



INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,

SHEIKHPURA, PATNA – 800 014 (Bihar, India)

Tel.: 0612 – 2297631, 2297099; Fax: 0612 – 2297225; Website: www.igims.org;

E-Mail: director@igims.org

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E-Tender Notice No.: 02/ 2024-2025/ Bio-medical Equipment/ IGIMS/ Store

CORRIGENDUM-III

Amendment Notice to the Tender Notice bearing E-Tender Notice No.: 02/ 2024-2025/ Bio-medical Equipment/ IGIMS/ Store for the supply, installation & commissioning of Bio-Medical Equipments / Instruments for the department of Cardiology, Neurosurgery, Pulmonary Medicine, Reproductive Medicine, Trauma & Emergency, Blood Bank, Haematology, Pharmacology, Biochemistry and CCM of IGIMS- Patna.

Amendments mentioned hereunder are notified:

Description	Specifications mentioned in the Bidding Document	Should be read as follows:
BOQ		
	Total Comprehensive annual maintenance contract over a period of seven years after expiry of warranty period of three years from the date of successful Installation.	Total Comprehensive annual maintenance contract over a period of five years after expiry of warranty period of five years from the date of successful Installation.
Group: A – Cardiology		
1: High End 4D (Live 3D) ECHO Machine		
1. System Architecture (c)	System must be offered with a minimum 24 inch High Resolution Flat Panel Medical Grade Display monitor with nearly infinite position adjustments.	System must be offered with a minimum 21 inch or more High Resolution OLED Medical Grade Display monitor with nearly infinite position adjustments.
1. System Architecture (g)	Image storage facility on in build hard disc or MOD/CD/DVD-RW facility should be available. In built hard disk with capacity of 1TB. System should have extensive image management capability including thumb nail review, Cineloop editing etc.	Image storage facility on in build hard disc or MOD/CD/DVD-RW facility should be available. In built hard disk with capacity of 500 GB or more and external hard drive of 1 TB or more. System should have extensive image management capability including thumb nail review, Cineloop editing etc.
6. Further Transducer Capabilities (d)	3D ICE catheter/transducer with matrix technology for 3D Intracardiac echo guidance in LAAO with following features: <ul style="list-style-type: none"> • (4-10MHz) with minimum 800element with ICE License • 2D Imaging. • 3D Volume imaging • Live 3D Color Flow imaging • Spectral Doppler • Digital steering • Biplane Imaging. • 90° FOV 	Optional
2: 2D/ 3D ECHO High End		
Sl. No. 04	System must be offered with a minimum 24 inch High Resolution Flat Panel Medical Grade Display monitor with nearly infinite position adjustments.	System must be offered with a minimum 21 inch or more High Resolution OLED Medical Grade Display monitor with nearly infinite position adjustments.
Sl. No. 09	Image storage facility on in build hard disc or MOD/CD/DVD-RW facility should be available. In built hard disk with minimum capacity of one TB. System should have extensive image management capability including thumb nail review, Cineloop editing etc.	Image storage facility on in build hard disc or MOD/CD/DVD-RW facility should be available. In built hard disk with capacity of 500 GB or more and external hard drive of 1 TB or more. System should have extensive image management capability including thumb nail review, Cineloop editing etc.
3: C-Arm		
A) FLAT PANEL	FPD with 26 x 26 cm or more size should be	FPD with 30 x 30 cm or more size should be provided

DETECTOR: (Point 3)	provided	
A) FLAT PANEL DETECTOR: (Point 7)	Limiting resolution should be 2.7lp/mm or more	Limiting resolution should be 2.4 lp/mm or more
D) C-ARM MOVEMENTS (Point 7)	Depth of "C" should be at least 700mm	Depth of "C" should be at least 650 mm or more
E) X-RAY GENERATOR (Point 4)	Digital Spot: 60mA or more	Digital Spot: 150 mA or more
E) X-RAY GENERATOR (Point 5)	Pulse Fluoroscopic mA (peak):- up to 60 mA or more (Normal Mode) up to 125 mA or more (boost fluoro mode)	Pulse Fluoroscopic mA (peak):- Pulse FLR: up to 30 mA or more (Normal Mode) Cine Mode: up to 60 mA or more (Cine Mode/ boost pulse FLR)
Others (Point 5)	Flouro Navigation compatible	Deleted
DSA Features as standard (Point 3)	Pulse rate of 1- 15 fps in both fluoro & exposure runs	Pulse rate of 1- 13 fps or more in both fluoro & exposure runs
	Should be CE & US FDA approved	Should be CE / US FDA approved
	Add	Company should have import/manufacturing license from Central licensing Authority or State licensing authority of CDSCO for Quoted model, Medical Devices and copy of valid license should be submitted. Company should be ICMED 13485 Certified (Indian Certification for Medical Devices) - Based on the International Harmonized Standard of "Quality Management Systems for Medical Devices" plus additional requirements specified under the scheme. The X Ray generator, detector and console software should be from the principle manufacturer of C-arm machine for seamless connectivity and consistent image quality. If the generator is imported from other Country, complete specifications of data sheet from the principal manufacturer with an undertaking from them stating spares/parts of the generator would be made available for next 10 years to be attached with the BID.
4: Holter (3 Channel & 12 Channel)		
No Change.		
5: TMT		
No Change.		
6: ELR Machine		
No Change.		
7: ABPM Machine		
No Change.		
8: ECG Machine		
	ECG Machine 12 channel (MAKE-BPL 9108 PREFERRED)	ECG Machine 12 channel
Sl. No. 02	Should have visual alarm for open lead	Should have audio/ visual alarm for open lead
Sl. No. 03	Should have digital display of 7 inches or more for 12 channel ECG	Should have digital display of 8 inches or more for 12 channel ECG
Sl. No. 06	Minimum 100 ECG Storage inbuilt memory	Minimum 800 ECG Storage inbuilt memory
Sl. No. 12	Machine should have sufficient battery backup for taking at least 25 nos. ECG on a fully charged battery	Machine should have sufficient battery backup for more than 3.5 hours of monitoring and taking at least 400 nos. ECG recording on a fully charged battery
Sl. No. 15	Recording speed should be 25 mm/ sec and 50 mm/ sec.	Recording speed should be 5, 12.5, 25 and 50 mm/ sec.
Sl. No. 17	CMRR should be >90dB or ECG machine should have digital processing with atleast 7000 samples per second from each lead wire.	CMRR should be > 100 dB or ECG machine should have digital processing with at-least 1000 samples per second from each lead wire.

Sl. No. 21 (b)	Should be a 3-shelf (including the top) cart, one with a drawer for storing the accessories and consumables.	Should be a one top plate/ shelf cart, one with a drawer for storing the accessories and consumables.
Sl. No. 21 (e)	Top shelves shall be surrounded by railing.	Deleted
	Add	ECG transfer through FTP server within or outside hospital. ECG measurement through Glasgow Algorithm. Company should have ECG Management Software.
Group: B – Neurosurgery		
1: Power Drill System (7500 rpm) with all accessories		
Point 01	Electrical Drill System with Power and High Speed (Variable from 0 to 80,000rpm).	Electrical Drill System with Power and High Speed (Variable from 0 to 75,000rpm).
Point 12	Various Telescopic, Straight ,angled & footed Attachments and their Dissecting Tools should be quoted	Various Telescopic, Straight ,angled & footed Attachments and their Dissecting Tools should be quoted (7, 12, 14, 17, & 20)
Point 13	Various Dissecting Tools such as Acorn, Cylinder, Match head, Ball should be quoted.	Various Dissecting Tools such as Acorn, Cylinder, Match head, Ball should be quoted. (1 to 5 mm)
Point 15	Cranial Perforator should be supplied with reusable perforator.	Cranial Perforator (Qty. 02) should be supplied with reusable perforator or disposable perforator (Qty. 10)
Point 17	Single and reusable drill bits should be available.	Single and reusable drill bits should be available. (Qty. 10)
2: Cranial Ultrasonic Aspirator with Coagulation (C.U.S.A.)		
No Change		
3: Basic Craniotomy Set		
No Change		
4: Basic Laminectomy Set		
No Change		
5: Instruments for Anterior Cervical Discectomy		
No Change		
6: Instruments for Trans Sphenoidal Surgery		
No Change		
7: Instruments for Acoustic Surgery		
No Change		
8: Instruments for Pineal Surgery		
No Change		
9: Instruments for Aneurysm Surgery with assortments of Aneurysm Clips		
No Change		
10: Microsurgical Instruments		
No Change		
11: Pituitary Set with 4K Camera System		
Technical Specifications (Point 6)	Video output: 1 Display Port 1.2 ,1 x DVI-D output, 1 x 12G-SDI output, 3 x camera input for communication with compatible camera modules, LAN connection, 4 x USB connection (2 x front, 2 x back).	Video output: 1 Display Port 1.2 ,1 x DVI-D output, 1 x 12G-SDI output, 3 x camera input for communication with compatible camera modules, LAN connection, 4 x USB connection (2 x front, 2 x back). System should have facility to upgrade in 3D Endoscope, 3D Exoscope and ICG compatibility.
	31 Inch & 55 inch - 4K Monitor 1 each	30-32 inch or 55-58 inch- 4 K Monitor- 01 no.
	Add	The monitor should be supplied with monitor stand.
Power LED 300 with Fiber optic cable (Point 7)	4.8mm Fiber Optic Cable and 300cm Long	3.5 mm Fiber Optic Cable and 300 cm Long
Telescope & Sheath Sl. No. 03	Forward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclable, Fiber optic light transmission incorporated. -1	Forward-Oblique Telescope 30° , enlarged view, diameter 4 mm, length 18 cm, autoclable, Fiber optic light transmission incorporated. -1
Telescope & Sheath Sl. No. 06	Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, vertical oval, diameter 4.8 mm x 6 mm, with separate channel for suction and	Deleted

