical bid and price bid will be summarily rejected, if the quoted specification compliance sheet/s not found according to the sequence of the items as listed in the tender specification.
- Please quote only for New Branded machine/s. If it will be find during any period of time that Refurbished/Repaired/Second Hand instruments has supplied and installed instead of new branded machines, an immediate action will be taken against the distributor/manufacturer as per the rules and regulations of AIIMS. And both distributor and manufacturer will be black listed for forever for supplying any kind of instruments to the Government’s Research Organization, Hospitals, Laboratories etc. in any where in India.
- Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.
- The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer’s technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer’s website.
- A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.
- If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.
- Spares should be given in adequate numbers to maintain 5 years trouble free consumable spare maintenance.
- Please mention about the superior performance details of any unique technology adopted/design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
Clinical Immunoassay Analyzer

A complete set of Clinical Immunoassay Analyzer system (include automated, scalable, immunoassay analyzer instrumentation, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for up-gradation of existing Clinical Biochemistry Laboratory.

1. Applications of Clinical Immunoassay Analyzer:
   The hardware and software of the system must be capable to perform following clinical immunoassay profile:
   (a). Thyroid
   (b). Fertility
   (c). Cardiovascular
   (d). Adrenal/Pituitary
   (e). Tumour Markers
   (f). Bone metabolism
   (g). Infectious Disease
   (h). Blood Viruses
   (i). Diabetes
   (j). Allergy
   (k). Anemia
   (l). Growth
   (m). Infectious Disease
   (n). Inflammation marker
   (o). Reproductive
   (p). Endocrinology
   (q). Turbo assay
   (r). Prostate Disease

2. System should be Fully Automated Random Access Immunoassay Analyzer based on Chemiluminescence technology.

3. System should have at least 12 or more reagents onboard capacity at any point of time so that min 12 tests/sample can be performed at a time.

4. System should have a facility of continuous loading of reagents so as to make it a true automation system.
5. System should have true on board refrigeration (3-10°C) to give better stability of reagents on board.
6. Facility for Emergency/STAT samples should be available.
7. System should have facility to load min 60 samples at one time with continuous loading facility.
8. System should have capability for throughput analyser at least 100 or more tests/hour.
9. System should be supported with separate computer and should be capable of generating patient chartable report.
10. System should have real time QC software that provides real time statistical; analysis with Levey-Jenning charts with West Guard rules.
11. System should be equipped with bar code reader facility for samples and reagents.
12. Samples should be directly placed in primary tubes or/ sample cup or/ paediatric cups.
13. Mixing of reagent, samples and liquid level sensing should be preferably with ultrasonication.
14. System should have real time clot detection facility.
15. Sample types (assay dependent): Serum, plasma, Urine, whole blood, Amniotic fluid.
16. System should have DICOM 3.0 compliant interface and enable for networking connectivity to linux/windows based server/clients with patient ID labelling and integration to generic hospital information system (HIS)/ PACS.
17. Branded computer system with 2.8 GHz processor, 500GB HDD, 4GB RAM, 24” LED monitor with keyboard and mouse. Compatible online UPS with 30 minutes backup to support the entire system.
18. Suitable tables (stainless steel with granite top with break wheel with cabin including front door) should be provided for entire system including computer.
19. All necessary reagents for complete workflow should be provided by vendor for demo and training purpose.
20. Compatible online UPS with 30 mins backup should be provided along with equipment.
21. Rate of all necessary reagents/chemicals for complete workflow should be quoted, which will be valid for 5 years (will be purchased on rate contract basis as per requirement).
22. Onsite application training of all project staff and continuous technical support from qualified application scientist & service engineers should be provided by vendor.

Instructions

- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.
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Please quote only for New Branded machine/s. If it will be find during any period of time that Refurbished/Repaired/Second Hand instruments has supplied and installed instead of new branded machines, an immediate action will be taken against the distributor/ manufacture as per the rules and regulations of AIIMS. And both distributor and manufacturer will be black listed for forever for supplying any kind of instruments to the Government’s Research Organization, Hospitals, Laboratories etc. in any where in India.

Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.

The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer’s technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer’s website.

A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.

If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.

