HLL/ID/16/13/JIPMER/IVF-LE /Amt.-03/2016-17/ **Dated**:**18.10.2016**

Amendment No: 3
to
Tender no. HLL/ID/16/13/JIPMER/IVF-LE Dated: 09.09.2016
for
Supply, Installation & commissioning of various IVF lab equipments..
at
JAWAHARLAL INSTITUTE OF POSTGRADUATE MEDICAL EDUCATION & RESEARCH , PUDUCHERRY

Ref: Tender no. HLL/ID/16/13/JIPMER/IVF-LE Dated: 09.09.2016

The following amendments are incorporated in the referred tender document:

In NIT:

For:

Schedule No.	Sl.No	LIST OF EQUIPMENTS FOR IVF LAB	QTY	UNIT	EMD
1	1	Oocyte Suction pump (Digital)	1	SET	Rs.55000/-
	2	ICSI Machine Stage Warmer	1	SET	
	3	ICSI Machine Antivibration Table	1	SET	
	4	Co2 Incubator Stand (SS)	1	SET	
	5	Co2 Cylinder with Regulators ' D Type'	3	SET	
	6	Nitrogen Cylinder with Regulators 'D Type'	3	SET	
	7	Computer System	2	SET	
	8	TV probe guide for Oocyte aspiration	2	SET	
	9	CODA Filter	1	SET	
	10	Refrigerator - 360 L capacity With Temperature controlled	1	SET	
	11	ILR (Ice Lined Refrigerator)	2	SET	
	12	VOC Analyser	1	SET	
	13	pH Monitor	1	SET	
	14	Autoclave (portable 5-10 ltr)(Indian make)	1	SET	
	15	Portable Mobile Light	2	SET	
	16	3 Mp Camera with software for Image capture and PC with 19" LED Monitor for Olympus Microscope	3	SET	
	17	Trolley for Patient Shifting / Variable height trolley	2	SET	
	18	Patient Examination Table (SS)	2	SET	
2	1	Hystersoscope	1	SET	Rs.21,700/-
3	1	Laproscopy	1	SET	Rs.1,28,200/-
4	1	USG Portable Machine with TV probe (3D & 2D)	1	SET	Rs.50,000/-

Note: 1. For schedule No.1, the bidder should quote for all 18 items mentioned above. Partially quoted bids in this schedule will be summarily rejected.

2. One bidder can quote for either all schedules or for individual schedule.

Read As:

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2	1	Hystersoscope	1	SET	Rs.21,700/-
3	1	Laproscopy	1	SET	Rs.1,28,200/-
4	1	USG Portable Machine with TV probe (3D & 2D)	1	SET	Rs.50,000/-
5	8	TV probe guide for Oocyte aspiration	2	SET	Rs.1000/-

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IN SECTION – VI,
LIST OF REQUIREMENTS

For:

Schedule No.	Sl.No	LIST OF EQUIPMENTS FOR IVF LAB	QTY	UNIT	EMD
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	4	Co2 Incubator Stand (SS)	1	SET	
	5	Co2 Cylinder with Regulators ' D Type'	3	SET	
	6	Nitrogen Cylinder with Regulators 'D Type'	3	SET	
	7	Computer System	2	SET	
	8	TV probe guide for Oocyte aspiration	2	SET	

	9	CODA Filter	1	SET	
	10	Refrigerator - 360 L capacity With Temperature controlled	1	SET	
	11	ILR (Ice Lined Refrigerator)	2	SET	
	12	VOC Analyser	1	SET	
	13	pH Monitor	1	SET	
	14	Autoclave (portable 5-10 ltr)(Indian make)	1	SET	
	15	Portable Mobile Light	2	SET	
	16	3 Mp Camera with software for Image capture and PC with 19" LED Monitor for Olympus Microscope	3	SET	
	17	Trolley for Patient Shifting / Variable height trolley	2	SET	
	18	Patient Examination Table (SS)	2	SET	
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	8	CODA Filter	1	SET	
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	17	Patient Examination Table (SS)	2	SET	
2	1	Hystersoscope	1	SET	Rs.21,700/-
3	1	Laproscopy	1	SET	Rs.1,28,200/-
4	1	USG Portable Machine with TV probe (3D & 2D)	1	SET	Rs.50,000/-
5	8	TV probe guide for Oocyte aspiration	2	SET	Rs.1000/-

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In Section – VII
Technical Specifications

For:

Schedule no.1

Sl.No.1	Oocyte Suction Pump
1	Technical Specifications
1.1	Should have a low flow, regulated vacuum up to 500 mm Hg for general suction.
1.2	Should have precision-built, regulated vacuum pump designed specifically for ovum aspiration.
1.3	The unit should have a rapid suction response at the needle tip when the pedal is activated, and should be able to hold constant vacuum settings accurately for long periods.
1.4	The vacuum pressure should be boosted to clear blockages in the ovum aspiration needle by activating a button on the front panel of the unit.
1.5	The unit should have ultra-quiet, vibration-free operation. Volume adjustable tone should be indicate when vacuum is applied.
1.6	Should have easy-to-read LED display for vacuum.
1.7	Should have pressure indicator in either mm Hg or kPa.
1.8	Should have foot pedal and hands-free operation.
Sl.No.2	ICSI Machine Stage Warmer
1	Technical Specifications
1.1	Includes a high-tensile aluminum deck, which maintains stable specimen temperature of <±1 °C
1.2	Should have LED Display
1.3	Should set desired temperature in increments of 1 °C
1.4	Should have temperature display divisions: 0.1 °C
1.5	Should have specimen temperature range: 20 °C to 50 °C

Sl.No.3	ICSI Antivibration Table
1	Technical Specification
1.1	Suitable for placing the inverted microscope with micromanipulator
1.2	The base stand should be made of SS 304. (14gauge).
1.3	TOP is made up of GRANITE (1 inch thickness) sharp less edge, properly polished. OR of S.S.
1.4	The table should be able to with stand the capacity of 80Kg.
1.5	The legs (studs) should be covered with hardened rubber shoes to arrest the possible vibration.
Sl.No.4	CO2 Incubator stand
1	Technical Specification
1.1	The base stand should be made of S.S 304. (preferably 14gauge)
1.2	TOP should be made up of S.S.
1.3	The table should be able to withstand the capacity of 90Kg.
1.4	Dimensions : Suitable for placing CO2 incubator.
Sl.No.5	CO2 Cylinder
1	Technical Specification
1.1	Should be D type cylinders
1.2	Suitable regulator should be supplied
Sl.No.6	Nitrogen Cylinder
1	Technical Specification
1.1	Should be D type cylinders
1.2	Suitable regulator should be supplied
Sl.No.7	Computer System for record management with ART Software
1	Technical Specifications
1.1	The computer system should have the following specification:
1.2	Branded - Pentium Core i7/latest processer 2.7 GHz and above

1.3	400 GB HDD,
1.4	4 GB RAM,
1.5	CD/DVD RD/WR
1.6	Serial / Parallel Ports/USB,
1.7	15” LCD Monitor.
1.8	Keyboard,
1.9	Scroll Mouse.
1.10	Windows latest software with genuine version
S.No.8	TV probe guide for Oocyte aspiration
1.1	Stainless steel TV Probe guide
Sl.No.9	CODA Air Filtration System
1	Technical Specification
1.1	The Coda Air Filtration System should increase the air quality by reducing the contaminants, volatile organic compounds (VOCs) and chemical air contaminants (CACs) present in the incubator, laboratory supply and CO2 supply.
1.2	Should have airflow of 500 CFM
1.3	Should have 9.75 ACH in 400 sqft room
1.4	Should have pre filters,HEPA and dedicated carbon and pottasium permagnate filters
Sl.No.10	Refrigerator
1	Technical Specifications
1.1	Temperature Range : 2 deg C to 8 deg C
1.2	Chamber Volume Capacity : 360 Litres
1.3	Inner Cabinet make : Stainless Steel SS-304
1.4	Outer Cabinet make : Powder coated sheet metal
1.5	Refrigeration technology should be CFC free
1.6	Should have automatic defrost with self-evaporating drip tray
1.7	Should have digital temperature controller

1.8	Front door type : Double glazed safety glass doors with self closing hinges
1.9	Insulation:High-grade pressure – foam material.
1.1	Light illumination : Full length light illumination
1.11	Compressor Type :Hermetically enclosed, low noise, vibration proof compressor.
1.12	Front door lock : Front door lock as standard
1.13	Internal shelves : Heavy duty adjustable shelves
1.14	Should be fitted with castor wheels with brakes for easy maneuverability and shifting.
1.15	Should be supplied with voltage stabilizer of suitable rating.
1.16	Should be supplied with Operator manual.
1.17	The quoted model should have CE certificate and copy of the same should be enclosed along with the technical bid.
Sl.No.11	Ice Lined Refrigerator(ILR)
	Technical Specifications
1	Description of Function
1.1	Ice-lined refrigerators maintain temperatures below +8°C even with 16 hours electricity failure per 24 hours, day after day.
1.2	Vaccine storage capacity: 50 +/- 10% Litres with baskets in place
1.3	Gross Volume: 100+/- 10 % Litres.
1.4	Construction: Internal: Stainless steel/Galvanised steel (min.0.9 mm, 22 g) plus an additional special icelining consisting of icepacks covered by strong plastic shell.
1.5	External: Corrosion Resistance (CR at least 1 mm thickness)
1.6	Chest type with CFC – free insulation
1.7	Upright trays
1.8	Solid door with lock and handle
1.9	Foam pad cover
1. 10	Type: Compression Cycled, CFC-Free Refrigerant R-134a (For refrigeration) Cooling coil of Copper.