	irrigation, for use with irrigation and Suction handles 28161 TD/TT/JD/JT, 723630, Cleaning Accessories 28160 TK – TLL and HOPKINS® II Telescope 28164 AA -1	
Telescope & Sheath Sl. No. 08	Suction and Irrigation Sheath 30°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, vertical oval, diameter 4.8 mm x 6 mm, with separate channel for suction and irrigation, for use with Irrigation and Suction handle -1	Deleted
Telescope & Sheath Sl. No. 09	Irrigation and Suction handle, with push button valve consisting of : handle, with ergonomic ring handle and finger grip plate, for use with Irrigation and Suction Sheaths -1	Deleted
	Add	2D Exoscope to give additional facility with the existing system for performing all open neuro spin procedure with combination of the same existing 4K Camera System with involvement of entire surgical team. Further, with the 4K documentation System with this exoscope which can record all the open neuro and spin surgeries.
12: C-Arm with Flat Panel Detector		
Technical Specification Sl. No. 01	System should be USFDA/ European CE Certified from notified body.	System should be USFDA & European CE Certified from notified body.
Technical Specification Sl. No. 01	Make and model should be mentioned, it should be high end latest version.	Make and model should be mentioned, it should be high end latest version. At least one of the components- Tube/ Detector should be manufactured by the own OEM vendor for better serviceability and support.
II TV SYSTEM (a)	Dynamic Flat Panel Detector (FPD) available in 20 cm x 20 cm and 30 cm x 30 cm size (as per user intended applications).	Dynamic Flat Panel Detector (FPD) available in 30 cm x 30 cm size (as per user intended applications).
II TV SYSTEM (c)	More than 1,50,000 images storage capacity in 1K x 1K / 1.5K x 1.5K format	More than 1,40,000 images storage capacity in 1K x 1K / 1.5K x 1.5K format
II TV SYSTEM (e)	Fluoro / Radiography and Angio acquisition should be possible and play up to 30 frames/sec.	Fluoro / Digital Subtraction Angiography should be possible.
X-Ray Generator Sl. No. 01	High Frequency X-Ray generator with power output of Minimum 6 KW or more should be provided	High Frequency X-Ray generator with power output of Minimum 15 KW or more should be provided
X-Ray Generator Sl. No. 06	Max mA: 200 mA	Digital spot: 120 mA or more for better image quality.
Other Requirements (b)	Minimum warranty period of 3 year after satisfactory installation, there after 7 years CAMC. This period should cover each and every part of Unit including accessories, should cover whole equipment including tubes.	Minimum warranty period of 5 year after satisfactory installation, there after 5 years CAMC . This period should cover each and every part of Unit including accessories, should cover whole equipment including tubes.
	Add	Company should have import/manufacturing license from Central licensing Authority or State licensing authority of CDSCO for Quoted model, Medical Devices and copy of valid license should be submitted. Company should be ICMED 13485 Certified (Indian Certification for Medical Devices) - Based on the International Harmonized Standard of "Quality Management Systems for Medical Devices" plus additional requirements specified under the scheme. The X Ray generator, detector and console software should be from the principle manufacturer of C-arm machine for seamless connectivity and consistent image quality. If the generator is imported from other Country, complete specifications of data sheet from the principal manufacturer with an undertaking from them stating spares/parts of the generator would be made available for next 10 years to be attached with the BID.

	Add	Digital Subtraction Angiography with following features:- Roadmap, Re-masking Pulse rate of 1-15 fps in both fluoroscopy & exposed runs Dose display should be provided. Both Iodine & CO2 Angiography should be possible for latest generation IR interventions Real time Metal exclusion software to be provided to reduce radiation and avoid image artifacts.
Group: C – Pulmonary Medicine		
1: Fiber Optic Video Bronchoscope		
I. Video bronchoscope:- (Point 05)	Should be compatible with LED light source.	Should be compatible with multi LED/ Xenon 300w light source.
I. Video bronchoscope:- (Point 06)	Should have NBI (Narrow Band Imaging) function.	Should have NBI (Narrow Band Imaging)/ Fice/ BLI/ I Scan OE function.
A. Adult :- (Point 06)	Insertion Tube outer diameter 6.0 mm or less.	Insertion Tube outer diameter 6.4 mm or less.
C. Ultrathin:- (Point 03)	Depth of field 2-50mm or better	Depth of field 3-50 mm or better
C. Ultrathin:- (Point 04)	Insertion tube outer diameter 2.8mm or less	Insertion tube outer diameter 3.8 mm or less
C. Ultrathin:- (Point 08)	Minimum visible length 1.5mm or closer	Minimum visible length 3 mm or closer
C. Ultrathin:- (Point 09)	Tip deflection UP210° / down 130° or more	Tip deflection UP 180° / down 130° or more
II. Video Processor (Point 02)	Narrow Band Imaging capacity for compatibility with NSI Videoscope.	Narrow Band Imaging capacity/ NBI/ Fice/ BLI/ I Scan OE for compatibility with Video Bronchoscope.
II. Video Processor (Point 03)	Should contain the electronics vies to operate dual focus for clear visibility of near & far objects.	Deleted
II. Video Processor (Point 04)	Should have waterproof one-touch connector enabling a one step connection to the light source.	Should have waterproof one-touch connector/ Dual touch connector enabling a one step connection to the light source.
II. Video Processor (Point 06)	Picture in picture display & image function ability.	Picture in picture display & image function ability video processor monitor.
II. Video Processor (Point 07)	Portable memory & USB slot for image recording.	Deleted
II. Video Processor (Point 08)	Should be compatible with analog, HD-SBI and DVI output and 16:10 output for a HDTV monitor should be available	Should be compatible with analog, HD-SBI / DVI output and 16:9/ 16:10 output for a HDTV monitor should be available
II. Video Processor (Point 09)	Compact, light weight (10+1 kg) and ergonomically designed	Compact, light weight (15+1 kg or less) and ergonomically designed
III. Light Source (Point 01)	Examination lamp: Xenon short arc lamp (020 ne-free) 300 W	Examination lamp: Xenon short arc lamp (0Zone-free) 300 W/ multi LED
III. Light Source (Point 02)	Lamp life: 500 hours or more of continuous use	Lamp life: 500 hours or more of continuous use for xenon/ more than 5000 hrs or 6+yrs for multi LED
III. Light Source (Point 05)	NBI Observation: Available	NBI Observation/ Fice/ BLI/ ISCAN OE Available
V. Desktop & Printer: (Point 04)	It should be USFDA or CE approved.	Deleted
	Add	Video Processor, Light Source, Bronchoscope should be USFDA or CE approved.
2: PFT Machine with DLCO with Body Plethysmography		
No Change		
3: Sleep Lab		

Sl. No. 02 (point. 4)	Body position changes	Body position changes/ Inbuilt in amplifier
Sl. No. 02 (point. 6)	Patient event button	Patient event button/ Inbuilt in amplifier
Sl. No. 05	Should be provide with UPS Support	Should be provide with UPS Support/ amplifier in inbuilt battery backup- 15 hrs.
Sleep Lab Polysomnography 3.1 (a)	a) EEG input should be : Minimum 32	a) EEG input should be : Minimum 25 or more
Sleep Lab Polysomnography 3.1 (b)	The machine should have EMG input of minimum 3	The machine should have EMG input of minimum 3 or more
Sleep Lab Polysomnography 3.1 (d)	The machine should have ECG: 4(2 Physical and 2 derived)	The machine should have ECG: minimum 2 channel ECG
Sleep Lab Polysomnography 3.2	Additional DC channels for external peripherals like capnography, PH, blood Monitor etc.	The system should be able to record systolic & diastolic BP, either from PTT signal or third- party stand alone system through non- inflating soft figure cuff that can directly be interface with the machine.