Spares should be given in adequate numbers to maintain 5 years trouble free consumable spare maintenance.

Please mention about the superior performance details of any unique technology adopted/ design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
Cytogenetic System

A complete set of Cytogenetic system (include fully automated, scalable, cytogenetic instrumentation, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for establishment of Ocular Cytogenetic Workstation.

1. Applications of Cytogenetic System:

The hardware and software of the system must be capable to do the following applications:

(a). Fluorescence in situ hybridization (FISH)
(b). Multiplex fluorescence in situ hybridization (mFISH)
(c). Comparative genomic hybridization (CGH)
(d). Karyotyping
(e). Metaphase determination

2. Cytogenetic System:

2.1 Microscope

(a). Microscope frame should have built-in fully automated motorized focus along with apochromatically corrected fluorescence beam-path.
(b). Should be equipped with 12V 100W transmitted light illumination
(c). Motorized X, Y and Z-focus should be motorized with step size of 10-15nm or better.
(d). Trinocular tube should be inclined at 30 degree for comfortable observation with 3 light path selection out of which two at least should be 100:0, 0:100.
(e). Motorized Aplanatic Achromatic condenser with N.A. 0.9 or better
(f). Motorized 7 position revolving nosepiece
(g). Motorized Stage: X-Y scanning stage with adapter for slide feeder stage (at least 8 slides or better at a time).
(h). 8-10 position motorized fluorescence filter Turret for FISH and mFISH filters
(i). Plan Apochromatic Objectives: 4x/5x, 10x, 20x/0.75 or better, 40x, 60x/63x /1.4 Oil, 100x/1.4 oil should be quoted as standard part of configuration.
(j). Should have 8 or more position motorized reflector/filter turret and equipped with 100W illumination or metal halide 120 watts.
(k). Microscope should have a dedicated TFT touch pad/ monitor to control all the microscope functions. It should also allow one to adjust focus speed for scanning.

2.2 Camera: Monochrom digital camera with C mount adaptor, 2/3” CCD chip with peltier cooling 15°C below ambient, Pixel size of approximate 6.5x6.5μm, Resolution approx. 1.4 million pixel (1392x1040) or better, 12 / 16 Bit.
2.3 Filters for FISH microscopy

(a). Single Exciter for DAPI
(b). Single Exciter for Spectrum Green
(c). Single Exciter for Spectrum Orange
(d). Dual Exciter for Spectrum Green / Spectrum Orange
(e). Triple Exciter for DAPI / Spectrum Green / Spectrum Orange
(f). Multi band pass Dichroic Mirror
(g). Multi band pass Emission Filter
(h). Filter Cube Aqua
(i). Filter Cube Spectrum Gold

2.4 Automated Metaphase Finder with slide holding capacity:

(a). Automated Metaphase finder system with 8 slide capacity for scanning both in bright field and fluorescence application.
(b). Automatic quality ranking of metaphases.
(c). Fully automated scan in magnifications of 1.5x and above.
(d). Automatically relocate, focus and capture of all metaphases in high magnification.
(e). Single button press to acquire all cells
(f). Analysis or Review of previously scanned data may be performed at the same time of the scanning process.
(g). Ability to see the gallery of found images in 8 or more zoom factors.
(h). High quality real time cell gallery display during capture as well as slide view with cell location and statistics. Simple training to any sample type in Bright field and Fluorescence based on 3 example metaphases

2.5 Software for cytogenetic applications:

Suitable software to perform and automatic control the experiment and analysis for following cytogenetic application: i.e FISH, mFISH, CGH, Karyotyping, Metaphase determination.

2.6 Cytogenetic system must have the following capabilities:

(a). Single user interface for Karyotype, FISH, CGH, and m-FISH
(b). Automated scanning and capture of metaphases and interphase nuclei in bright field for karyotyping.
(c). Should have capability to take 3D stack of FISH
(d). Should have feature of comparison of all pairs from all karyotype made and opportunity to compare pairs in once shot prints for multicell analysis.
(e). Opportunity to create infinite layouts of prints
Different planes of focus of same fluorochrome can be better acquired

Combination of chromosomes in FISH with bright field or other techniques acquired on the same or different case and building of karyotype on FISH images.