1. 11	Temperature of a full vaccines load to remain 2 deg C to 8 deg C (a) during continuous availability of energy at +43 deg C and +32 deg C continuous ambient temperature and also during day/night cycling temperature of 43 deg C/15 deg C(b) Intermittent electricity supply 8 hrs or 16 hrs off at 43 deg C continuous temperature (20 days test)
1.12	Target holdover time should be 15 hours or more in a continuous external temperature of 43 deg C and 40 hours or more in a continuous external temperature of 32 deg C.
1.13	Compressor starting at 22% below rated voltage (both hot and cold starts).
1.14	Provision for drainage for the waste water. Easy access to this waste water container for disposal of waste water. Compatible water trap system.
1.15	Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
1.16	Inlet of Capillary should be out side the PUF body.
1.17	ON/OFF Switch and Power indicator should be available
2	System Configuration Accessories, spares and consumables
2.1	Vaccine Storage baskets (7 wires type)- 2 per unit
2.2	External Alcohol Stem Thermometer- one piece per unit range of -50 to +50 degree centigrade
2.3	System as specified-
2.4	Integrated Digital Temperature display LCD/LED-01
3	Standards and Safety
3.1	Should be FDA or CE or ISI approved product.
3.2	Should meet WHO/UNICEF Standard E03/FZ01.1 or latest testing standard for Ice Lined Refrigerators(Copy Enclosed)
3.3	Test and inspections as per WHO Procedure reference: E03/RF03-VP.1 or latest testing standard for Ice Lined Refrigerators(Copy Enclosed)
Sl.No.12	VOC Analyzer
1	Technical Specifications
1.1	Should detect embryotoxic volatile organic compounds (VOC) in ambient air
1.2	Should have measuring range 0 - 20 ppm (parts per million),

1.3	Should haveaccuracy ± 0.1 ppm,
1.4	Should have resolution 0.01 ppm;
1.5	Should have reaction time < 4 sec
Sl.No.13	PH Monitor
1	Technical Specifications
1.1	Compact and light weight table top unit.
1.2	Fastest response as compared to conventional pH meters.
1.3	Built-in automatic temperature compensation.
1.4	Two point calibration provided. With buffers low and high.
1.5	pH range : 0 to 14 pH
1.6	pH accuracy : ± 0.05 pH
1.7	pH resolution : 0.01 pH
1.8	pH temperature compensation : Automatic
1.9	pH input impedance : >10 MΩ
1.1	pH probe : Epoxy body combination pH electrode
1.11	pH display : LED
1.12	pH inputs : BNC
1.13	pH power supply : 230 V ± 10%, 50 Hz.
1.14	Should be supplied with Operator manual and Service manual
Sl.No.14	Autoclave(Portable)
	Technical Specification
1.1	Sterilizer Type: Table Top Sterilizer.
1.2	Capacity: 5-10 Litres
1.3	Chamber Size: The sterilizer should have Rectangular /Circular chamber with dimension matching with capcity.
1.4	Chamber Should be made of S.S.316Ti /SS316L
1.5	Chamber should have minimum 3 years warranty

1.6	Chamber should have working pressure 2.2 bar & design pressure upto 3.8 barwith monitor pressure gauge & release valve
1.7	Chamber should be equipped with electrically heated jacket for preheating on stand by mode.
1.8	Door Design: Should have Hinged door with silicon elastomer rubber gasket to withstand temperature upto 140°C & 2560 kg pressure.(Top Loadfing)
1.9	Alarms: Visual indicator for running etc.
1.1	Accessories: Spare bin standard size - 2 Nos & Spare gasket - 2 set
	Standards, Safety and Training
2.1	Manufacturer should have ISO 13485:2003 for quality standards and copy of the certificate should be submitted along with the technical bid.
2.2	The quoted model should have European CE/US FDA certification and copy of the certificate should be submitted along with the technical bid.
Sl.No.15	Portable Mobile Light
1	Technical Specification
1.1	Should be LED type.
1.2	Single dome mobile type with shadow reduction technology.
1.3	Mounted on articulated, spring balance arm for easy positioning.
1.4	Minimum light output should be 60,000 lux at 0.5m.
1.5	Minimum field size should be 200 mm.
1.6	Should be mounted on caster for free movement.
1.7	Color temperature should be between 4000°K and 5000°K, Ra > 93 or better.
1.8	Light intensity should be variable in 4 or more steps.
1.9	Light should be sealed to meet IP 43 standard
1.1	Should be CE or FDA approved product.
1.11	Input supply – 230Vac, 50Hz.
1.12	Should be supplied with Operator manual and Service manual
S.No.16	3 Mp Camera with software for Image capture and PC with 19" LED Monitor for Olympus Microscope

1.1	Image capture and analysing software with 3 MP/better COMOS/ CCTV Camera with adoptors for microscope
	PC
2.1	The computer system should have the following specification:
2.2	Branded - Pentium Core i7/latest processer 2.7 GHz and above
2.3	500 GB HDD,
2.4	4 GB RAM,
2.5	CD/DVD RD/WR
2.6	Serial / Parallel Ports/USB,
2.7	19" LED Monitor.
2.8	Keyboard,
2.9	Scroll Mouse.
2.10	Windows latest software with genuine version
Sl.No.17 (A)	Trolley for Material Handling
1	Technical Specifications
1.1	Frame of square SS tube seamlessly welded.
1.2	Stainless Steel 18/10 chrome nickel steel section 2 cm square and 1.5mm thickness.
1.3	With gallery as 3 sides for the top with SS rods.
1.4	Overall size : 400 mmW x 800 mmH.
1.5	Large arc – 700mm, Small arc – 500mm.
1.6	Castor, conductive, high quality of 75 mm diameter
Sl.No.17(B)	Trolley for Patient Shifting/Variable Height Trolley
1	Technical Specifications
1.1	Should be 2-sectioned height adjustable stretcher trolley
1.2	Should have manual foot operated height adjustment by hydraulic pump. Should have pedals for foot-controlled height positioning are bothsides the table.
1.3	Head part upwards adjustable +30° by 2 metal rachets

1.4	Length of head part should be around 550 mm
1.5	Foot part should be fixed Length around 1.400 mm
1.6	Should have 2 push handles, chromed
1.7	Should have 2 side guards stickable, chromed.
1.8	If the side guards are not used, they should be able to stick in converse into the holders.
1.9	Length side guard should be around 700 mm, Height over upholstery should be around 200 mm
1. 10	Should have central breaking system with steering facility and bumpers at all four corner ,Facility for fixing IV road and fixing accessories (monitor ,Infusion pump,etc) .Good Quality hygienic mattress with straps for fixing .Place for keeping oxygen cylinder in the trolley .Good quality SS collapsible side rail and I.V.Rod should be provided with the trolley
1.11	Should have X-Ray Permeable area for entire length
1.12	Should be movable on 4 castors, each with total lock
1.13	Should have 4 Bumpers at the edges of top frame
1.14	Trolley should be CE marked and manufactured as per ISO quality standards
Sl.No.18	Patient Examination Table(SS)
1	Technical Specifications
1.1	Should be constructed from Stainless Steel material.
1.2	Should have adjustable back rest.
1.3	Top should be covered with synthetic material.
1.4	Should be mounted on four 50mm castors.
1.5	Overall size (Aprox) : 2100 (L)*550(W)*750(H) mm.

Schedule no.2

S.No.1	4. Technical Specification for Hysterescope & Resectoscope
	4.1 Description of Function

	4.1.1 The resectoscope is a hysteroscope with a built in wire loop (or other shape device) that uses high-frequency electrical current to cut or coagulate tissue. It allows surgery inside the uterus an organ without having to make an incision.
	4.1.2 Hysteroscopy uses a hysteroscope, which is a thin telescope that is inserted through the cervix into the uterus for examination
	4.2 Operational Requirements
	4.2.1 Complete unit with Resectoscope and Hysteroscope is required
	4.3 Technical Specifications
	A) HYSTEROSCOPE TELESCOPES STANDARD –
	a) 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,- 1 no.
	b. Forward-Oblique Telescope 30°, enlarged view, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated - 1 no
	B) Diagnostic Sheath with obturator 5mm diameter for the above 4 mm Hysteroscope telescopes(item A), with luer lock adapter
	C) Continuous irrigation Operative Hysteroscope Sheath with obturator, outer and inner sheath for the above 4 mm hysteroscope telescope (item A) with channel for semi-rigid 5/8 fr size instruments. Should have facility for self-closing sealing system for precise irrigation.
	D)Accessories
	Hysteroscopy flexible / semi rigid instruments which should be adaptable to above sheath (item C), 5/8 fr. Diameter-
	a. Foreign body grasping forceps.
	b. Scissors-Scissors semi rigid, blunt tips, 5 Fr., length 33-36cm, single action jaws-2 nos
	c. Scissors semi rigid, pointed jaws, 5 Fr., length 33-36cm, single action jaws, semi-rigid – 2 nos
	d. Biopsy and Grasping forceps - Biopsy- and Grasping Forceps semi rigid, 5 Fr. , length 33-36cm, double action jaws -2 nos
	e. Punch Forceps - Punch through Cutting semi rigid 5Fr, length 33-36cm- 2 nos
	f. Tenaculam grasping forcep, semi rigid, size 5Fr, length 33-36cm 2 nos

	g. Needle electrode and ball electode-Unipolar – high frequency cords of any make should be compatible with the above equipment
	h. Bipolar vaporizing electrode – high frequency cords of any make should be compatible with the above equipment
	i. Myoma fixation screw
	j. Palpation probe
	k. Polypectomy loop
	l) Resectoscope including connecting tube for inflow and outflow for the above 4 mm hysteroscope telescope (item A)complete with continuous irrigation double sheath system, i.e outer flow and rotating inner tube with ceramic insulation distal tip,withobturator to be quoted along with working element and complete set of electrodes and 2 set of HF cables
	All electrodes and Collin‟s knife to be bipolar/unipolar (as per requirement) to be quoted with appropriate cautery
	ACCESSORIES FOR RESECTOSCOPE FOR TCRE UNIPOLAR AND BI-POLAR SET
	UNIPOLAR WORKING - Unipolar Working Element to be used with 26FR Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy telescope - 1 no
	CUTTING LOOP ELECTRODE FOR UNIPOLAR- Cutting loop 24 Fr - 12 nos
	STRAIGHT CUTTING ELECTRODE FOR UNIPOLAR - Forward angle/straight cutting loop 24Fr - 06 nos
	ROLLER COAGULATING ELECTRODE FOR UNIPOLAR - Roller electrode Cylindrical diameter 3mm, 24Fr - 06 nos
	POINTED ELECTRODE FOR UNIPOLAR - Pointed electrode/Collines HF knife electrode, 24Fr - 06 nos
	VAPOR CUTTING ELECTRODE UNIPOLAR - VAPOR CUTTING Electrode, 24Fr -06 nos
	SPIKE ELECTRODE UNIPOLAR - SPIKE Electrode 24Fr, size 3mm diameter, 24Fr - 06 nos