Group: D – Reproductive Medicine

1: Time Lapse Incubator with Integrated Cell Culture Monitoring System

No Change

2: Witnessing System

No Change

3: Alarm System for Incubator & Embryology Lab (Air Quality Control Device)

No Change

4: CASA (Computer Assisted Semen Analysis System)

Modified/Amended Technical specification of CASA (Computer Assisted Semen Analysis System)

Motility and concentration - HUMAN

Module for the automatic analysis of the motility and concentration of human semen sample.

Main characteristics:

- **Multiple configurations (including WHO standard configuration)** and the option to modify all analysis parameters. Valid for **human semen only**.
- Possibility of using **several specific digital cameras**, to analyze up to 100 frames per second and resolution up to 1024x1024 pixels. Automatic analysis per field in less than 1 second.
- Analysis under phase contrast or **fluorescence** (with FluoCount kit).
- Possibility to capture up to 30 fields.
 - Calculation of the **basic parameters**:Sample concentration (M/ml and total ejaculate).Number and percentage of the sample motility classified in the various types (progressive, non progressive, motile, static, type a, type b, type c, type d and hyperactive).
 - Calculation of the **advanced parameters**:Sample concentration (M/ml and total ejaculate) per motility type.Average of the head area and for velocity type.Possibility to create groups/sort with specific characteristics.
- Calculation **average and by groups/types** of the following kinetic parameters:
 - VCL: Curvilinear velocity, VAP: Average path velocity, VSL: Straight line velocity, STR: Straightness index, LIN: Linearity index, WOB: Oscillation index, ALH: Average amplitude of the lateral head displacement, BCF: Head beat frequency.
- **Intelligent filter**: Automatic correction of captured fields with high debris concentration.
- Visualization of the trajectories for all the fields. Visualization of the **individual** motility characteristics of every spermatozoa and option to create a report.
- Possibility to **export images and videos**.
- Several types of reports with **images and graphics**, with the possibility to export them to Word, PDF, Excel, XML, TXT. Possibility to **customize the report**, adapting the information to the customer's needs. Excel report including a detailed list with all the parameters of every spermatozoa.
- Includes the **Sample Management**, that allows to retrieve the sample results to visualize them on the screen or print a wide range of reports (SQL Server database).
- Compatible with Viewer, program to visualize sessions in any computer.

Morphology - HUMAN

Module for the automatic analysis of the morphology and morphometry of a semen sample.

Main characteristics:

- **Multiple configurations (WHO Standard included)** and the option to modify all analysis parameters.
- Valid for **human semen** samples only. Available criterias: WHO, Kruger, David.
- Possibility to create personal matrix chart for the analysis.
- Allows to use **several specific digital cameras**, with resolution up to 1024x1024 pixels..
- Automatic detection and analysis of all the spermatozoa in the field (head, acrosome, midpiece, tail and vacuoles).Allows to capture up to 200 fields.
- Several staining kits allowed: Diff-Quik, Sperm Stain, Sperm Blue, Papanicolau, Shorr, Hemacolor, Leja-SB, Cell-VU.Calculation of the following **basic parameters**:
 - Percentage of normal and abnormal spermatozoa.Percentage of spermatozoa with abnormal head, midpiece, tail and cytoplasmic droplet. Teratozoospermy index.
- Calculation of **advanced parameters**:
 - Morphometry analysis (average and standard deviation)
 - Head: Length, width, area, perimeter, elongation, ellipticity, rugosity, regularity, percentage of acrosome, grey level; Midpiece: Width, area, insertion distance, angle; Tail: Length; Vacuoles: Area.
 - Percentage of each morphological type (It is possible to modify the description)
 - Head: Micro, macro, elongated, pyriform, round, amorphous, normal acrosome; Midpiece: Width, asimetric, angulated; Tail: Short, bent, coiled, multiple, without.
- Possibility to add or eliminate spermatozoa. Manual selection of tail anomalies.
- Several reports are provided with **graphics and images**. Possibility to export the reports to Word, PDF, Excel, XML, TXT. Possibility to **customize the report**, adapting the information to the customer's needs. Excel report with the list of morphology parameters of each spermatozoa.
- Includes **Sample Management**, to retrieve the sample results at any time, and visualize them on the screen or print a report (SQL Server database).Compatible with Viewer, that allows to display sessions in any computer. Compatible with Capture, data Share and Stage Controller.

Manual counter

Module developed to analyse, in a manual way, any sample that can be visualized with the digital camera used.

Main characteristics:

- Visualization of the sample on the screen; Allows to save into the database the obtained results.
- Allows the creation of customized counters (for any sample).; Configuration of the counter keys.
- Results report with pictures that can be manually captured.; Camera controls to modify the colours, brightness and contrast of the displayed image.

Vitality - HUMAN

Module for the automatic analysis of the vitality in a human semen sample with bright field or under fluorescence.

Main characteristics:

- **Multiple configurations** and the option to modify all the analysis parameters., Valid for **human semen** samples only; Allows to use **several specific digital cameras**, with resolution up to 1024x1024 pixels.; Automatic selection and analysis of all the spermatozoa in the field; Analysis with **brightfield** (for example with Brigh Vit kit).; Analysis under **fluorescence**; for example with Fluo Vit kit).Allows to capture up to 30 different fields. Calculation of **basic parametres**: Number and percentage of live and dead spermatozoa. Allows to export images.
- Several reports are produced with images and graphics, that can be exported to Word, PDF, Excel, XML, TXT. Possibility to **customize the report**, adapting the information to the customer's needs.
- Includes **Sample Management**, to retrieve the sample results at any time, and visualize them on the screen or print a report (SQL Server database)
- Compatible with Viewer, that allows to display sessions in any computer.

DNA Fragmentation – HUMAN

Module for the automatic analysis of the DNA fragmentation in human semen samples.

Main characteristics:

- **Multiple configurations** and possibility to modify all the analysis parameters. Valid for **human semen** only. Allows to use **several specific digital cameras**, with resolution up to 1024x1024 pixels.
- Analysis under bright field or under **fluorescence** (using Halosperm kit)
- Allows to capture up to 200 fields. allows to delete any field. Calculation of the **basic parameters**:
 - Number and percentage of fragmented and non-fragmented spermatozoa.
 - Calculation of **advanced parameters**: Number and percentage for spermatozoa with: Big halo, medium halo, small halo, without halo or degraded.

- Several reports with **graphics and images** that can be exported to Word, PDF, Excel, XML and TXT. Allows to customize reports. Excel report with all the listed parameters of DNA fragmentation.
- Includes **Sample Management**, to retrieve the sample results at any time, and visualize them on the screen or print a report (SQL Server database).
- Compatible with Viewer, that allows to display sessions in any computer.

Acrosome reaction (HUMAN)

Module for the automatic analysis under fluorescence of the membrane acrosome reaction in human semen samples. Main characteristics: Automated count of the percentage of membrane intact sperm, based on a double stain fluorescence assay. Automated count of sperm with damaged acrosome.

Data Share

Main characteristics:

- Possibility to install the database in a **server**.
- Allows sharing the database with several systems. Allows sharing the database with the existing local database. Allows **exporting pictures (JPG) and videos (AVI)** in a desired folder automatically.
- Allows **exporting reports** in PDF, DOC and XLS in a desired folder automatically. Allows using files HL7, XML, TXT, CSV, XLS or XLSX to import new samples or patients/animals to the database, and export to external databases. Allows integrating with the external program.

CAMERA + COMPUTER

Desktop: Minimum specifications as below or higher. Make – **DELL/HP/LENOVO**

- Intel Core i5 processor; 256 GB SSD hard drive + 1 TB additional disk; 8 GB RAM memory
- Intel HD graphic card; Windows 10 / 11 Pro; 23'' or 24'' inch LED TOUCHSCREEN display

Basler Ace camera ACA1300-200UC

Main features: Resolution: 1280x1024 pixels; Frame rate: 200 fps. Capture: Black/white and colour. Interface: USB 3.0; Lens mount: C-mount; Weight: 80g; Sensor size: ½ inch; Sensor type: CMOS.
(USB 3.0 cable included)

FS10J-2: Quick image capture USB foot pedal

Quick image capture USB foot pedal. USB connection.

SM: Stage micrometer

Stage micrometer for microscope calibration.