Should also features to study profiles on single and multiple chromosome using ideogram.

System must be capable of uninterrupted scan, classify and capture of metaphases and interphase nuclei.

Should have integral archiving of patient and lab data onto high capacity media.

Flexible reporting capabilities.

System must be capable of remote accessing of data via internet.

3. Branded Computer workstation HPZ 400 or its equivalent with 30 inch monitor

4. Branded APC/Tata Libert Compatible 3 KVA online UPS with 30 minutes backup to support the entire system.

5. Suitable tables (stainless steel with granite top with break wheel with cabin including front door) should be provided for entire system including computer.

6. All necessary reagents for complete workflow that includes sample prep should be provided by vendor for demo and training purpose.

7. Rate of all necessary reagents for complete workflow that includes sample prep etc. should be quoted, which will be valid for 5 years (will be purchased on rate contract basis as per requirement).

8. Spare parts like bulbs, Oil etc should be quoted as optional items.

9. Onsite application training of all project staff and continuous technical support from qualified application scientist and service engineers should be provided by vendor till warranty period.

Instructions

- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.

- Vendors are instructed to follow the exact sequence of items as listed/mentioned in the tender specification sheet/s for quoting their tender. The quoted tender for technical bid and price bid will be summarily rejected, if the quoted specification compliance sheet/s not found according to the sequence of the items as listed in the tender specification.

- Please quote only for New Branded machine/s. If it will be find during any period of time that Refurbished/Repaired/Second Hand instruments has supplied and installed instead of new branded machines, an immediate action will be taken against the distributor/manufacturer as per the rules and regulations of AIIMS. And both distributor and manufacturer will be black listed for forever for supplying any kind of instruments to the Government’s Research Organization, Hospitals, Laboratories etc. in any where in India.

- Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.
The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer’s technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer’s website.

A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.

If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.

Spares should be given in adequate numbers to maintain 5 years trouble free consumable spare maintenance.

Please mention about the superior performance details of any unique technology adopted/design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
Live Cell Imaging System

A complete set of Live Cell Imaging System (include fully automated Inverted Research Microscope for Bright Field, DIC and Fluorescence with Live Cell imaging facility, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for establishment of Ocular Cell/Tissue Imaging Facility.

1. Applications of Live Cell Imaging System:

The hardware and software of the system must be capable to do the following applications:

(a). Ocular Stem Cell
(b). Retinal Cell biology
(c). Corneal Cell biology
(d). Ocular Cell biology
(e). Retinoblastoma biology
(f). Developmental biology etc.

2. Live Cell Imaging System:

2.1 System should have Fully Motorized (Automated) Inverted Research Microscope for Bright Field, DIC and Fluorescence with Live Cell imaging facility.

2.2 System should have Phase contrast, Epi-fluorescence, High resolution, DIC, Bright field, Simultaneous DIC and Fluorescence observation capability.

2.3 Microscope Body:

(a). Should have Multi-port design Microscope body with Infinity optical corrected optical system. Fluorescence Optical path should be Apochromatically corrected.
(b). Should have Motorized 4 way or more light distribution path, up/ down motorized focusing
(c). Should have maximum input/output side port for attaching digital camera etc.
(d). In-built programmable microscope with dedicated TFT screen to program and to control all microscopic operations. User defined Microscope buttons for convenient operation. TFT should allow once to adjust focus speed for different objectives for focusing purpose.
(e). Built-in 1x, 1.5x and 2.5 magnifier or better

2.4 Condenser: Universal Motorized turret condenser (suitable for all microscopy techniques) with 5 position.

2.5 Illumination:

(a). Should have built–in Koehler illumination for transmitted light
(b). Should have 12V 100W Pre-centered Halogen Illumination.
(c). Software controlled LED illumination along with 120/130W metal halide illumination for fluorescence imaging.
2.6 Eyepieces: 10X paired wide field, high eye point eye piece with F.O.V 22mm or higher and diopter adjustment facility on both eyes.

2.7 Nosepiece: Motorized sextuple revolving nosepiece with DIC.

2.8 Stage: XY Motorized stage with joystick control with stage holder for petridishes, slides and 96 plate wells with universal holder.