	BIPOLAR WORKING ELEMENT SET - BIPOLAR Working Element to be used with 26Fr Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy telescope. Should work in saline - 01 no
	BIPOLAR CUTTING LOOP - BIPOLAR Cutting loop 24 Fr should work in saline - 06 nos
	BIPOLAR CUTTING LOOP SMALL - Cutting Loop 24Fr, bipolar, small should work in saline - 06 nos
	BIPOLAR ELECTRODE POINTED - Coagulating Electrode 24Fr, bipolar, pointed should work in saline - 06 nos
	BIPOLAR ELECTRODE BALL END - Coagulating Electrode 24Fr, bipolar, ball end should work in saline - 06 nos
	BIPOLAR LOOP STRAIGHT - Cutting Loop 24Fr, bipolar, straight should work in saline - 06 nos
	RESECTOSCOPE SHEATH FOR UNIPOLAR - Continuous Flow 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 - 02 nos
	RESECTOSCOPE SHEATH FOR BIPOLAR - Continuous Flow Resectoscope Sheath 26 Fr., for Bi-Polar, including connection tubes for in- and outflow, 2 LUER-lock adaptors, diameter 8 mm, oblique beak, rotating inner tube, with ceramic insulation, for use with working element should work in saline - 01 no
	OBTURATOR - Obturator, for use with the Resectoscope sheath - 2 nos
	FIBER OPTIC CABLE - Fiber Optic Light Cable, diameter 3.5 mm, length minimum 300 cm - 2 nos
	F) Hysteropump
	a. Irrigation system for use in hysteroscopy
	b. Irrigation function is performed by electric pump
	c. Maximum parameters for hysteroscopy are automatically set
	d. Precise presetting of volume and pressure of suction and irrigation parameters via touch keys
	e. Adjacent display scales for set values and actual value to ensure safe monitoring.

	f. To be used with pressure regulated from 35 to 150mm of Hg or more, and flow rate regulated from 0- 500ml/min. Power supply 100-240 VAC, 50/60 Hz, Mains cord
	g. Connecting cable 100 cm, one pedal foot switch/ Touch Screen.
	h. hysteroscopic tubing set
	i. Irrigation tube
	j. bottle 1 L or more, sterilizable with bottle stand and bottle stand holder
	k. Silicon Tubing Set for suction ,sterilizable.
	l. Hysteromet should be from same manufacturer as of Hysterescope
	5. Electrocautery compatible with Laparascope, Hysterescope & Resectoscope
	1 Should have unipolar cutting and coagulation as well as bipolar cutting and coagulation modes and have the facility of blending cutting and coagulation in different ratios and degree –soft, standard and/ or forced coagulation and spray coagulation
	2. Arc controlled cutting with a pre selectable power of 200 watts in both unipolar and bipolar modes.
	3. Arc controlled coagulation with a pre selectable power of 120 watts in both unipolar and bipolar modes.
	4 Auto stop function with automatic power – off on completion of coagulation process.
	5 Automatic start function for bi- polar coagulation. Should be operable both in hand and foot mode and should have hand control switch on the handle of the electrode. Bipolar application with irrigation with sodium chloride
	6 Endoscopy mode with reduced voltage out put for use with fine endoscopic electrodes.(microfunction)
	7. Should be compatible with under water operative procedures
	8. It should have neutral electrode monitoring through a patient contact system.
	9. It should have automatic high frequency power cut off by autocoagulation stop and autostart facility
	10. The unit should have the facility of self testing for trouble shooting
	11. Visual and acoustic signs of HF activation by different colored indicators and different acoustic tones for cutting and coagulating

	12. Unit should have safety monitoring circuit in event of malfunction for output monitoring. Neutral electrode connection .Automatic self test and automatic power cutoff in event of malfunction. Ground leakage current(LF/HF) HF application time
	13. Power supply 230VAC, 50/60 Hz.
	14. The unit should be supplied with all standard accessories such as Electrode,Foot switch, Twin earth pad , bipolar forceps with Cord, Electrode Handle with switches , neutral plate, ball electrodes, Loop electrodes, variable output power for all types of currents
	Added (Under Para 5) 16. Trolley should be provided for Electrocautry.
	6 System Configuration Accessories, spares and consumables
	6.1 System as specified
	6.2 ACCESSORIES:- All Possible accessories of the equipments should be quoted. The specific accessory and its quantity will be decided on the basis of actual requirement
	6.3 The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be provided
	6.4 The codes and rates of all relevant individual accessories should be quoted separately with clear mention of period of validity of rates
	6.5 Cautery system should be upgradable for vessel sealing device
	7 Environmental factors
	7.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%
	7.2 The unit shall be capable of operating continuously in ambient temperature of 10-40deg C and relative humidity fo 15-90%
	8 Power Supply
	8.1 Power input to be 220-240VAC, 50Hz fitted with Indian power-plug
	8.2 UPS for all systems of adequate rating for power supply to the system for 60 minutes.
	9 Standards & Safety
	9.1 Should be USFDA or European CE approved product

	9.2 Manufacturer and Supplier should have ISO certification for quality standards
	9.3 Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)
	9.4 Shall meet internationally recognized standard for Electro Magenetic Compatibility (EMC) for electromedicalequipment : IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC; EMC-directive as amended
	9.5 Certified to be complaint with IEC 60601-2-2 Medical Electrical Equipment part 2-2: Particular requirements for the safety of equipment mentioned above – wherever applicable
	10 Training
	10.1 Comprehensive training for staff of user department and support services till familiarity with the system.
	10.2 Training of two faculties from each consignee to be provided
	11 Documentation
	11.1 Product Literature in original along with that of accessories and indigenous components if any Photocopies/computer generated copies are not acceptable
	11.2 Statement of compliance with tender specification with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provide for noncompliant specification with justification must be described in details with supporting literature
	11.3 Certificate of Compliance with standards and approvals stated above
	11.4 Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier
	11.5 List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
	11.6 Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book

Schedule No.3

Sl.No.1	Laparoscopic Surgery Set with Hysteroscope & Resectoscope with High Definition Camera & Monitor
	Technical Specification of Laparoscope

	1 Description of Function
	Laparoscope is used for minimally invasive surgery and comprises of telescope and associated instruments and units
	2 Operational Requirements
	1. Telescopes, Insufflator, Suction irrigation Unit, Camera Control Unit and Camera head, HD Medical grade monitor, Light source, Image management system, Hysteroscope & Resectoscope should be from same manufacturer with USFDA or European CE approved
	2. Morcellator with accessories, CO2 cylinder (Type – B, 5 Kg), Video Color printer/Laser color printer and Electro cautery should be compatible with the principal system and it should be USFDA or European CE approved.(Except CO2 cylinder).
	3. Regarding hand instruments: 80% of the hand instruments should be supplied from same principal manufacturer and all the instruments should be USFDA or European CE approved
	3 Technical Specifications
	3.1 TELESCOPES
	a) 5 mm forward oblique, 30 degree – 1 no
	b) 10 mm forward oblique, 30 degree – 1 no
	c) 10 mm straight forward 0 degree – 1 no
	d) All telescope should have following:
	Low risk of object bum
	Colour coded for identification
	Autoclavable
	Fibreoptic light transmission incorporated
	3.2 HAND INSTRUMENTS & OTHER ACCESSORIES
	1. Reusable Veress Pneumoperitoneum Needle- Spring loaded blunt stylet luer lock length8- 10/15cm/12cm - 4 each
	2.Reusable Trocar:- 5/5.5mm – Multifunctional , insuflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm) ,Flapper valve - 4 nos
	3. Reusable Trocar:- 10/11mm & 12/13 mm-Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm/11) Flapper valve - 4 each

	4. Suction and Irrigation cannula-Size 5mm, length 33-36cm, used with suction and irrigation handle, size 10 mm also, Reusable suction irrigation tubing set, Multifunction suction irrigation handle with provision for using 5/10mm diameter auxiliary instruments - 2 each
	5. Grasping forceps curved - toothed 2x4 teeth-2 each-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10mm)
	6. Grasping forceps straight- toothed 2x3 teeth-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10 mm)
	7. Maryland forceps-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2 nos
	8. Grasping forceps-Atraumatic-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	9. Grasping forceps-Allis-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	10. Grasping forceps Mixter-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	11. Grasping forceps-plain dissection & Grasping-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	12. Grasping forceps-Babcock-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 5mm &-10 mm - 2 each
	13. Fan shaped retractor-Rotating, size 5mm, length 33-36cm, dismantling facility - 2nos
	14. Hook Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility- 2nos
	15. Rotating Metzenbaum Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility – size 5mm 2nos & 10mm -1 no
	16. Bipolar coagulating forceps-Size 5mm, length 33-36cm fenestrated- 2 nos
	17. Bipolar coagulating forceps-Size 5mm, length 36cm, 3mm width of jaws -2 nos
	18. High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, spatula tip, needle electrode- 2 each