Main characteristics: Division: 0.01 mm; Size: 25 x 75 mm; Material: Glass

HEATING STAGE

HS-PT-USB: Portable heating stage USB

Portable heating stage main characteristics:

- Device dimensions: 81,4 mm x 42.9 mm x 4.25 mm (3.21" x 1.69" x 0.17") excluding slider supports
- Case dimensions: 150 mm x 100 mm x 30 mm (5.91" x 3.94" x 1.18")
- Centre hole diameter: 10 mm (0.39"); Cable length: 1 m (39.4"); Ingress Protection Rating: IP55 (excluding the USB connector)
- Precision: ±0.5° C; Resolution: 0.1° C; Stability: ±0.2° C
- Range: From ambient temperature +2° C to 50° C (minimum configurable value stands for 25° C)
- Heat-Up time: From 25° C to 37.5° C in 6 minutes. (Holding a standard slide)
- Storage temperature: From -5° C to +60° C

MICROSCOPE

Description

Ci-L Main Body for right side stage Capture button ,Fixed diffuser, Field diaphragm adjusting tools (1 piece), Dual Coarse/ Fine focusing with re- focusing mechanism man torque adjustment built-in

lamp house for white LED

C-SR2S Right Handle Stage with 2S Holder

C-TF Trinocular Tube F 1 (2ways Eyepiece : Port100:0 /0:100)

Eyepiece Lens CFI10X with diopter adjustment (F.O.V. 22mm)

CFIUW Eyepiece Guard (for 10X)

C-N6ESD Sextuple Nosepiece

C-PH Phase Condenser, N.A. 0.90

Filter, 45mmGIF
CFIPlanFluor20X; Achromat DL 40X; 60X, ACHROBM10XA Negative Phase, C-Mount Adapter
C-CT Centering Telescope with UW adapter;
<CI-FLEpi-fluorescence Attachment(100-240V)>consistof:CI-FL-2Epi-Fluorescence
D-LEDI Fluorescence LED Illumination System; USB2.0Cable AB Type 3m (Black)

General Points:

- Includes the **Sample Management**, that allows to retrieve the sample results to visualize them on the screen or print a wide range of reports (SQL Server database).
- Compatible with Viewer, program to visualize sessions in any computer.
- The system should be based on Image based analysis as per latest WHO guidelines.
- The system should be an **open system** which can work on several different compatible staining kits /reagents/slides which can be sourced from any 3rd party vendors. The system should not work only on proprietary consumables.
- It should be supplied with a good quality branded Microscope from Nikon or Olympus etc.
- **The complete CASA system must provide** :Software, Colour Camera, Microscope, PC, Monitor, USB Heating Stage
- **Digital Camera**
System should be equipped with high resolution and velocity color digital camera to grab images at a speed of minimum 200 Frames/Sec. Resolution of 1280x1024 pixels, CMOS sensor with USB interface
- **Microscope features**
Trinocular microscope with **LED illumination** and **turret condenser, C-mount**. It should work on Brightfield and Phase Contrast, Fluorescence methods. The stage should be compatible to use analysis chambers such as disposable fixed depth slides, glass slides, Makler chamber etc. Microscope to be provided with suitable objectives. The microscope should be open for use for any other lab purpose if required.
- Stage Micrometer with division of 0.01mm for calibration and measurement
- **Quick image capture USB foot pedal:**
Quick image capture USB foot pedal with USB connection should be provided for easy operation.
- **PC should have following minimum specs:**
- The system should be modular system with scope to expand or upgrade to additional modules like Morphology, Vitality, DNA Fragmentation, Acrosome reaction in the future.
- The manufacturer should be ISO certified and the software should be CE certified
- There should be a facility to connect with On-line technical support from the manufacturer to resolve any technical issues or help required on analysis during the warranty period.
- Update to the new and latest version when released by manufacturer, free of charge if the system is under warranty.
- The system should come with 1 year standard warranty on Hardware and Software.

5: Office Hysteroscopy with all operative accessory with Master Resectoscope

Modified/Amended Technical specification of Office Hysteroscopy with all operative accessory with Master Resectoscope

Specification

1. 4K Camera System

- The system should be Digital endoscopic video camera with maximum Resolution of 3840 X 2160 pixels, progressive scan to guarantee genuine 4K.
- The system should have facility of 3x Digital Zoom Lens or more.
- The system should have facility for capturing 4K UHD HD Stills and FULL HD Videos in External USB drive.
- System should have facility to offer various visualization modes for surgery and diagnosis by shifting the color spectrum like **BLUE & GREEN** light for recognition of the finest tissue Structures and their differentiation.
- Picture in Picture of visualization modes.
- Automatic adjustment of light intensity of light source.

Technical Specifications:

Pixels: 3840 X 2160 Pixels

AGC: Microprocessor controlled

Lens: Integrated Zoom Lens f = 18 mm

Color Space: BT.2020 emulation

Control buttons: 3 (2 of them freely programmable).

Video output: 1 Display Port 1.2 , 1 x DVI-D output, 1 x 12G-SDI output,

3 x camera input for communication with compatible camera modules, LAN connection, 4 x USB connection (2 x front, 2 x back).

Input: Keyboard input for character generator.

Power Supply: 200-240 VAC 50/60 Hz

2. 32 Inch 4K Monitor

The monitor should have:

Color Space – BT.2020 emulation, Adobe RGB 97%

Aspect ratio: 16:9

Screen Diagonal: 31.1”

Effective Resolution: 3840 X 2160 Pixels

Brightness: 350cd/ m2

Max. observation angle: 178° vertical/horizontal.

Inputs: 1 x DP 1.2 ,2XDVI-D ,4 x 3G-SDI / 1X 12G SDI

Outputs: 1 x DVI-D ,4 x 3G-SDI/1X 3GSDI

Contrast ratio: 1500:1.

3. Power LED 300 with Fiber optic cable

- Should have touch display which provides an intuitive & user-friendly interface that directly displays relevant data
- Cold Light Fountain LED Light Source
- Lumens : 2100 and above
- Color Temperatures 6000K
- Light Outlets – 1
- Lamp life of approx. 30,000 hrs
- 4.8mm Fiber Optic Cable and 300cm Long
- Certified To: - IEC 601-1 & UL 544 CE According to MDD, protection class 1/CF

4. IMAGE/VIDEO RECORDING AND DATA ARCHIVING SYSTEM

- State of the art user friendly Medical grade system (certified to be used in OT) should be offered with following features,
- User should have full control of the system from the sterile field via camera head buttons, optional touch screen, optional foot switch.
- Parallel (synchronic or independent) recording of two image sources.
- Still images and videos (optional with audio) in 2D, 3D or 4K.
- Internal memory 2 TB
- Playback of 2D, 3D and 4K content
- Viewable Diagonal (inches):12.5”.
- Type approval: IEC 60601-1-1, EN60601-1, EN60601-2.
- Classification: CE, MDD, CSA.

5. Imported Endoscopic Trolley

Endoscopic Trolley Comaptible with the above system from the same manufacturer should be provided.

6. TELESCOPES

Compatible Telescopes with the above system should be quoted with Dimensions as below:

- 1) 10mm 0 Degree & 30 Degree with 29cm or more working Length – Each 1 QTY.
- 2) 5mm 0 Degree and 30 Degree with 29Cm or more working Length – Each 1 QTY

7. INSUFFLATION UNIT

1. Fully automatic, electronically controlled gas fill.
2. Flow rate of 30-40 litres per minute.
3. Optical and acoustic warning signals in case of malfunction or excessive pressure.
4. Connectible to medical gas pipeline.
5. Control by keys on front panel.
6. Clear and adjacent display of actual and preset flow rate, actual and preset pressure, gas consumed.
7. Facility for preheating of gas to body temperature.
8. Facility for easy evacuation of smoke and mist.
9. Memory for retention of previous pressure settings.

Should include pin-index connection to small / big gas cylinder with regulator, high pressure hose, mains cord, silicone tubing set, universal wrench and gas filter

Should be compatible to the Communicating Computer System, so as to function as an integral part of the digitally controlled Operating Room under the command of the operating Surgeon.

8. SUCTION – IRRIGATION UNIT WITH VOULME DIFFERENCE

1. Pump for irrigation and suction.
 2. Maximum irrigation pressure 400 mm Hg.
 3. Suction pressure 0.75 bar.
 4. Control from control panel and / or foot pedal.
 5. Overflow protection on suction bottles.
 6. Accessories should include silicone tubings, bacterial filter and bottles with cap.
- The unit should provide exact determination and monitoring of volume difference
 - It should have acoustic and optimal status display
 - It should have freely programmable limiting values
 - It should be independent of the used suction/irrigation system
 - The system should provide exchange of irrigation liquid bottles possible during surgery
 - Power supply of unit should be 100-240 VAC, 50/60 Hz
 - Volume display:
 - Measuring range: 0-30000 ml
 - Resolution: 5ml
 - Alarm limiting value: 0-2000 ml
 - Flow display
 - Measuring range: 0-19999 ml/min
 - Resolution: 10 ml/min
 - Alarm limiting value: 0-500 ml/min
 - Unit should be supplied with:
 - Scale measuring element
 - Suspension holder
 - SCB Connecting cable, length 100cm
 - Certified to: IEC 601-1, CE acc to MDD

SPECIFICATION FOR HYSTEROSCOPE SET WITH RESECTOSCOPE

Operating and Contact-Hysteroscope Forward-Oblique Telescope 30°, enlarged view, magnification 1x, 60x, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated,

Forward-Oblique Telescope 30°, enlarged view, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated

Forward-Oblique Telescope 30°, enlarged view, diameter 2.9-3.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated,

Hysteroscope sheath for diagnostic continuous irrigation size 4.5-4.6mm outer sheath and 3.8-3.9mm inner sheath for use with 2.9-3.0mm hysteroscope telescope.