2.9 Focusing system: Should have fully automated coaxial coarse and fine focusing knob with minimum fine reading of 15 nm or better.

2.10 Objectives: High performance Plan Apochromat Objectives suitable for Bright-field, Fluorescence and DIC observation with facility of cover glass correction.
   (a). 4X/5X (N.A 0.15 or better)
   (b). 10X (N.A.0.30 or better) with phase contrast
   (c). Plan Apo 20X/25X (N.A.0.75 or better, Immersion correction for Oil, water and Glycerol)
   (d). Plan Apo 40X (N.A.0.75 or better) with phase contrast
   (e). Plan Apo 60X/63X (N.A.1.40 oil or better)
   (f). Plan Apo 100X (Oil) (N.A.1.40 or better)

2.11 Epi-Fluorescence attachment:
   Motorized Epi-fluorescence shutter with Motorized 6 position turret filter block
   (a). Position of fluorescence filter cubes should be changeable in 0.2 sec per position
   (b). Should have high signal to noise ratio images with precentered Metal Hallide 120w/ 130W and Software controlled LED with facility for no heat and electrical noise transfer from lamp to the microscope body
   (c). Lamp should have lifetime of 2000 hrs.
   (d). Band pass Fluorescent filters for FITC/GFP (Ex 465-495, DM 505, BA515-555), TRITC/Rhodamine (Ex 540/25, DM 565, BA605/55), DAPI/Hoechst
   (e). Filters should not have cross talk

2.12 DIC Attachment: DIC prisms and modules for all objectives. All DIC modules should automatically engaged in light path with respective objectives.

2.13 Digital Camera with C mount adaptor:
   (a). Monochrom: 2/3” CCD chip with peltier cooling 15°C below ambient, Pixel size of approximate 6.5x6.5µm, Resolution approx. 1.4 million pixel (1392x1040) or better, 12 / 16 Bit.
   (b). Color : 2/3” CCD chip with peltier cooling 15°C below ambient, Pixel size of approximate 3.45x3.45µm, Resolution approx. 5 million pixel (2550x1925) or better, 12 / 16 Bit.

2.14 Software:
   Advance Research Imaging Software for fully automated acquisition and device control through full six-dimensional image acquisition and analysis (X, Y, Z, Time, Multi Channel and Multipoint) should have following features:
(a). Image Acquisition
(b). RAM capture
(c). Time Lapse Imaging
(d). Z-Stack, Multi-channel Fluorescence, Multi-Position Imaging, Time laps and Image Stitching.
(e). 2D / 3D View, ND Viewer, Filter, Morphology, Large Image
(f). Macro, Segmentation, Auto-measurement, Report Generator facility
(g). Data Base, Vector layer and Multi-Dimensional File Format (ND format)
(h). Software should control all incubation parameters.
(i). Software should be able to control all LED wavelengths along with Metal halide.

2.15 CO₂ Incubator System: Software controlled Large Chamber Incubator with CO₂, Temperature and Humidity control along with online media perfusion chamber for very long duration Time laps imaging.

3. All the motorized microscope part should be controlled with dedicated touch panel control as well as imaging software.

4. System should be upgradable for confocal microscopy at the customer site.

5. Microscope, Camera and Software should be from same manufacturer for better compatibility.

6. Branded Computer workstation HPZ 400 or its equivalent with 30 inch monitor

7. Branded APC/Tata Libert Compatible 3 KVA online UPS with 30 minutes backup to support the entire system.

8. Active Anti Vibration table Newport (model: M-VIS3672-SG2-325A) with Air damper tables should be provided to place the complete Imaging System.

9. All necessary reagents for complete workflow should be provided by vendor for demo and training purpose.

10. Onsite application training of all project staff and continuous technical support from qualified application scientist and service engineers should be provided by vendor till warranty period.

Instructions:

- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.

- Vendors are instructed to follow the exact sequence of items as listed/mentioned in the tender specification sheet/s for quoting their tender. The quoted tender for technical bid and price bid will be summarily rejected, if the quoted specification compliance sheet/s not found according to the sequence of the items as listed in the tender specification.

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supplying any kind of instruments to the Government’s Research Organization, Hospitals, Laboratories etc. in any where in India.

- Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.

- The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer’s technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer’s website.

- A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.

- If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.

- Spares should be given in adequate numbers to maintain 5 years trouble free consumable spare maintenance.

- Please mention about the superior performance details of any unique technology adopted/ design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
Tissue Regenerative Bioreactor

A complete set of Tissue Regenerative Bioreactor System (include Fully Motorized Scaffold Bioreactor instrument, software and all necessary accessories) with highest quality performance in sensitivity and reproducibility for establishment of Ocular Tissue Regenerative & Bioengineering Facility.

1. Applications of Tissue Regenerative Bioreactor:
   The hardware and software of the system must be capable to do the following applications:
   (a). Ocular Regenerative medicine
   (b). Ocular Tissue bioengineering
   (c). Ocular Translational medicine
   (d). Ocular Tissue transplant

2. Tissue Regenerative Bioreactor:
   (a). Should have independently controlled drive axes for biaxial revolution, single axis or swing modes.
   (b). Should have flexible operational modes – Biaxial, Uniaxial, Swing modes
   (c). Should have efficient fluid transport within the 3D scaffolds - allowing optimal nutrients and waste exchange to and from the cells, to penetrate the deepest core of the scaffolds.
   (d). Should have spherical design of vessel for reduces drag and promoting uniform fluid mixing, which accelerate cell growth, differentiation and cell proliferation, mimicking native extracellular matrix.
   (e). Should support homogenous cell culture at the surface and core of the 3D scaffolds
   (f). Should be able to maintain functionality and viability of tissue constructs
   (g). Should be able to promote integration of implants with surrounding tissue and should support the structural integrity in regeneration of tissues and/or organs
   (h). Should have continuous perfusion with integrated selectable speed peristaltic pump (flow rates from 3 to 500 ml/min)
   (i). Should have oxygenator unit to facilitate gaseous exchange 6-port medium reservoir with sensor bank (for optional temperature, pH, oxygen probes)
   (j). Should have heat isolated system drivers and controller in a separate console
   (k). System may be placed in a CO₂ incubator when desired and should be quoted with suitable CO₂ incubator.
   (l). Should have weight-balanced rotary arm for 500 ml and 1000ml spherical chamber
   (m). Should have built-in sensors to detect arm angle and positions for fully programmable operations
   (n). Should have tubing holders to detect excess tubing for obstruction free movement
   (o). Should have dual chamber-cap design for easy loading and unloading of tissue scaffolds without removing tubing.
   (p). Should be supplied with oxygenator/ gas membrane for gas diffusion
(q). Should have sterile rotary couplings for controlled continuous perfusion of nutrients through the culture chamber

(r). Should have transparent, unobstructed view of tissue constructs during operation.

(s). Should have auto, jog and manual functions for pre-set to various speeds, directions and arm angles to optimise cell culture conditions.

(t). Should have User-friendly remote touch screen controller for complete management of system while unit is inside a laminar flow chamber and a CO₂ incubator.

(u). Following accessories should be supplied:

i. Console unit
ii. Spherical glass vessel of 500 ml x 2
iii. Spherical glass vessel of 1000 ml x 2
iv. Integrated peristaltic pump 6-port medium reservoir
v. Tubings and connectors starter kit x 10
vi. Scaffolds starter kit x 10
vii. Applikon set of probes (temperature, pH, oxygen)
viii. Applikon mass flow controller (air, carbon dioxide)
ix. Applikon controller (includes rotameter, sensors, Acquisition Software)
x. Oxygen cylinder x 2 (B type with regulator and trolley stand)
xi. CO₂ cylinder x 2 (B type with regulator and trolley stand)

3. All necessary consumables for complete workflow should be provided by vendor for demo and training purpose.

4. Onsite application training of all project staff and continuous technical support from qualified application scientist & service engineers should be provided by vendor till warranty period.