	19. High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, hook tip, knife electrode - 2 each
	20. Knot pushers-Eye type, length 33-36cm,2 each for intra and extra corpal knotting
	21. Needle holder coaxial type-5mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33-36cm,2 with carbide insert tips for straight and curved needles
	22. Clip Applicator-Medium -Size -Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 300, 2 quoted with adequate no. of spare clip (Minimum of 100 Clips)
	23 - Clip Applicator- Large-Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 400/LT 300, 2 quoted with adequate no. of spare clip (Minimum of 100 clips).
	24. Hassan cone-Adaptable to 10mm/11 trocar- 2nos
	25. Blunt Obturator-For 11mm port-From 10/11 mm to 5mm & 5 to 3 mm - 2nos
	26. Reducer-Size 5mm, length 33-36cm with pin for cautery - 2nos
	27. L-Hook-Size 5mm, length 33-36cm with pin for cautery- 2nos
	28. Spatula-Size 5mm, length 33-36cm with pin for cautery - 2nos
	29. Fascia closure instrument-Size 2.8mm, length 17cm - 2nos
	30. Washers-For 5 & 10 mm cannula and reducers - 100 each
	31. Container System: Metal & Plastic-For Sterilization and storage of telescopes, hand instruments and other accessories. Different sizes - 3nos each
	32 - Metzenbaum scissors-High performance for bipolar cautery - 2nos
	33. Large operating scissors-With double action jaws (slightly curved) Rotatable 10mm diameter instruments with a working length of 33-36cm, dismantting facility - 2 nos
	34. Assistant needle holder-5mm diameter instrumentations with a working length of atleast 33-36 cms with carbide insert tips for straight and curved needles. 2 for straight & curved needles with carbide insert tip
	35. Disposable extraction bags of any internatinal brand, minimum 10 Nos.
	36. Injection and puncture canula-5 mm diameter, 33-36cms length with luer lock - 2 nos
	37. Myoma screw-5 mm, 33-36 cms length, 10mm - 2 nos

	38. Uterine Manipulator-LAVH, mobilization of uterus, indentification of vaginal fornices and sealing of vagina during hysterectomy.
	39. CCL Vaginal extractor for LAVH Surgery
	40. HF Needle electrode for splitting & coagulation insulated with connection pin for unipolar coagulation, working length – 31-33cm
	41. Electronic morcillator-With cutting sleeve and protective sleeve along with spare knife (Fully autoclavable) can be from other make. It should be European CE or USFDA approved.
	Morcellator with accessories
	a. Electronic Drive unit with motor for use with morcellator
	b. Morcellator tube serrated edge
	c. Atraumatic trocar sleeve with pyramidal trocar 12mm
	d. Claw forceps insert 2 x 3 teeth
	e. Insulated sheath
	f. Laproscopic Bag
	g. Insulated handle with HF connection rotating with ratchet
	42 High frequency monopolar cables-For above auxiliary instruments.
	43 Hight frequency bipolar cables-For above auxillary instruments
	44 Cleaning accessories-
	a. Cotton carrier with thread
	b. Cotton carrier with “U” shaped handle
	c. Cleaning brush
	d. Brush for cleaning jaws
	e. Oil dropper
	f. Wadding silver polish
	g. Special lubricating oil minimum 10 bottles of 50ml
	Note : Insulated outer sheath for all forceps and scissors
	3.3 INSUFFLATOR

	a) Fully automatic, electronically controlled gas fill
	b) Flow rate of 20-30 litres per minute
	c) Optical and acoustic warning signals in case of malfunction or excessive pressure
	d) Connectible to medical gas pipeline
	e) Control by keys on front panel
	f) Clear and adjacent display of actual and preset flow rate, actual and preset pressure, gas consumed
	g) Facility for filtering preheating of gas to body temperature
	h) Facility for easy evacuation of smoke and mist
	i) Memory for retention of previous pressure settings
	j) Should include high pressure hose pin-index connection to smallbig cylinder with regulator, mains cord, silicone tubing set with luer lock, universal wrench and gas filter
	3.4 CARBON DIOXIDE CYLINDER (type-B)
	Large size cylinders with required regulators and connecting pipe to the insufflator (Type-B) – 2 nos (Capacity 5Kg or more), Gas tubing – 4
	Gas tubing – 4
	3.5 SUCTION-IRRIGATION UNIT
	a) Pump for irrigation and suction
	b) Irrigation pressure 550mm Hg or more
	c) Suction pressure 0.65 bar or more
	d) Control from control panel and/or foot pedal / Manometer
	e) Overflow protection on suction bottles
	f) Accessories should include silicone tubings (2 nos), bacterial filter and bottles with cap
	g) Irrigation suction flow rate should not be less than 2-5 L/min.
	3.6 Sterilization/Disinfection Tray:
	Disinfection/Sterilization tray with sieve, tray to lift Size: 27”X7”X5” (LXBXD) – 04 nos
	3.7 Formaline Chamber (Imported / Indian make)

	Formaline Chamber made of Virgin Acrylic 4.5mm thickness; size : 26”X8”X8” (LXBXH) with three tray, for sterilizing the laparascope& Hysterescope– 04 nos.
	3.8 Suitable autoclavable plastic tray double tray for sterilization and storage for hand instruments of minimum 20 hand instruments preferably from OEM – 04 nos
	3.9 CAMERA CONTROL UNIT & CAMERA HEAD
	High definition Three chip Endoscopic camera system should have following features:
	a) Digital full HD technology
	b) Progressive Scan
	c) Camera control unit with three chip HD camera head having HD CCD chip of same aspect ratio of 16:9 and camera control unit should be able to produce following video output: DVI-D-2 nos, SDI – 1 no, Composite Video – 1 no.
	d) Three chip camera head should produce at head itself Pure Digital Signal with High Definition video (1920 * 1080PI) with aspect ratio of CCD chip and video format of 16:9 or 16:10.
	e) System should have integrated Optical Zoom (12-28mm, 2 X) to enhance image size and focus lens/rings to make it fully soakable and waterproof
	f) System should be able to optimize all the settings and should be ready as soon as connected to camera control unit.
	g) Three Chip Camera control unit should be compatible with all the tree chip camera head and the company should provide standby facility within 48 hours of breakdown.
	h) Should be compatible for remote controlled operation of various features
	i) Camera should be suitable for both Laparascope, Hysteroscope & Resectoscope
	j) Should have Integrated gain, shutter, Enhancement, white balance with brightness control.
	k) All camera functions to be controlled from camera head buttons and through key board at camera control unit to make it controllable from both sterile and non-sterile zone
	l) Technical Specification :-
	Image Sensor CCD Chip
	Pixels 1920 x 1080

	AGC Microprocessor controlled
	Lens F16-28mm or more
	Video Outputs Composite to BNC, Y/C to S-VHS, RGB to D Socket, HDTV-DVI-D, DV for recording
	Input Key Board for Character Generator, 5 pole Din/4 pole Din/Touch Screen
	3.10 High Definition Medical Grade Monitor Wide Screen Monitors having the following features:
	a) HDTV Display in 16:10/16:9 HDTV format
	b) LCD/LED Crystal display
	c) 26" High Resolution HD video Medical grade monitor – 1 no
	d) Resolution : 1920 x 1080 pixels
	e) SDI/HD-SDI, Composite, S-Video RGB, DVI-D, VGA input, S-VHS – 2 nos, should also have same video output
	f) All required cables and connectors, which should be specified
	g) TFT screen stand/Fixtures for connecting to pendant system/Ceiling Light Arm
	h) Dustproof and Drip Water Protected
	3.11 LIGHT SOURCE
	a) Xenon 300 watts
	b) Manual and automatic adjustment of light intensity
	c) Lamp life 500 hrs or more with at least one spare bulb
	d) Display of lamp life/Bulb usage meter warning light
	e) Long (250 cm or more) fluid and fibre-optic light cable of diameter 4.8-5 mm
	f) Light weight
	g) Certified for National International safety standard normal
	h) Should be able to produce colour temperature of 6000K.

	3.12 VIDEO- CART (Should be from the same manufacturer/ or ANY International BRAND)
	a) Made of stainless steel / Epoxy coated metal
	b) Portable on 4 antistatic dual castors, 2 with locking brakes
	c) Required number of shelves for housing all the units of the set
	d) Adjustable arm for fixation to either side for fixing the TFT monitor
	e) One drawer unit with lock and key
	f) Cable Manager
	g) Power box with concealed wiring for providing electrical connections of proper rating to all the units
	3.13 IMAGE MANAGEMENT SYSTEM
	a) Documentation system for digital storage of still images, video sequences and audio files.
	b) Latest processor & HDD, which should be specified
	c) Largest possible RAM, which Should be specified
	d) Integrated DVD/CD / Blue Ray Disc writer with maximum speed which should be specified
	e) Compact key board with drape/ Touch Screen
	f) Cordless mouse
	g) All types of connecting cables (BNC, DVI) and connectors, which should be specified
	h) With all connectors and connection cables (BNC, S-VIDEO(Y/C), VGA), which should be specified
	i) It should be medical grade with touch screen monitor.
	j) Full HD recording, Medical grade computer and Monitor,Touch screen,Minimum 500GB storage memory. It should have window based operating system,minimum Windows –XP.
	3.14 VIDEO COLOR PRINTER/ LASER COLOUR PRINTER

	i. For endovision camera and multi-colour systems existing in country.
	ii. Large colour prints of video images with outstanding quality at least 4 different Images can be stored and printed on one sheet.
	iii. Memories at least 4 GB ram, should be compatible with any monitor and should be Supplied with all connecting cables, satisfying international quality controls, safety Norms and power supply
	iv. It should be CE approved.