Continuous irrigation flow operating sheath Inner size between 4.9-5.0mm and outer size between 5.5-5.6mm having operating channel 5Fr, to be used with 2.9-3.0mm telescope, with LEUR lock and inflow and outflow channel.

Examination Sheath, diameter 5.0-5.1 mm, to be used with 4mm telescope, with 1 LUER-Lock adaptor

Continuous flow Examination Sheath, inner size diameter 5.2-5.3 mm, & outer dia size 6.2-6.3mm to be used with 4mm telescope, with 1 LUER-Lock adaptor

Continuous Flow Operating Sheath, inner size 5.4-5.5mm, & outer size 6.0-6.1mm, with 5 Fr. channel for operating instruments, with 1 stopcock and 1 LUER-Lock adaptor

Scissors, blunt tips, 5 Fr., length 34 cm, single action jaws

Scissors, pointed jaws, 5 Fr., length 34 cm, single action jaws, semi-rigid

Biopsy- and Grasping Forceps, 5 Fr., length 34 cm, double action jaws

Needle Electrode, 5 Fr., length 27 cm, unipolar

Bipolar vaporisation electrode, 5 Fr. length 36 cm

High Frequency Cord with 4 mm plug HF-unit, older models, 300 cm

Bipolar High Frequency

Working Element Set consisting of:

1 Working element, 1 Cutting Loop, angled, 1 Coagulating-Electrode ball end 3 mm, 1 Coagulating Electrode ball end 5 mm, 1 Coagulating Needle Electrode angled, 2 High Frequency Cords, 1 Protection Tube for electrodes
 Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb. to be used with 4mm telescope

Cutting loop 24 Fr and Roller electrode 24Fr 12 Nos. each

Resectoscope Sheath 26 Fr., including connection tubes for in- and outflow, 2 LUER-lock adaptors, diameter 8 mm, oblique beak, fixed inner tube, with ceramic insulation, for use with working element .

Obturator, for use with the sheaths.

Forward-Oblique Tele- scope 30°, ø 2.9 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated, color code: red	1
Operating Sheath, size 4.3mm, with channel for semirigid 5 Fr. operating instruments, with 1 stopcock and 1 LUER-Lock adaptor, for use with CF operating sheath	1
Continuous-Flow Operating Sheath, size 5.mm, with 1 stopcock and 1 LUER-Lock adaptor, for use with operating sheath	1
Scissors, blunt, single action jaws, semirigid, 5 Fr., length 34 cm	1
Scissors, pointed, single action jaws, semirigid, 5 Fr., 34 cm	1
Biopsy and Grasping Forceps, double action jaws, semirigid, 5 Fr., length 34 cm	1
Punch, through-cutting, single action jaws, semirigid, 5 Fr., length 34 cm	1
Biopsy Spoon Forceps, double action jaws, semirigid, 5 Fr., length 34 cm	1
Fixation Instrument, semirigid, 5 Fr., length 34 cm	1
Polypectomy Loop, unipolar, 5 Fr., length 34 cm	1
Needle Electrode, unipolar 5 Fr., length 34 cm	1
Bipolar vaporization electrode, semirigid, 5 Fr. length 36 cm	1
Telescope 12°, ø 2.9 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated, color code: black	1
Resectoscope Sheath, including connecting tube for in- and outflow, for continuous irrigation and suction, ø 7 mm, oblique beak, rotatable sheath tube, with ceramic insulation, for use with working element	1
Resectoscope Sheath, including connecting tube for in- and outflow, for continuous irrigation and suction, ø 7 mm, oblique beak, fixed inner sheath, with ceramic insulation, for use with working element , color code: white	1
Standard Obturator, for use with resectoscope sheaths	1
Telescope Bridge, with channel for semirigid 5 Fr. operating instruments, for use with resectoscope sheaths	1
Working Element Set, consisting of: Working Element Cutting Loop, angled Coagulating Electrode, pointed Coagulating Electrode, ball end, ø 3 mm Cutting by means of a spring. The thumb support is movable. In rest position the electrode tip is inside the sheath. High Frequency Cord Protecting Tube	1

Wide Angle Straight Forward Telescope 6° Set, with parallel eyepiece, length 20 cm, 19 Fr., autoclavable, fiber optic light transmission and working channel incorporated, with LUER-Lock connection for inflow, color code: green-blue, consisting of: Telescope 6°, Obturator and LUER-Lock Tube Connector
 Ergonomically designed, with powerful motor, Easy hygienic processing, Removable Handle

360° rotating straight, sterilizable, concave cutting edge, double serrated, oval cutting window, diameter 4mm, length 32cm, for use with shaver handpiece

360° rotating straight, sterilizable, concave cutting edge, double serrated, rectangular cutting window, diameter 4mm, length 32cm, for use with shaver handpiece

Coagulation Electrode, Bipolar, for use with Gynecology Shaver System
 Handle, adjustable, for use with shaver handpiece

Coagulation Electrode, bipolar, for use with Shaver
 Control Cable, connectors 2x LEMO 5-pol 0°, length 100 cm, for transmission of foot switch control signal between Motor Unit and Irrigation/Suction System

Power Supply 100-120/230-240 VAC, 50/60 Hz, with Mains Cord and One-Pedal Footswitch-two stage, with proportional function and pump switch function. Automatic Handpiece recognition, Processor controlled number of revolutions and motor torque, continuously variable revolution range.

Controlled irrigation and suction unit for operating hysteroscope and tcre procedure to maintain intrauterine cavity pressure as desirable by surgeon. Pressure of irrigation to be maintained between:
(PRESSURE 0-100mmHg).

FLOW TO BE MAINTAINED BETWEEN:
(Flow 0-200ml/min.)

SUCTION PRESSURE TO BE MAINTAINED BETWEEN:

Suction controlled pressure between 0-(-50kPa)

Should have two-pedal foot switch for controlling various functions.

Should maintain a preset intrauterine pressure and simultaneous continuous flow.

Should have a touch screen user interface with selection modes.

Should be able to inform the current status of pressure and flow through visual or acoustic messages.

Should have automatic instrument recognition with set parameters.

Alternatively, Both the rollers can also work independently.

Should have Blood /Mucous mode to rinse particles more rapidly to give clear view.

Consisting of:

Main Unit With Touch Screen Panel, Double Roller Pump, Pre-Configured Procedure Options, Possibility To Create Own Procedures, Pump Head, Automatic Dome Detection Facility, Controlled Suction/Irrigation Function.

Should be supplied along with following accessories:

Single use Suction Tubing Set, package of 10

Single use Irrigation Tubing Set, package of 10

Suction bottle 5.0L

Suction bottle cap, stand and holder

Environmental factors

1. Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive.
2. The unit shall be capable of operating continuously in ambient temperature of 20-30 deg C and relative humidity of 15-90%
3. The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%

Power Supply

1. Power input to be 220-240VAC, 50Hz fitted with Indian plug
2. UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

Standards, Safety and Training

1. Should be FDA, CE, UL or BIS approved product
2. Manufacturer should have ISO certification for quality standards.
3. Comprehensive training for lab staff and support services till familiarity with the system.
4. Comprehensive warranty with no fault warranty and CMC after warranty including UPS.
5. Shall be certified to be meeting safety standard IEC 60601-2-18 part 2 Particular requirements for the safety of endoscopic equipment.
6. **All the items should be from single manufacturer for system compatibility.**

Documentation

- User/Technical/Maintenance manuals to be supplied in English.
- List of important spare parts and accessories with their part number and costing.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.
- Certificate of calibration and inspection.
- List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
- Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

6: USG- 3D

Sl. No. 01 B. Iv	Broad Band Linear Array Probe (frequency range	Optional
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	between 7 to 20 MHz)	
Sl. No. 01 B. V	Biopsy guide – 2 nos.	Biopsy guide – 10 nos. (Reusable)
	Add	Broad Band Endocanlay Volume TVS Probe (freezing range of 3-9 MHz)
Sl. No. 03	10,000,000 digital Channels or more.	80,000,000 digital Channels or more.
Sl. No. 13	A High resolution Fully Articulating Non Interlaced flicker free, anti glare, Flat Panel LED Display of 21 inches or more with tilt and swivel facility.	A High resolution Fully Articulating Non Interlaced flicker free, anti glare, Flat Panel LED Display of 23 inches or more with tilt and swivel facility.
	Add	Price of deferent types of probes should be quoted separately. Software update should be provided free of cost till warranty period.