Instructions:

- The selection committee reserves the rights to select the instrument based upon the suitability and sensitivity applicable for the utility for which this instrument would be purchased based on the performance details provided.
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- Please quote only for New Branded machine/s. If it will be find during any period of time that Refurbished/Repaired/Second Hand instruments has supplied and installed instead of new branded machines, an immediate action will be taken against the distributor/ manufacture as per the rules and regulations of AIIMS. And both distributor and manufacturer will be black listed for forever for supplying any kind of instruments to the Government’s Research Organization, Hospitals, Laboratories etc. in any where in India.
- Relevant literature and publications that support the quoted model's ability to perform all of the above capabilities must be attached.
- The entire tender specifications claim about the instrument quoted need to be supported with technical specifications published in manufacturer’s technical bulletin/technical notes/technical brochure etc., which must be attached to prove their specification claim, without which it will be assumed that claim is not correct and cannot be considered for technical comparison. Quoted specifications will also be verified from the manufacturer’s website.
➢ A detailed specification sheet highlighting all above specs along with detailed experimental conditions must be attached.

➢ If required the vendor must be able to demonstrate to the person(s) deputed by the selection committee (along with the experimental conditions decided) to ensure the sensitivity/resolution claims of their make of equipment before opening the financial bid.

➢ Spares should be given in adequate numbers to maintain 5 years trouble free consumable spare maintenance.

➢ Please mention about the superior performance details of any unique technology adopted/ design which is protected by intellectual property rights (give patent details) to support the claim of the manufacturer of the instrument.
High Resolution 3-dimensional OCT with cornea module

High resolution 3-dimensional optical coherence tomography with axial resolution of 3 to 5 microns. The minimum scan speed should be 23000-26000 A-Scan per second and the transverse resolution should be about 15 to 20 microns. The pupil size requirement should be less than 3mm and minimum field view should be 26 degree. Both internal and external fixation should be possible.

The corneal module should include the cornea analysis including the angle measurement, central pachymetry, Lasik Flap measurement, 3 dimensional view of the cornea, true corneal power and keratoconus analysis.

The analysis of retina should be possible which should include the total macula thickness inner retinal thickness, outer retinal thickness, elevation of various retinal layers, volumetric analysis and blood vessel registration.

The glaucoma analysis should include the retinal nerve fiber layer analysis and optic nerve head analysis.

It should be mounted on a motorized table with computer, photo quality printer and UPS. It should be FDA approved.
**High Definition UBM Imaging System**

1. High frequency, high definition ultrasound 50 MHz Probe with lateral resolution 50 micron, axial resolution 25 micron.

2. A water bath attachment eliminates the need for immersion imaging.

3. High resolution still image and live video capture (digital).

4. Distance accuracy not less than ±0.2 mm angle accuracy ±3.0° area accuracy ±0.1mm²

5. PC based control and display system (OS Window XP).

6. Fully networkable.

7. Image Storage: Minimum of 80 GB or more along with hard drive with DVD drive.

8. May also quote for 10 MHz separately.

9. UPS compatible & CVT

10. System should be FDA/CE approved.

11. Pro UBM software should be included
SPECIFICATION FOR THE LATEST GENERATION PHACOEMULSIFICATION MACHINE.

Machine should have fully programmable, multi processor control, peristaltic system with high performance four or more crystal with lightweight piezoelectric 40+_ 5 khz handpiece. Should have the ability to drive torsional handpiece compatible with new generation tips like kelman, flared, mini flared and aspiration bypass tips in 1.1mm or 0.9mm configurations. Should have aspiration flow rate capabilities upto 100cc/min in both linear & fixed modes throughout all phaco/ia/vit submodes, vacuum level of 650+ mmhg in both linear & fixed modes throughout all phaco/ia/vit submodes. High resolution footswitch with high sampling rate. Footswitch should be fully programmable and adjustable.

II. The energy delivery modes should have hyper pulse and burst hyperpulse mode should have capabilities to go upto 100 pps with variable duty – cycle from 5% to 95% IA mode should have the choice of cut i/a or i/a cut. Ability to drive a 23ga pneumatic cutter for anterior Vitrectomy upto 2500cpm. Vitrectomy setup guide for 23 & 25 ga. Should have the option for dynamic rise. Voice conformation during mode changes and wireless remote control. Color led display with touch screen and tilttable. Reflux via footswitch. Bipolar coagulation capability facility of overlaying parameters and name of the surgeon while recording of cases. FDA approved system.