Schedule No.4

Sl.No.1	USG Portable machine with TV probe(3D & 2D)
1	Technical Specification
1.1	System should be latest generation state of the art portable colour Doppler for Abdominal, Vascular, Obstetrics & Gynaecology, Musculoskeletal, small parts application etc., with suitable evaluation and measurement packages
1.2	Features Remarks
	System should be offered with following Broad Band width Transducers:
	(i) Convex Array Transducer (frequency range of 2 to 4 MHz) (+/- 1 MHz)
	(ii) Linear Array Transducer (frequency range of 4 to 10 MHz) (+/- 1 MHz)
	(iii) Endocavitary probe (Transvaginal/ Trans rectal) 5-9 MHz or more- Endocavitary probe should have biopsy facility with needle guides .
	(iv)3D volume acquisition transducer of 2 to 6 MHz for Obs / Gyn and Abdomen applicatio
1.3	System should have following modes:
	2 D,3D, M Mode, Pulsed Wave, Continuous Wave, Colour Flow Imaging & Colour Power Angio Imaging,
	Tissue Harmonic Imaging should be available at least in one transducer.
1.4	Digital Processing Channels – 60 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
1.5	Grey scale (min. 256 or more)

1.6	Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
1.7	System should have facility for gain adjustments using slide pot controls/Auto gain facility.
1.8	Should have minimum one active ports with direct switching from console
1.9	System should have a High resolution Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
1.10	System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports
1.11	Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
1.12	Complete package for measurement and calculation provision for distance, area, volume & Circumference etc.
1.13	Weight of the equipment should not be more than 6 Kg.
1.14	Image Storage: Should have inbuilt hard disk for image storage. Specify image storage capacity
	Image Archival:
1.15	Inbuilt CD writer/ Flash drive with the facility to transfer images
1.16	DICOM ready (Send, Quarry, print, view)
1.17	System should have direct connectivity to Colour laser printer or through PC (PC to be supplied by the bidder) for printing images & report
1.18	System should have extensive Calculation software package for General Imaging, Ob/Gyn & Vascular Imaging
1.19	Inbuilt battery backup for 2 hrs appox.
1.20	Free software upgrade(s) during the period of warranty/CMC
2	Accessories:
2.1	Lockable mobile trolley where the portable machine can be lock.

2.2	Colour laser Printer for direct printing of Images from the system (with CE or FDA mark) (min dpi of 1200)
2.3	Biopsy attachment for the Convex, endocavitory and Linear probes
2.4	Thermal printer

Read As:

Schedule no.1

Sl.No.1	Oocyte Suction Pump
1	Technical Specifications
1.1	Should have a low flow, regulated vacuum up to 500 mm Hg for general suction.
1.2	Should have precision-built, regulated vacuum pump designed specifically for ovum aspiration.
1.3	The unit should have a rapid suction response at the needle tip when the pedal is activated, and should be able to hold constant vacuum settings accurately for long periods.
1.4	The vacuum pressure should be boosted to clear blockages in the ovum aspiration needle by activating a button on the front panel of the unit.
1.5	The unit should have ultra-quiet, vibration-free operation. Volume adjustable tone should be indicate when vacuum is applied.
1.6	Should have easy-to-read LED display for vacuum.
1.7	Should have pressure indicator in either mm Hg or kPa.
1.8	Should have foot pedal and hands-free operation.
Sl.No.2	ICSI Machine Stage Warmer
1	Technical Specifications
1.1	Includes a high-tensile aluminum deck, which maintains stable specimen temperature of <±1 °C
1.2	Should have LED Display
1.3	Should set desired temperature in increments of 1 °C
1.4	Should have temperature display divisions: 0.1 °C

1.5	Should have specimen temperature range: 20 °C to 50 °C
Sl.No.3	ICSI Antivibration Table
1	Technical Specification
1.1	Suitable for placing the inverted microscope with micromanipulator
1.2	The base stand should be made of SS 304. (14gauge).
1.3	TOP is made up of GRANITE (1 inch thickness) sharp less edge, properly polished. OR of S.S.
1.4	The table should be able to with stand the capacity of 80Kg.
1.5	The legs (studs) should be covered with hardened rubber shoes to arrest the possible vibration.
Sl.No.4	CO2 Incubator stand
1	Technical Specification
1.1	The base stand should be made of S.S 304. (preferably 14gauge)
1.2	TOP should be made up of S.S.
1.3	The table should be able to withstand the capacity of 90Kg.
1.4	Dimensions : Suitable for placing CO2 incubator.
Sl.No.5	CO2 Cylinder
1	Technical Specification
1.1	Should be D type cylinders
1.2	Suitable regulator should be supplied
Sl.No.6	Nitrogen Cylinder
1	Technical Specification
1.1	Should be D type cylinders
1.2	Suitable regulator should be supplied
Sl.No.7	Computer System for record management with ART Software
1	Technical Specifications
1.1	The computer system should have the following specification:

1.2	Branded - Pentium Core i7/latest processer 2.7 GHz and above
1.3	400 GB HDD,
1.4	4 GB RAM,
1.5	CD/DVD RD/WR
1.6	Serial / Parallel Ports/USB,
1.7	15" LCD Monitor.
1.8	Keyboard,
1.9	Scroll Mouse.
1.10	Windows latest software with genuine version
Sl.No.8	CODA Air Filtration System
1	Technical Specification
1.1	The Coda Air Filtration System should increase the air quality by reducing the contaminants, volatile organic compounds (VOCs) and chemical air contaminants (CACs) present in the incubator, laboratory supply and CO2 supply.
1.2	Should have airflow of 500 CFM
1.3	Should have 9.75 ACH in 400 sqft room
1.4	Should have pre filters,HEPA and dedicated carbon and pottasium permagnate filters
Sl.No.9	Refrigerator
1	Technical Specifications
1.1	Temperature Range : 2 deg C to 8 deg C
1.2	Chamber Volume Capacity : 360 Litres
1.3	Inner Cabinet make : Stainless Steel SS-304
1.4	Outer Cabinet make : Powder coated sheet metal
1.5	Refrigeration technology should be CFC free
1.6	Should have automatic defrost with self-evaporating drip tray
1.7	Should have digital temperature controller
1.8	Front door type : Double glazed safety glass doors with self closing hinges

1.9	Insulation:High-grade pressure – foam material.
1.1	Light illumination : Full length light illumination
1.11	Compressor Type :Hermetically enclosed, low noise, vibration proof compressor.
1.12	Front door lock : Front door lock as standard
1.13	Internal shelves : Heavy duty adjustable shelves
1.14	Should be fitted with castor wheels with brakes for easy maneuverability and shifting.
1.15	Should be supplied with voltage stabilizer of suitable rating.
1.16	Should be supplied with Operator manual.
1.17	The quoted model should have CE certificate and copy of the same should be enclosed along with the technical bid.
Sl.No.10	Ice Lined Refrigerator(ILR)
	Technical Specifications
1	Description of Function
1.1	Ice-lined refrigerators maintain temperatures below +8°C even with 16 hours electricity failure per 24 hours, day after day.
1.2	Vaccine storage capacity: 50 +/- 10% Litres with baskets in place
1.3	Gross Volume: 100+/- 10 % Litres.
1.4	Construction: Internal: Stainless steel/Galvanised steel (min.0.9 mm, 22 g) plus an additional special icelining consisting of icepacks covered by strong plastic shell.
1.5	External: Corrosion Resistance (CR at least 1 mm thickness)
1.6	Chest type with CFC – free insulation
1.7	Upright trays
1.8	Solid door with lock and handle
1.9	Foam pad cover
1. 10	Type: Compression Cycled, CFC-Free Refrigerant R-134a (For refrigeration) Cooling coil of Copper.

1. 11	Temperature of a full vaccines load to remain 2 deg C to 8 deg C (a) during continuous availability of energy at +43 deg C and +32 deg C continuous ambient temperature and also during day/night cycling temperature of 43 deg C/15 deg C(b) Intermittent electricity supply 8 hrs or 16 hrs off at 43 deg C continuous temperature (20 days test)
1.12	Target holdover time should be 15 hours or more in a continuous external temperature of 43 deg C and 40 hours or more in a continuous external temperature of 32 deg C.
1.13	Compressor starting at 22% below rated voltage (both hot and cold starts).
1.14	Provision for drainage for the waste water. Easy access to this waste water container for disposal of waste water. Compatible water trap system.
1.15	Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
1.16	Inlet of Capillary should be out side the PUF body.
1.17	ON/OFF Switch and Power indicator should be available
2	System Configuration Accessories, spares and consumables
2.1	Vaccine Storage baskets (7 wires type)- 2 per unit
2.2	External Alcohol Stem Thermometer- one piece per unit range of -50 to +50 degree centigrade
2.3	System as specified-
2.4	Integrated Digital Temperature display LCD/LED-01
3	Standards and Safety
3.1	Should be FDA or CE or ISI approved product.
3.2	Should meet WHO/UNICEF Standard E03/FZ01.1 or latest testing standard for Ice Lined Refrigerators(Copy Enclosed)
3.3	Test and inspections as per WHO Procedure reference: E03/RF03-VP.1 or latest testing standard for Ice Lined Refrigerators(Copy Enclosed)
Sl.No.11	VOC Analyzer
1	Technical Specifications
1.1	Should detect embryotoxic volatile organic compounds (VOC) in ambient air
1.2	Should have measuring range 0 - 20 ppm (parts per million),

1.3	Should haveaccuracy ± 0.1 ppm,
1.4	Should have resolution 0.01 ppm;
1.5	Should have reaction time < 4 sec
Sl.No.12	PH Monitor
1	Technical Specifications
1.1	Compact and light weight table top unit.
1.2	Fastest response as compared to conventional pH meters.
1.3	Built-in automatic temperature compensation.
1.4	Two point calibration provided. With buffers low and high.
1.5	pH range : 0 to 14 pH
1.6	pH accuracy : ± 0.05 pH
1.7	pH resolution : 0.01 pH
1.8	pH temperature compensation : Automatic
1.9	pH input impedance : >10 MΩ
1.1	pH probe : Epoxy body combination pH electrode
1.11	pH display : LED
1.12	pH inputs : BNC
1.13	pH power supply : 230 V ± 10%, 50 Hz.
1.14	Should be supplied with Operator manual and Service manual
Sl.No.13	Autoclave(Portable)
	Technical Specification
1.1	Sterilizer Type: Table Top Sterilizer.
1.2	Capacity: 5-10 Litres
1.3	Chamber Size: The sterilizer should have Rectangular /Circular chamber with dimension matching with capcity.
1.4	Chamber Should be made of S.S.316Ti /SS316L
1.5	Chamber should have minimum 3 years warranty