7: Laparoscope Set with 4K with Printer & reporting System

Modified/Amended Technical specification of Laparoscope Set with 4K with Printer & reporting System

1. 4K UHD Medical Grade Monitor Screen Size of 32 Inch (From Same OEM) or more – 01 No. and 55 inch or more (From Same or Different OEM along with MDD Certified Product to use inside the OT) : 01 No. :-

The monitors should have following specification :

2- Dimensional endoscopic video camera in 4K resolution (3840*2160)

3-Dimensional endoscopic video camera in 4K resolution (3840 *2160)

Slot for Video Scopes (Digital Scopes/Chip on tip) like Video Choledochoscope, Video Cystoscopes etc.

- 3D in 4K resolution
- 2D in 4K resolution
- 2D in Full HD resolution
- 3D in Full HD resolution
- Facility to be connected to 4K UHD and FHD video source.
- Color Space – BT.2020 emulation.
- Aspect ratio : 16:9 or better.
- Effective Resolution : 3840 X 2160 Pixels.
- Inputs : 1 x DP 1.2, 1 x DVI-D, 1 x 3G-SDI / 1 x 12G SDI / 1 x HDMI 2.0, 1 x USB.
- Outputs : 1 x DVI-D, 2 x 3G-SDI / 1 x 12G SDI.

2. 4K UHD Camera Control Unit (CCU) :

- The system should be digital endoscopic video camera with maximum resolution of 3840 x 2160 pixels and progressive scan to guarantee genuine 4K.
- The system should have facility of 3x Digital Zoom Lens or more.
- System should have facility to offer various visualization modes for surgery and diagnosis by shifting the color spectrum like **BLUE & GREEN** light for recognition of the finest tissue structures and their differentiation / ICG florescence technology for biliary mapping, blood flow, vascularity. (If any hardware / software requirement for this said facility, then bidder / manufacturer has to quote it as optional in **Schedule XI** as Percentage).
- The CCU should be complete with all accessories so as to connect **4K UHD Telescope** and process and display the signals in their native resolution.
- Picture in Picture of visualization modes.
- Automatic adjustment of light source intensity.
- Resolution : 3840 x 2160 Pixels.
- Video output : 1 Display Port 1.2 / 2 XHDMI, 1 x DVI-D output, 1 x 12G-SDI output, LAN connection, 4 x USB connection.
- Input : Keyboard input for character generator.

3. 4K UHD Camera Head :

- Pixels : 3840 x 2160 Pixels.
- Microprocessor controlled.

- Lens : Integrated Zoom Lens, f = 18 mm.
- Color Space : BT.2020 emulation.
- Must have different control buttons to control the camera functions / presets from sterile zone (at least one of them freely programmable).
- The surgeon should not feel any heat output from the camera head during long procedures.

4. Light Source 400 W LED / Xenon with Fiber Optic Cable – 01 No. :

- Cold Light Fountain / Xenon Light Source which also be suitable to use for ICG technology.
- Lumens : 2000 and above / equivalent top 300 watt Xenon.
- Color Temperature : approximately 6000 K.
- Should have touch display which provides an intuitive & user-friendly interface that directly displays relevant data.
- Lamp life of approx. 30,000 hrs (or more) (if xenon light source the bidder will supply minimum 5 xenon bulb with the system & time to time replacement of xenon bulb must be responsible of bidder / manufacturer till the equivalent of lamp life of 30000 hours).
- 4.8 mm fiber optic cable and 300 cm long (**02 Nos.**).
- Certified To : IEC 601-1 & UL 544 CE, according to MDD, protection class 1 / CF.

5. 4K UHD Image / Video Recording and Data Archiving System (From same or Different OEM along with MDD / Certified product to use inside the OT) :

- State of the art user friendly medical grade system from same or different OEM (certified to be used in OT) should be offered with following features :
- User should have full control of the system from the sterile field via camera head buttons, optional touch screen or optional foot switch.
- Still images and videos (optional with audio) in 2D or 4K UHD.
- Internal memory : minimum 2 TB.
- Playback of 2D and 4K UHD content.
- Must have an touch panel support display size of 10" to control the image management system & for simplification of data input. (approximately).
- Classification : MDD, CSA.
- Must have ergonomically designed space to arrange all the laparoscopic systems, camera head as well as proper handles for easy movements.
- Good size lockable dual castors having controls for straight movement.
- Must have adequate number of power points with switches with safety features.
- Must have a power cord of minimum 3 meter length.

7. Electronic Thermo Insufflator :

- Fully automatic electronically microprocessor controlled gas filling system.
- Flow rate of 30 – 40 litres per minute.
- Audio visual signals in case of malfunction or excessive pressure.
- Connectible to CO₂ from medical gas pipeline / cylinders.
- Easily accessible control keys on front / top panel.
- Side by side display of actual and preset parameters : flow rate, pressure and gas consumed.
- Should have feature like pre heating of gas to body temperature.
- Should have feature easy evacuation of smoke and mist.
- Memory for retention of previous pressure settings.
- Should include pin-index connection to small / big gas cylinder with regulator, high pressure hose, mains cord, silicone tubing set – **02**

Nos., universal wrench and gas filter – **05 Nos.**

8. Irrigation Unit :

- Pump for irrigation and suction.
- Maximum irrigation pressure 400 mm Hg.
- Suction pressure 0.75 bar.
- Control from control panel and / or foot pedal.
- Overflow protection on suction bottles.
- Accessories should include silicone tubings – **02 Nos.**, bacterial filter – 05 Nos. and bottles with cap.

9. 4K Telescopes :

All telescope should have following :

Low risk of object burn, Colour coded for identification, Autoclavable, Fibre optic light transmission incorporated.

Compatible Telescopes with the 4K system should be quoted with dimensions as below :

- 10 mm, 0 Degree, 29 cm or more working length – **02 Each.**
- 10 mm, 30 Degree, 29 cm or more working length – **02 Each.**
- 5 mm, 0 Degree, 29 cm or more working length – **01 Each.**
- 5 mm, 30 Degree, 29 cm or more working length – **01 Each.**

10. Telescopes for 3D in 4K resolution with integrated camera head

- 3D imaging via two distal 4K sensors
- Camera and Telescopes should be one piece
- 10mm 30 degrees - 1 No.
- Switching of 3D to 2D can be done.
- Free from Focus and Depth of Field should be 30-200mm
- Autoclavable.
- Sterilization tray for the scope should be quoted.
- 3D Should be able to perform both White light and Near Infrared application.
- **Reusable Veress 10 & 13 cm Pneumoperitoneum Needle :** Spring loaded blunt stylet luer lock length 10 / 15 cm.- **02 No. Each**
- **Reusable Trocar : 5 mm :** Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5 cm). **04 No.**
- **Reusable Trocar : 10 / 11 mm :** Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5 cm). **04 No.**
- **Reusable Trocar : 12 mm :** Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5 cm). **04 No.**
- **Safety Trocar with Port :** 10 mm length approx 10.5 mm. **04 No.**
- **Spare Sealing Trocar Caps for Trocar : 5 – 6 mm. 05 No.**
- **Spare Sealing Trocar Caps for Trocar : 10 – 11 mm. 05 No.**
- **Reusable Reducer Sleeve : 10 / 11 mm to 5 / 4 mm. 02 No.**
- **Reusable Reducer Sleeve : 12 mm to 6 / 5 mm. 02 No.**
- **Suction and Irrigation Cannula :** Size 5 mm, length 36 cm, used with suction & irrigation handle. **02 No.**
- **Grasping Forceps – Toothed 2 x 4 Teeth :** Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Toothed 2 x 3 Teeth :** Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Maryland Forceps :** Double action jaws , rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Atraumatic :** Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**