1.6	Chamber should have working pressure 2.2 bar & design pressure upto 3.8 barwith monitor pressure gauge & release valve
1.7	Chamber should be equipped with electrically heated jacket for preheating on stand by mode.
1.8	Door Design: Should have Hinged door with silicon elastomer rubber gasket to withstand temperature upto 140°C & 2560 kg pressure.(Top Loadfing)
1.9	Alarms: Visual indicator for running etc.
1.1	Accessories: Spare bin standard size - 2 Nos & Spare gasket - 2 set
	Standards, Safety and Training
2.1	Manufacturer should have ISO 13485:2003 for quality standards and copy of the certificate should be submitted along with the technical bid.
2.2	The quoted model should have European CE/US FDA certification and copy of the certificate should be submitted along with the technical bid.
Sl.No.14	Portable Mobile Light
1	Technical Specification
1.1	Should be LED type.
1.2	Single dome mobile type with shadow reduction technology.
1.3	Mounted on articulated, spring balance arm for easy positioning.
1.4	Minimum light output should be 60,000 lux at 0.5m.
1.5	Minimum field size should be 200 mm.
1.6	Should be mounted on caster for free movement.
1.7	Color temperature should be between 4000°K and 5000°K, Ra > 93 or better.
1.8	Light intensity should be variable in 4 or more steps.
1.9	Light should be sealed to meet IP 43 standard
1.1	Should be CE or FDA approved product.
1.11	Input supply – 230Vac, 50Hz.
1.12	Should be supplied with Operator manual and Service manual
S.No.15	3 Mp Camera with software for Image capture and PC with 19" LED Monitor for Olympus Microscope

1.1	Image capture and analysing software with 3 MP/better COMOS/ CCTV Camera with adoptors for microscope
	PC
2.1	The computer system should have the following specification:
2.2	Branded - Pentium Core i7/latest processer 2.7 GHz and above
2.3	500 GB HDD,
2.4	4 GB RAM,
2.5	CD/DVD RD/WR
2.6	Serial / Parallel Ports/USB,
2.7	19" LED Monitor.
2.8	Keyboard,
2.9	Scroll Mouse.
2.10	Windows latest software with genuine version
Sl.No.16 (A)	Trolley for Material Handling
1	Technical Specifications
1.1	Frame of square SS tube seamlessly welded.
1.2	Stainless Steel 18/10 chrome nickel steel section 2 cm square and 1.5mm thickness.
1.3	With gallery as 3 sides for the top with SS rods.
1.4	Overall size : 400 mmW x 800 mmH.
1.5	Large arc – 700mm, Small arc – 500mm.
1.6	Castor, conductive, high quality of 75 mm diameter
Sl.No.16(B)	Trolley for Patient Shifting/Variable Height Trolley
1	Technical Specifications
1.1	Should be 2-sectioned height adjustable stretcher trolley
1.2	Should have manual foot operated height adjustment by hydraulic pump. Should have pedals for foot-controlled height positioning are bothsides the table.
1.3	Head part upwards adjustable +30° by 2 metal rachets

1.4	Length of head part should be around 550 mm
1.5	Foot part should be fixed Length around 1.400 mm
1.6	Should have 2 push handles, chromed
1.7	Should have 2 side guards stickable, chromed.
1.8	If the side guards are not used, they should be able to stick in converse into the holders.
1.9	Length side guard should be around 700 mm, Height over upholstery should be around 200 mm
1. 10	Should have central breaking system with steering facility and bumpers at all four corner ,Facility for fixing IV road and fixing accessories (monitor ,Infusion pump,etc) .Good Quality hygienic mattress with straps for fixing .Place for keeping oxygen cylinder in the trolley .Good quality SS collapsible side rail and I.V.Rod should be provided with the trolley
1.11	Should have X-Ray Permeable area for entire length
1.12	Should be movable on 4 castors, each with total lock
1.13	Should have 4 Bumpers at the edges of top frame
1.14	Trolley should be CE marked and manufactured as per ISO quality standards
Sl.No.17	Patient Examination Table(SS)
1	Technical Specifications
1.1	Should be constructed from Stainless Steel material.
1.2	Should have adjustable back rest.
1.3	Top should be covered with synthetic material.
1.4	Should be mounted on four 50mm castors.
1.5	Overall size (Aprox) : 2100 (L)*550(W)*750(H) mm.

Schedule no.2

S.No.1	4. Technical Specification for Hysterescope & Resectoscope
	4.1 Description of Function

	4.1.1 The resectoscope is a hysteroscope with a built in wire loop (or other shape device) that uses high-frequency electrical current to cut or coagulate tissue. It allows surgery inside the uterus an organ without having to make an incision.
	4.1.2 Hysteroscopy uses a hysteroscope, which is a thin telescope that is inserted through the cervix into the uterus for examination
	4.2 Operational Requirements
	4.2.1 Complete unit with Resectoscope and Hysteroscope is required
	4.3 Technical Specifications
	A) HYSTEROSCOPE TELESCOPES STANDARD –
	a) 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,- 1 no.
	b. Forward-Oblique Telescope 30°, enlarged view, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated - 1 no
	B) Diagnostic Sheath with obturator 5mm diameter for the above 4 mm Hysteroscope telescopes(item A), with luer lock adapter
	C) Continuous irrigation Operative Hysteroscope Sheath with obturator, outer and inner sheath for the above 4 mm hysteroscope telescope (item A) with channel for semi-rigid 5/8 fr size instruments. Should have facility for self-closing sealing system for precise irrigation.
	D)Accessories
	Hysteroscopy flexible / semi rigid instruments which should be adaptable to above sheath (item C), 5/8 fr. Diameter-
	a. Foreign body grasping forceps.
	b. Scissors-Scissors semi rigid, blunt tips, 5 Fr., length 33-36cm, single action jaws-2 nos
	c. Scissors semi rigid, pointed jaws, 5 Fr., length 33-36cm, single action jaws, semi-rigid – 2 nos
	d. Biopsy and Grasping forceps - Biopsy- and Grasping Forceps semi rigid, 5 Fr. , length 33-36cm, double action jaws -2 nos
	e. Punch Forceps - Punch through Cutting semi rigid 5Fr, length 33-36cm- 2 nos
	f. Tenaculam grasping forcep, semi rigid, size 5Fr, length 33-36cm 2 nos

	g. Needle electrode and ball electode-Unipolar – high frequency cords of any make should be compatible with the above equipment
	h. Bipolar vaporizing electrode – high frequency cords of any make should be compatible with the above equipment
	i. Myoma fixation screw
	j. Palpation probe
	k. Polypectomy loop
	l) Resectoscope including connecting tube for inflow and outflow for the above 4 mm hysteroscope telescope (item A)complete with continuous irrigation double sheath system, i.e outer flow and rotating inner tube with ceramic insulation distal tip,withobturator to be quoted along with working element and complete set of electrodes and 2 set of HF cables
	All electrodes and Collin‟s knife to be bipolar/unipolar (as per requirement) to be quoted with appropriate cautery
	ACCESSORIES FOR RESECTOSCOPE FOR TCRE UNIPOLAR AND BI-POLAR SET
	UNIPOLAR WORKING - Unipolar Working Element to be used with 26FR Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy telescope - 1 no
	CUTTING LOOP ELECTRODE FOR UNIPOLAR- Cutting loop 24 Fr - 12 nos
	STRAIGHT CUTTING ELECTRODE FOR UNIPOLAR - Forward angle/straight cutting loop 24Fr - 06 nos
	ROLLER COAGULATING ELECTRODE FOR UNIPOLAR - Roller electrode Cylindrical diameter 3mm, 24Fr - 06 nos
	POINTED ELECTRODE FOR UNIPOLAR - Pointed electrode/Collines HF knife electrode, 24Fr - 06 nos
	VAPOR CUTTING ELECTRODE UNIPOLAR - VAPOR CUTTING Electrode, 24Fr -06 nos
	SPIKE ELECTRODE UNIPOLAR - SPIKE Electrode 24Fr, size 3mm diameter, 24Fr - 06 nos

	BIPOLAR WORKING ELEMENT SET - BIPOLAR Working Element to be used with 26Fr Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy telescope. Should work in saline - 01 no
	BIPOLAR CUTTING LOOP - BIPOLAR Cutting loop 24 Fr should work in saline - 06 nos
	BIPOLAR CUTTING LOOP SMALL - Cutting Loop 24Fr, bipolar, small should work in saline - 06 nos
	BIPOLAR ELECTRODE POINTED - Coagulating Electrode 24Fr, bipolar, pointed should work in saline - 06 nos
	BIPOLAR ELECTRODE BALL END - Coagulating Electrode 24Fr, bipolar, ball end should work in saline - 06 nos
	BIPOLAR LOOP STRAIGHT - Cutting Loop 24Fr, bipolar, straight should work in saline - 06 nos
	RESECTOSCOPE SHEATH FOR UNIPOLAR - Continuous Flow 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 - 02 nos
	RESECTOSCOPE SHEATH FOR BIPOLAR - Continuous Flow Resectoscope Sheath 26 Fr., for Bi-Polar, including connection tubes for in- and outflow, 2 LUER-lock adaptors, diameter 8 mm, oblique beak, rotating inner tube, with ceramic insulation, for use with working element should work in saline - 01 no
	OBTURATOR - Obturator, for use with the Resectoscope sheath - 2 nos
	FIBER OPTIC CABLE - Fiber Optic Light Cable, diameter 3.5 mm, length minimum 300 cm - 2 nos
	F) Hysteropump
	a. Irrigation system for use in hysteroscopy
	b. Irrigation function is performed by electric pump
	c. Maximum parameters for hysteroscopy are automatically set
	d. Precise presetting of volume and pressure of suction and irrigation parameters via touch keys
	e. Adjacent display scales for set values and actual value to ensure safe monitoring.

	f. To be used with pressure regulated from 35 to 150mm of Hg or more, and flow rate regulated from 0- 500ml/min. Power supply 100-240 VAC, 50/60 Hz, Mains cord
	g. Connecting cable 100 cm, one pedal foot switch/ Touch Screen.
	h. hysteroscopic tubing set
	i. Irrigation tube
	j. bottle 1 L or more, sterilizable with bottle stand and bottle stand holder
	k. Silicon Tubing Set for suction ,sterilizable.
	l. Hysteromet should be from same manufacturer as of Hysterescope
	5. Electrocautery compatible with Laparascope, Hysterescope & Resectoscope
	1 Should have unipolar cutting and coagulation as well as bipolar cutting and coagulation modes and have the facility of blending cutting and coagulation in different ratios and degree –soft, standard and/ or forced coagulation and spray coagulation
	2. Arc controlled cutting with a pre selectable power of 200 watts in both unipolar and bipolar modes.
	3. Arc controlled coagulation with a pre selectable power of 120 watts in both unipolar and bipolar modes.
	4 Auto stop function with automatic power – off on completion of coagulation process.
	5 Automatic start function for bi- polar coagulation. Should be operable both in hand and foot mode and should have hand control switch on the handle of the electrode. Bipolar application with irrigation with sodium chloride
	6 Endoscopy mode with reduced voltage out put for use with fine endoscopic electrodes.(microfunction)
	7. Should be compatible with under water operative procedures
	8. It should have neutral electrode monitoring through a patient contact system.
	9. It should have automatic high frequency power cut off by autocoagulation stop and autostart facility
	10. The unit should have the facility of self testing for trouble shooting
	11. Visual and acoustic signs of HF activation by different colored indicators and different acoustic tones for cutting and coagulating

	12. Unit should have safety monitoring circuit in event of malfunction for output monitoring. Neutral electrode connection .Automatic self test and automatic power cutoff in event of malfunction. Ground leakage current(LF/HF) HF application time
	13. Power supply 230VAC, 50/60 Hz.
	14. The unit should be supplied with all standard accessories such as Electrode,Foot switch, Twin earth pad , bipolar forceps with Cord, Electrode Handle with switches , neutral plate, ball electrodes, Loop electrodes, variable output power for all types of currents
	Added (Under Para 5) 16. Trolley should be provided for Electrocautry.
	6 System Configuration Accessories, spares and consumables
	6.1 System as specified
	6.2 ACCESSORIES:- All Possible accessories of the equipments should be quoted. The specific accessory and its quantity will be decided on the basis of actual requirement
	6.3 The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be provided
	6.4 The codes and rates of all relevant individual accessories should be quoted separately with clear mention of period of validity of rates
	6.5 Cautery system should be upgradable for vessel sealing device
	7 Environmental factors
	7.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%
	7.2 The unit shall be capable of operating continuously in ambient temperature of 10-40deg C and relative humidity fo 15-90%
	8 Power Supply
	8.1 Power input to be 220-240VAC, 50Hz fitted with Indian power-plug
	8.2 UPS for all systems of adequate rating for power supply to the system for 60 minutes.
	9 Standards & Safety
	9.1 Should be USFDA or European CE approved product

	9.2 Manufacturer and Supplier should have ISO certification for quality standards
	9.3 Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)
	9.4 Shall meet internationally recognized standard for Electro Magenetic Compatibility (EMC) for electromedicalequipment : IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC; EMC-directive as amended
	9.5 Certified to be complaint with IEC 60601-2-2 Medical Electrical Equipment part 2-2: Particular requirements for the safety of equipment mentioned above – wherever applicable
	10 Training
	10.1 Comprehensive training for staff of user department and support services till familiarity with the system.
	10.2 Training of two faculties from each consignee to be provided
	11 Documentation
	11.1 Product Literature in original along with that of accessories and indigenous components if any Photocopies/computer generated copies are not acceptable
	11.2 Statement of compliance with tender specification with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provide for noncompliant specification with justification must be described in details with supporting literature
	11.3 Certificate of Compliance with standards and approvals stated above
	11.4 Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier
	11.5 List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
	11.6 Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book

Schedule No.3

Sl.No.1	Laparoscopic Surgery Set with Hysteroscope & Resectoscope with High Definition Camera & Monitor
	Technical Specification of Laparoscope

	1 Description of Function
	Laparoscope is used for minimally invasive surgery and comprises of telescope and associated instruments and units
	2 Operational Requirements
	1. Telescopes, Insufflator, Suction irrigation Unit, Camera Control Unit and Camera head, HD Medical grade monitor, Light source, Image management system, Hysteroscope & Resectoscope should be from same manufacturer with USFDA or European CE approved
	2. Morcellator with accessories, CO2 cylinder (Type – B, 5 Kg), Video Color printer/Laser color printer and Electro cautery should be compatible with the principal system and it should be USFDA or European CE approved.(Except CO2 cylinder).
	3. Regarding hand instruments: 80% of the hand instruments should be supplied from same principal manufacturer and all the instruments should be USFDA or European CE approved
	3 Technical Specifications
	3.1 TELESCOPES
	a) 5 mm forward oblique, 30 degree – 1 no
	b) 10 mm forward oblique, 30 degree – 1 no
	c) 10 mm straight forward 0 degree – 1 no
	d) All telescope should have following:
	Low risk of object bum
	Colour coded for identification
	Autoclavable
	Fibreoptic light transmission incorporated
	3.2 HAND INSTRUMENTS & OTHER ACCESSORIES
	1. Reusable Veress Pneumoperitoneum Needle- Spring loaded blunt stylet luer lock length8- 10/15cm/12cm - 4 each
	2.Reusable Trocar:- 5/5.5mm – Multifunctional , insuflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm) ,Flapper valve - 4 nos
	3. Reusable Trocar:- 10/11mm & 12/13 mm-Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm/11) Flapper valve - 4 each

	4. Suction and Irrigation cannula-Size 5mm, length 33-36cm, used with suction and irrigation handle, size 10 mm also, Reusable suction irrigation tubing set, Multifunction suction irrigation handle with provision for using 5/10mm diameter auxiliary instruments - 2 each
	5. Grasping forceps curved - toothed 2x4 teeth-2 each-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10mm)
	6. Grasping forceps straight- toothed 2x3 teeth-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10 mm)
	7. Maryland forceps-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2 nos
	8. Grasping forceps-Atraumatic-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	9. Grasping forceps-Allis-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	10. Grasping forceps Mixter-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	11. Grasping forceps-plain dissection & Grasping-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos
	12. Grasping forceps-Babcock-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 5mm &-10 mm - 2 each
	13. Fan shaped retractor-Rotating, size 5mm, length 33-36cm, dismantling facility - 2nos
	14. Hook Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility- 2nos
	15. Rotating Metzenbaum Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility – size 5mm 2nos & 10mm -1 no
	16. Bipolar coagulating forceps-Size 5mm, length 33-36cm fenestrated- 2 nos
	17. Bipolar coagulating forceps-Size 5mm, length 36cm, 3mm width of jaws -2 nos
	18. High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, spatula tip, needle electrode- 2 each

	19. High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, hook tip, knife electrode - 2 each
	20. Knot pushers-Eye type, length 33-36cm,2 each for intra and extra corpal knotting
	21. Needle holder coaxial type-5mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33-36cm,2 with carbide insert tips for straight and curved needles
	22. Clip Applicator-Medium -Size -Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 300, 2 quoted with adequate no. of spare clip (Minimum of 100 Clips)
	23 - Clip Applicator- Large-Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 400/LT 300, 2 quoted with adequate no. of spare clip (Minimum of 100 clips).
	24. Hassan cone-Adaptable to 10mm/11 trocar- 2nos
	25. Blunt Obturator-For 11mm port-From 10/11 mm to 5mm & 5 to 3 mm - 2nos
	26. Reducer-Size 5mm, length 33-36cm with pin for cautery - 2nos
	27. L-Hook-Size 5mm, length 33-36cm with pin for cautery- 2nos
	28. Spatula-Size 5mm, length 33-36cm with pin for cautery - 2nos
	29. Fascia closure instrument-Size 2.8mm, length 17cm - 2nos
	30. Washers-For 5 & 10 mm cannula and reducers - 100 each
	31. Container System: Metal & Plastic-For Sterilization and storage of telescopes, hand instruments and other accessories. Different sizes - 3nos each
	32 - Metzenbaum scissors-High performance for bipolar cautery - 2nos
	33. Large operating scissors-With double action jaws (slightly curved) Rotatable 10mm diameter instruments with a working length of 33-36cm, dismantting facility - 2 nos
	34. Assistant needle holder-5mm diameter instrumentations with a working length of atleast 33-36 cms with carbide insert tips for straight and curved needles. 2 for straight & curved needles with carbide insert tip
	35. Disposable extraction bags of any internatinal brand, minimum 10 Nos.
	36. Injection and puncture canula-5 mm diameter, 33-36cms length with luer lock - 2 nos
	37. Myoma screw-5 mm, 33-36 cms length, 10mm - 2 nos