- **Grasping Forceps – Allis** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Rt Angled** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Mixer** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Plain Dissection & Grasping** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Babcock** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Fan Shaped Retractor** : Rotating, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Hook Scissors** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Micro Scissors** : Single / Double action jaws, size 5 mm, length 33 – 36 cm. **02 No.**
- **Laparoscopic Knife** : 5 mm, 30 – 36 cm length. **02 No.**
- **Rotating Metzenbaum Scissors** : Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Bipolar Coagulating Forceps** : Size 5 mm, length 33 – 36 cm fenestrated. **02 No.**
- **Bipolar Coagulating Forceps** : Size 5 mm, length 36 cm, 3 mm width of jaws. **02 No.**
- **Maryland Bipolar** : Double action jaws, rotating with connector pin for bipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **CO2 Connector** : Compatible with CO₂ "B" type cylinder. **02 No.**
- **High Frequency Cord** : For 5 mm & 10 mm hand instruments with monopolar electrodes, spatula tip. **02 No.**
- **High Frequency Cord** : For 5 mm & 10 mm hand instruments with monopolar electrodes, hook tip. **02 No.**
- **Knot Pushers** : Eye type, length 33 – 36 cm. **02 No.**
- **Needle Holder Coaxial Type** : Size 5 mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33 – 36 cm. **02 No.**
- **Assistant Needle Holder** : Size 5 mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33 – 36 cm. **02 No.**
- **Clip Applicator – Medium Large** : Rotatable, provision for locking the shaft conveniently, 10 mm, compatible with clip. **02 No.**
- **Trocar under Optical Vision** : Trocar with endo tip size : 10 mm & 5 mm, cannula rotatable with multifunction valve, working length : 11 cm. The endo tip cannula should compatible with 10 mm telescope for under vision entry into peritoneum. **02 No.**
- **Grasping Forceps – Toothed 2 x 3 Teeth** : Double action jaws, rotating with connector pin for unipolar coagulation, size 10 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Grasping Forceps – Toothed 2 x 4 Teeth** : Double action jaws, rotating with connector pin for unipolar coagulation, size 10 mm, length 33 – 36 cm, dismantling facility. **02 No.**
- **Suction Irrigation Cannula** : 10 mm. **02 No.**
- **Stone Extractor** : 10 mm single / double action jaws. **02 No.**
- **Hassan Cone** : Adaptable to 10 mm trocar. **02 No.**
- **Bowel Grasper** : 10 mm fenestrated, rotatable. **02 No.**
- **Blunt Obturator** : For 11 mm port. **02 No.**
- **L – Hook** : Size 5 mm, length 33 – 36 cm with pin for cautery, well insulated hook with small un- insulated working part. **01 No.**
- **Spatula** : Size 5 mm, length 33 – 36 cm with pin for cautery. **01 No.**
- **Fascia Closure Instrument** : Size 2.8 mm, length 17 cm. **01 No.**

- **Washers** : For 5 & 10 mm cannula and reducers. **02 No.**
- **Container : Metal & Plastic** : For sterilization and storage of telescopes different sizes. **02 No.**
- **Container : Metal & Plastic** : For sterilization and storage hand instruments and other accessories, different sizes. **02 No.**
- **Uterine Manipulator**, complete consisting of: Handle, Manipulator, Sheath Cap, diameter 37 mm, length 30 mm Cap, diameter 42 mm, length 30 mm Spiral Insert, diameter 15 mm Spiral Insert, diameter 20 mm Working Insert, length 60 mm Working Insert, length 40 mm Tube Connector, length 190 mm 2x 27500 LUER-Lock Tube Connector The set indicated here only takes into account the instrument setting for Total Laparoscopic Hysterectomy. **01 No.**

11. Additional Terms and Condition :

- All the Equipments & instruments are from same manufactures / OEM to avoid compatibility issues and to get better service support through out the warranty & CMC period.
- Prices of all Equipments / Instruments / Consumables / Accessories must be quoted and consider as rate contract through out the CMC & Warranty period of the tender.

Price of all items mentioned in the BOQ must be considered for price evaluation.

12. Standards, Safety and Training :

- Should be FDA / CE / UL / BIS / CDSCO approved product.
- Manufacturer should have ISO certification for quality standards.
- Comprehensive training for users and support services till familiarity with the system.
- Electrical safety conforms to standards for electrical safety IEC 60601-1 (Or equivalent International / National Standard) General Requirement for Electrical Safety of Medical equipment.
- The equipment complies with the requirement of the Medical Device Directive of Class I Equipment and Electromagnetic Compatibility; all supporting documents must be provided.

13. Documentation :

- User / Technical / Maintenance manuals to be supplied in English.
- Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
- Cost of spare parts, consumables and accessories not mentioned in the BOQ and which are not covered under warranty & CMC period, has to quote in **Schedule XI** as percentage value in the Technical Bid. List of consumables with price frozen for 10 years, or else will be consider to be cover throughout the warranty & CMC period.
- Calibration and Routine Preventive Maintenance Support as per manufacturer documentation in service / technical manual has to be done throughout the warranty & CMC period.
- Compliance report to be submitted in a tabulated and point wise manner clearly mentioning the page / para number of original catalogue / data sheet and the offer details has to submit in the technical bid. Any point, if not substantiated with authenticated catalogue / manual, will not be considered.
- Certificate of inspection and quality control indicating the S / N for all non-consumable items with date at the time of installation.
- All the technical specifications accepted in the compliance statement must be supported by Original Literature from the firm / OEM with Highlighting, Numbering & Flagging in the compliance statement.

14. Environmental Factors :

- Shall meet IEC-60601-1-2 : 2001 (Or Equivalent BIS) General Requirements of safety for Electromagnetic Compatibility or should comply with 89 / 366 / ECC; EMC-Directive.
- The unit shall be capable of operating continuously in ambient temperature of 30 – 40 deg C and relative humidity of 15 – 90 %.
- The unit shall be capable of being stored continuously in ambient temperature of 10 – 40 deg C and relative humidity of 15 – 90 %.

15. Warranty and Maintenance :

- Mandatory 2 PMs / Year with unlimited breakdown calls has to be attended by the bidder / manufacturer throughout the warranty &

CMC period at site i.e. NEIGRIHMS, SHILLONG.		
<ul style="list-style-type: none"> Duly signed Mandatory PM reports has to be submitted periodically, falling which necessary action will be initiated as per term& condition of the tender. 		
8: Co2 Incubator with Multiple doors		
No Change		
9: Genetics (Cytogenetics Lab)		
No Change		
10: Teaching Aid		
No Change		
Group: E – Trauma & Emergency		
1: C-Arm1: C-Arm		
II TV SYSTEM (Point . e)	Fluoro / Radiography and Angio acquisition should be possible and play up to 30 frames/sec.	Fluoro / Digital Subtraction Angiography should be possible.
II TV SYSTEM (Point . f)	Two Nos. at least 19” or more diagonal” High Resolution, High Brightness, Medical Display Monitors should be provided	Two Nos. at least 19” or more diagonal” High Resolution, High Brightness, Medical Display Monitors/ one no. of at least 27” or more monitor with split screen should be provided
X-RAY GENERATOR (Point. 06)	Max mA: 200 mA	Digital Spot: 150 mA or more
	Add	<p>d) Company should have import/manufacturing license from Central licensing Authority or State licensing authority of CDSCO for Quoted model, Medical Devices and copy sand copy of valid license should be submitted.</p> <p>e) Company should be ICMED 13485 Certified (Indian Certification for Medical Devices)</p> <p>f) The X Ray generator, detector and console software should be from the principal manufacturer of C-arm machine.</p> <p>g) If the generator is imported from other Country, complete specifications of data sheet from the principal manufacturer with an undertaking from them stating spares/parts of the generator would be made available for next 10 years to be attached with the BID.</p>
2: High Speed Bur		
No Change		
3: Battery Operated Power Drill		
A. Drill and Reamer Hand piece (Point 10)	Weight of hand piece with battery should be 1600 gm or less	Weight of the reciprocating hand piece only without battery should be 1600 gm or less
B. Drill and reaming attachment (vii)	Reamer set sizes from 8 to 12 mm -2 nos from each siz	Reamer set sizes provided at an interval of 0.5 mm
B. Drill and reaming attachment (viii)	Alternator hand piece - Qty -01 No	No separate Alternator hand piece required
C. Sagittal Saw Hand piece (Point 05)	Weight of hand piece with battery should be 1600 gm or less	Weight of the Sagittal Saw hand piece only without battery should be 1600 gm or less
D. Reciprocating Saw Hand piece (Point 05)	Weight of hand piece with battery should be 1600 gm or less	Weight of the reciprocating hand piece only without battery should be 1600 gm or less
4: ICU Bed		
No Change		
5: Video Laryngoscope		
No Change		
Group: F – Blood Bank		
1. Blood Storage Freeze -40 degree		
No Change		