	38. Uterine Manipulator-LAVH, mobilization of uterus, indentification of vaginal fornices and sealing of vagina during hysterectomy.
	39. CCL Vaginal extractor for LAVH Surgery
	40. HF Needle electrode for splitting & coagulation insulated with connection pin for unipolar coagulation, working length – 31-33cm
	41. Electronic morcillator-With cutting sleeve and protective sleeve along with spare knife (Fully autoclavable) can be from other make. It should be European CE or USFDA approved.
	Morcellator with accessories
	a. Electronic Drive unit with motor for use with morcellator
	b. Morcellator tube serrated edge
	c. Atraumatic trocar sleeve with pyramidal trocar 12mm
	d. Claw forceps insert 2 x 3 teeth
	e. Insulated sheath
	f. Laproscopic Bag
	g. Insulated handle with HF connection rotating with ratchet
	42 High frequency monopolar cables-For above auxiliary instruments.
	43 Hight frequency bipolar cables-For above auxillary instruments
	44 Cleaning accessories-
	a. Cotton carrier with thread
	b. Cotton carrier with “U” shaped handle
	c. Cleaning brush
	d. Brush for cleaning jaws
	e. Oil dropper
	f. Wadding silver polish
	g. Special lubricating oil minimum 10 bottles of 50ml
	Note : Insulated outer sheath for all forceps and scissors
	3.3 INSUFFLATOR

	a) Fully automatic, electronically controlled gas fill
	b) Flow rate of 20-30 litres per minute
	c) Optical and acoustic warning signals in case of malfunction or excessive pressure
	d) Connectible to medical gas pipeline
	e) Control by keys on front panel
	f) Clear and adjacent display of actual and preset flow rate, actual and preset pressure, gas consumed
	g) Facility for filtering preheating of gas to body temperature
	h) Facility for easy evacuation of smoke and mist
	i) Memory for retention of previous pressure settings
	j) Should include high pressure hose pin-index connection to smallbig cylinder with regulator, mains cord, silicone tubing set with luer lock, universal wrench and gas filter
	3.4 CARBON DIOXIDE CYLINDER (type-B)
	Large size cylinders with required regulators and connecting pipe to the insufflator (Type-B) – 2 nos (Capacity 5Kg or more), Gas tubing – 4
	Gas tubing – 4
	3.5 SUCTION-IRRIGATION UNIT
	a) Pump for irrigation and suction
	b) Irrigation pressure 550mm Hg or more
	c) Suction pressure 0.65 bar or more
	d) Control from control panel and/or foot pedal / Manometer
	e) Overflow protection on suction bottles
	f) Accessories should include silicone tubings (2 nos), bacterial filter and bottles with cap
	g) Irrigation suction flow rate should not be less than 2-5 L/min.
	3.6 Sterilization/Disinfection Tray:
	Disinfection/Sterilization tray with sieve, tray to lift Size: 27”X7”X5” (LXBXD) – 04 nos
	3.7 Formaline Chamber (Imported / Indian make)

	Formaline Chamber made of Virgin Acrylic 4.5mm thickness; size : 26”X8”X8” (LXBXH) with three tray, for sterilizing the laparascope& Hysterescope– 04 nos.
	3.8 Suitable autoclavable plastic tray double tray for sterilization and storage for hand instruments of minimum 20 hand instruments preferably from OEM – 04 nos
	3.9 CAMERA CONTROL UNIT & CAMERA HEAD
	High definition Three chip Endoscopic camera system should have following features:
	a) Digital full HD technology
	b) Progressive Scan
	c) Camera control unit with three chip HD camera head having HD CCD chip of same aspect ratio of 16:9 and camera control unit should be able to produce following video output: DVI-D-2 nos, SDI – 1 no, Composite Video – 1 no.
	d) Three chip camera head should produce at head itself Pure Digital Signal with High Definition video (1920 * 1080PI) with aspect ratio of CCD chip and video format of 16:9 or 16:10.
	e) System should have integrated Optical Zoom (12-28mm, 2 X) to enhance image size and focus lens/rings to make it fully soakable and waterproof
	f) System should be able to optimize all the settings and should be ready as soon as connected to camera control unit.
	g) Three Chip Camera control unit should be compatible with all the tree chip camera head and the company should provide standby facility within 48 hours of breakdown.
	h) Should be compatible for remote controlled operation of various features
	i) Camera should be suitable for both Laparascope, Hysteroscope & Resectoscope
	j) Should have Integrated gain, shutter, Enhancement, white balance with brightness control.
	k) All camera functions to be controlled from camera head buttons and through key board at camera control unit to make it controllable from both sterile and non-sterile zone
	l) Technical Specification :-
	Image Sensor CCD Chip
	Pixels 1920 x 1080

	AGC Microprocessor controlled
	Lens F16-28mm or more
	Video Outputs Composite to BNC, Y/C to S-VHS, RGB to D Socket, HDTV-DVI-D, DV for recording
	Input Key Board for Character Generator, 5 pole Din/4 pole Din/Touch Screen
	3.10 High Definition Medical Grade Monitor Wide Screen Monitors having the following features:
	a) HDTV Display in 16:10/16:9 HDTV format
	b) LCD/LED Crystal display
	c) 26" High Resolution HD video Medical grade monitor – 1 no
	d) Resolution : 1920 x 1080 pixels
	e) SDI/HD-SDI, Composite, S-Video RGB, DVI-D, VGA input, S-VHS – 2 nos, should also have same video output
	f) All required cables and connectors, which should be specified
	g) TFT screen stand/Fixtures for connecting to pendant system/Ceiling Light Arm
	h) Dustproof and Drip Water Protected
	3.11 LIGHT SOURCE
	a) Xenon 300 watts
	b) Manual and automatic adjustment of light intensity
	c) Lamp life 500 hrs or more with at least one spare bulb
	d) Display of lamp life/Bulb usage meter warning light
	e) Long (250 cm or more) fluid and fibre-optic light cable of diameter 4.8-5 mm
	f) Light weight
	g) Certified for National International safety standard normal
	h) Should be able to produce colour temperature of 6000K.

	3.12 VIDEO- CART (Should be from the same manufacturer/ or ANY International BRAND)
	a) Made of stainless steel / Epoxy coated metal
	b) Portable on 4 antistatic dual castors, 2 with locking brakes
	c) Required number of shelves for housing all the units of the set
	d) Adjustable arm for fixation to either side for fixing the TFT monitor
	e) One drawer unit with lock and key
	f) Cable Manager
	g) Power box with concealed wiring for providing electrical connections of proper rating to all the units
	3.13 IMAGE MANAGEMENT SYSTEM
	a) Documentation system for digital storage of still images, video sequences and audio files.
	b) Latest processor & HDD, which should be specified
	c) Largest possible RAM, which Should be specified
	d) Integrated DVD/CD / Blue Ray Disc writer with maximum speed which should be specified
	e) Compact key board with drape/ Touch Screen
	f) Cordless mouse
	g) All types of connecting cables (BNC, DVI) and connectors, which should be specified
	h) With all connectors and connection cables (BNC, S-VIDEO(Y/C), VGA), which should be specified
	i) It should be medical grade with touch screen monitor.
	j) Full HD recording, Medical grade computer and Monitor,Touch screen,Minimum 500GB storage memory. It should have window based operating system,minimum Windows –XP.
	3.14 VIDEO COLOR PRINTER/ LASER COLOUR PRINTER

	i. For endovision camera and multi-colour systems existing in country.
	ii. Large colour prints of video images with outstanding quality at least 4 different Images can be stored and printed on one sheet.
	iii. Memories at least 4 GB ram, should be compatible with any monitor and should be Supplied with all connecting cables, satisfying international quality controls, safety Norms and power supply
	iv. It should be CE approved.

Schedule No.4

Sl.No.1	USG Portable machine with TV probe(3D & 2D)
1	Technical Specification
1.1	System should be latest generation state of the art portable colour Doppler for Abdominal, Vascular, Obstetrics & Gynaecology, Musculoskeletal, small parts application etc., with suitable evaluation and measurement packages
1.2	Features Remarks
	System should be offered with following Broad Band width Transducers:
	(i) Convex Array Transducer (frequency range of 2 to 4 MHz) (+/- 1 MHz)
	(ii) Linear Array Transducer (frequency range of 4 to 10 MHz) (+/- 1 MHz)
	(iii) Endocavitary probe (Transvaginal/ Trans rectal) 5-9 MHz or more- Endocavitary probe should have biopsy facility with needle guides .
	(iv)3D volume acquisition transducer of 2 to 6 MHz for Obs / Gyn and Abdomen applicatio
1.3	System should have following modes:
	2 D,3D, M Mode, Pulsed Wave, Continuous Wave, Colour Flow Imaging & Colour Power Angio Imaging,
	Tissue Harmonic Imaging should be available at least in one transducer.
1.4	Digital Processing Channels – 60 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
1.5	Grey scale (min. 256 or more)

1.6	Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
1.7	System should have facility for gain adjustments using slide pot controls/Auto gain facility.
1.8	Should have minimum one active ports with direct switching from console
1.9	System should have a High resolution Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
1.10	System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports
1.11	Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
1.12	Complete package for measurement and calculation provision for distance, area, volume & Circumference etc.
1.13	Weight of the equipment should not be more than 6 Kg.
1.14	Image Storage: Should have inbuilt hard disk for image storage. Specify image storage capacity
	Image Archival:
1.15	Inbuilt CD writer/ Flash drive with the facility to transfer images
1.16	DICOM ready (Send, Quarry, print, view)
1.17	System should have direct connectivity to Colour laser printer or through PC (PC to be supplied by the bidder) for printing images & report
1.18	System should have extensive Calculation software package for General Imaging, Ob/Gyn & Vascular Imaging
1.19	Inbuilt battery backup for 2 hrs appox.
1.20	Free software upgrade(s) during the period of warranty/CMC
2	Accessories:
2.1	Lockable mobile trolley where the portable machine can be lock.

2.2	Colour laser Printer for direct printing of Images from the system (with CE or FDA mark) (min dpi of 1200)
2.3	Biopsy attachment for the Convex, endocavitory and Linear probes
2.4	Thermal printer

Schedule No.5

S.No.8	TV probe guide for Oocyte aspiration
1.1	Stainless steel TV Probe guide

All other terms and conditions of the tender document remain unaltered.