2. Blood Bank Refrigerator (2°C to 6°C)		
Point No. 02	Should comply IEC safety /EMI/EMC standards, ISO 9001:2015, ISO 13485:2016 certified.	Should be comply with CE (CE must be issued by notified European Authority with quoted Model Number/ US- FDA compliance with quoted Model Number) and ISO 9001:2015, ISO 13485:2016 certified.
Point No. 03	Should have a total storage capacity of 360 nos. of 450ml blood bags or 510 nos. of 350ml bags. Storage capacity per tray: 1. 72 no of bags 450ml. or 2. 102 no of bags 350ml.	Should have a total storage capacity of 360 nos. of 450ml blood bags or 510 nos. of 350ml bags.
Point No. 18	Should have Provided with LED bulb for uniform lighting and better visibility inside the cabinet	Should have Provided with LED bulb/ Flurocent Lamp for uniform lighting and better visibility inside the cabinet
3. Donor Couch		
No Change		
4. FFP storage Deep Freezer (-80°C)		
No Change		
5. Thawing water Bath		
No Change		
6. Double Pan Digital Balance		
No Change		
7. Compound Microscope		
No Change		
8. Blood Collection Monitor		
No Change		
9. Bench Top Tube Sealer		
No Change		
10.24 Tube Centrifuge		
No Change		
Group: G – Haematology		
1. Penta-head microscope		
	Add	Microscope, camera and software must be from same OEM
2. Benchtop Multicolor upgradable flow cytometer		
	Should have single tube acquisition format along with at least 25 tubes carousal autoloader.	Should have single tube acquisition format and future upgradable to at least 25 tubes carousal autoloader along with plates.
	The company should provide onsite full application training for doctors and technicians along with training of all doctors at well-established and renowned centers for flow cytometry for at least 10 days free of charge.	The company should provide onsite full application training for doctors and technicians.
	Add	<ul style="list-style-type: none"> • A separate offline analysis workstation should be provided along with the analysis software for the next 10 years. • Instrument software should have predefined assay template/ or would be able to make so with automated gating strategy following ISHAGE guideline for accurate measurement pf CD34+ stem cells. • Demonstration of the instrument with same or similar technology to be given by vendor for technical compliance validation. 2. All start up reagents should be provided at least for 100

		samples/tests
3. PH meter		
No Change		
4. Vortex:		
No Change		
5. Centrifuge for general Purpose		
	Non-Refrigerated centrifuge	Non-Refrigerated centrifuge for plasma and serum preparation.
	System should have a maximum Capacity of 8 x 25 ml	System should have a maximum Capacity of 4 x 25 ml
	Power Consumption – least power consumption machine will be preferred	Power Consumption <200wt
	Rotor with capacity 8 x 25 mL bucket (max speed 4,400 rpm and 2,750 xg) > Round buckets for vessels with 5-25 mL >Adapter for 12 x 75 mm Tubes of 36 capacity	Rotor with rectangular buckets having capacity of 90 ml (max speed 4,400 rpm and 2,750xg) Deleted Adapter for use with standard 5 ml test tubes 9ml Vacutainers tubes to be included.
	The company should provide onsite full application training for doctors and technicians free of charge.	The company should provide onsite full operational training for doctors and technicians free of charge.
6. Weighing Machine		
No Change		
7. Hot air oven		
	Internal Dimension: 450x400x450 MM	Deleted
	Chamber Volume: 80 Litres	Chamber Volume: 80 - 90 Litres
8. Water bath		
No Change		
9. Refrigerator of capacity- 630		
No Change		
10. Refrigerator of capacity-1027		
No Change		
11. Binocular microscope		
No Change		
12. Trinocular microscope with provision of camera:		
	Add	Microscope, camera and software must be from same OEM
13. Laboratory Refrigerator		
No Change		
14. Automated ESR analyser		
No Change		
15. ELISA washer		
No Change		
16. Bioinformatics workstation		
No Change		
17. Mechanical micropipettes Manual		
No Change		
Group: H – Pharmacology		
1. PCR machine		
Platform	1 x 96-well plate, 96 x 0.2 ml PCR tubes; 71x 0.5 ml PCR tubes, One 8x12 PCR plate	1 x 96-well plate (96 x 0.1 ml PCR tubes; 96 x 0.2 ml PCR tubes)
PCR should be	Fast, 0.5 ml and 0.2 ml format and sample block enabled to run fast chemistry	Fast 0.2 ml format and sample block enabled to run fast chemistry
Gradient block & Gradient range	Gradient PCR, capable of testing 12 different temperatures simultaneously across a gradient range of 1 - 20° C	Gradient PCR, capable of testing 12 different temperatures simultaneously across a gradient range of 1 - 30° C

Block Temperature Accuracy	± 0.2°C	± 0.2°C or less
Block Homogeneity	20° C to 72° C: ≤±0.3° C, 95° C: ≤± 0.4° C	20° C to 72° C: ≤±0.2° C, 95° C: ≤± 0.3° C
Temperature control speed	approx. 3 °C/s (heating) & approx. 2 °C/s (cooling)	≤3 °C/s (heating) & < 2 °C/s (cooling)
Lid descent and closing pressure	Flexlid technology with Thermal sample Protection	The Lid should protect sample from evaporation
Booking schedule	Booking schedule allows users to reserve the instrument in advance	Instrument should display the run time so that next user can plan for next booking schedule.
Adjustable ramp rate	from 0.1° C to 3.0° C to meet critical amplification conditions	0.2° C to 3.0° C
Temperature Accuracy	±0.2°C (35°C to 110°C)	<±0.2°C (37°C to 110°C)
Programming	Should have customized programming which allows a maximum of 20 steps and 99 cycles	Should have customized programming facility
Interface	Ethernet, CAN in, CAN out	Ethernet, USB
	PCR machine should have three year warranty on whole instrument.	PCR machine should have five year CMC on whole instrument.
	PCR Tube of volumes 0.2 ml, 0.5 ml, quantity 1000 tubes each, Master Mixture 1ml.	PCR Tube of volumes 0.2 ml, quantity 1000 tubes each, Master Mixture 2ml.

2: UV Vis Spectrophotometer

No Change

Group: I – Biochemistry

1: Refrigerated Centrifuge

Max. capacity [ml]	700mL (4x175mL)	1 lit (4 x 250 ml)
Maximum speed [rpm]	20,000 RPM	≥12,000 rpm
Max. RCF	32,000 x g	≥20,000 x g
Acceleration/Deceleration time	20-25 seconds	10/20 seconds
Temperature Control Accuracy	±1°C on Calibrated Rotor	±2°C set to 4°C
Running time (HH:MM:SS)	99:59:59 & Run Hold	1 min to 99 hours, with continuous mode, short spin
Electrical Requirement	230 volts 50Hz 20Amp single phase	230 volts, 50Hz, 16-20Amp single phase
Total Power consumption	<800 Watts	<1,700 Watts
Interference suppression	EN 61326-1	CE with EN 61326-1
Swing out Rotor	4X175 ml with 5/7/10 ml adaptors	4 X 100 ml with 8 x 15 and 4 x 50 ml adaptors
Angle Rotor	24x1.5/2ml, RPM:20000 RCF:32000	30 x 1.5/2ml, RPM: ≥12,000 & RCF: ≥20,000
Product Features:	Emergency Lid Opening, Rotor Cycle, Stainless Steel Chamber with additional inner guard ring, different adapters with 5 ml, 15 ml and 50 ml tubes. Should have optional rotor for PCR tube strips with metallic rotor lid	Emergency Lid Opening, Rotor Cycle, Stainless Steel Chamber with additional inner guard ring, should have optional rotor for PCR tube strips with metallic rotor lid. All rotors must be metallic and autoclavable at 121°C.

Group: J – CCM

1: Bronchoscope Fiberoptic

Video Processor & Light Source

Sl. No. 1	Should be compatible with semi-automatic leakage tester	Should be compatible with semi-automatic/ manual leakage tester
Sl. No. 2	Should be fully upgradable with EUS and balloon enteroscopy	Should be fully upgradable with EBUS (TBNA) Bronchoscope for future up gradation.
Sl. No. 3	Outputs - RGB, Y/C, VBS Composite, XGA & DV simultaneous	Outputs – RGBS, Y/C, VBS Composite, XGA & DVI-D
Sl. No. 4	It should have structure and edge enhancement option for better image quality	It should have structure and edge/ image enhancement option or equivalent technology for

		better image quality
Sl. No. 5	It should have various iris control option for better light distribution	It should have various iris control option (or equivalent) equipment for better light distribution
Sl. No. 7	Light source - Combined or separate 150 watt halogen with emergency backup facility	Light source - Combined or separate 150 watt – 300 watt xenon or LED with emergency backup facility
Sl. No. 8	Air pump - Inbuilt air pump with minimum two variable airflow control.	Air pump with minimum two variable airflow control.
Sl. No. 10	Electronic magnification up to 1.5X by a touch of scope remote switches	Electronic magnification up to 1.5X- 2.0X by a touch of scope remote switches/ digital zoom
Broncho Video Scope		
Sl. No. 2	Should have facility for pressure-regulated leakage testing through inbuilt air pump of light source	Should have facility for pressure-regulated leakage testing through inbuilt/ manual air pump of light source
Sl. No. 4	Outer diameter should be 6.00 mm or less	Outer diameter should be 6.5 mm or less
Sl. No. 8	Depth of Field should be 3-100mm or better	Depth of Field should be 3-50 mm or more
Note (Point. 2)	Monitor- medical grade monitor 21 inch	Monitor- medical grade monitor 27 inch

Note:

1. All other specification, terms and conditions of the original tender documents shall remain unchanged.
2. This amendment shall be part of the tender document and become effective immediately is supersession to the earlier corresponding version.

The document also can be downloaded from www.eproc2.bihar.govt.in and the IGIMS website www.igims.org.

**Sd/-
Director,
IGIMS - Patna.**