NOTIFICATION OF PROPRIETARY ITEMS

This hospital proposes to procure the following items on Proprietary basis. If any bidder have query/clarification about the items to be procured, the same may be sent to the C.M.O. Medical Store (M&E), Safdarjang Hospital **till 30th July '2016'**.

	Name of the Item	Qty	Cost	Name of Manufacturer
1	Dual Action (Ultrasonic & Mechanical) Lithotripsy.	**01**	**48.00 Lacs**	**M/s Olympus**
2	MicroPerc.	**02**	**17.00 Lacs each**	**M/s PolyDiagnost, Germany**
3	3D MR Fusion Prostate Biopsy System.	**01**	**US$ 3,57,500**	**M/s V.P. Impex**
4.	URO PERC Simulator	**01**	**90.00 Lacs**	**M/s Simbionix, Israel**
5.	Airseal System	**01**	**90.00 Lacs**	**M/s Surgiquest**
6.	4K Ultra High Definition Laparoscopy Imaging System.	**01**	**90.00 Lacs**	**M/s Olympus**
7.	Integrated Bipolar and ultrasonic Coagulation & Cutting Unit	**01**	**35.00 Lacs**	**M/s Olympus**
8.	Combined RF, Argon Plasma and water jet Surgical Workstation	**01**	**85.00 Lacs**	**M/s Erbe**
9.	Lithium Triborate Laser XPS.	**01**	**200.00 Lacs**	**M/s Hospimedica International**
10.	Electronically operated automatic patient transfer system	**01**	**40.00 Lacs**	**M/s SAVIR S.R.L., Italy**
11.	Thunderbeat Model ESG-400, USG-400) with accessories	**01**	**25.00 Lacs**	**M/s Olympus**

General Specification for Dual Action Lithotripsy (Ultrasonic and Mechanical)

The Dual Action Lithotripsy System Must have followings:

1. Should have a single generator for both ultrasonic and low frequency mechanical energy integrated in the same machine.
2. The system should be able to deliver these energies by Same probes and Hand pieces
3. The system should have a Surgeon Controlled / Hand Activation Transducer& Suction
4. The system should be equipped with Surgeon Control" and have probe of "3.76mm probe size providing the largest Inner lumen for stone fragments evacuation"
5. The unit should be supplied with following probes : 3.76mm,3.4mm,1.83mm,1.50 mm,0.97mm
6. The system should simultaneously produce (at the probe tip): - Constant Ultrasonic Wave energy & Intermittent Shockwave (ballistic/mechanical) Energy – high-rate of occurrence ~300 x per second / 300 Hz Delivered via a Revolutionary Single Probe Design With Large Inner Lumen
7. The system must Fragment and aspirate all stone sizes, shapes, and composition at a faster speed with significant reduction in procedure time benefits the patient, physician and hospital
8. The system must be Compatible with standard Steam Autoclaving, Sterrad and Sterrad NX cycles
9. The System must be used for fragmentation of urinary tract calculi in the kidney, ureter, and bladder
10. The system must offer a complete Probe Size Portfolio – with Single-Use & Re-Usable options (validated to Global CDS requirements)
11. The system should have Integration of both ultrasonic + high frequency bursts of mechanical wave energies, delivered simultaneously from a single probe with Shock Pulse technology and suction control
12. The system should effectively fragments and pulverizes stones of various shape, size and composition .
13. The system must have Increased speed and performance2 - while generating a lower pitched noise level (less irritating to users)
14. The system should be of Auto tuning equipped -, a true “plug & play” system
15. The systems should have a user Friendly Torque wrench design – reduces the force required to assemble probe onto transducer
16. They system should have a single Handpiece design
17. The system should also have hand activation which eliminates the need for the footswitch
18. The system should have Ergonomic Placement of Buttons allows for physician control for all procedures (PCNL, mPCNL, URS, Bladder)
19. The system should have a transducer with Surgeon Controlled Suction and Integrated Hand Activation
20. Unit should be supplied with Sterilization Tray

21. The unit should be have Torque wrench for connecting / disconnecting probes to the hand piece
22. System should be US FDA & European CE certified .
23. Demonstration whenever required should be arranged.
24. Two years of standard warranty followed by five years Comprehensive maintenance contract.
25. Generator Specifications :
    - Voltage of 90-264VAC
    - Frequency 50/60Hz

General Specification of MicroPerc Qty – 2Nos.		
1	It should be semi rigid fiber optic PCNL, illumination-10,000 pixel, 120° outer diameter 0.9 mm	2
2	It should have 3-joint arm for micro-perc. This fixes the ocular which is connected to the optic body and the light cable and can be fixed in every positions and serves as a 'Third' hand	1
3	It should have a Modular Fix-Focus Ocular	2
4	Standard Picture Size	
5	It should have a optic shifter	2
6	It should have 8-10 Fr. Working shafts	2
7	It should have micro perc set consisting of the following :	50 SETS
a	18 GAUGE PUNCTURE NEEDLE	
b	14 GAUGE SHEATH	
c	TRIPORT AND LASER PORT	
d	IRRIGATION TUBE	
e	DIALATOR 7 FR.	
f	STOP COCK ETC.ETC.	

General Specification of 3-D Semi Robotic Targeted Fusion Prostate Biopsy System

1. It should provide several image enhancement to standard ultrasound
2. It should automatically convert 3-D Ultrasound images to an enhanced 3-D color images to plan and manage the patient biopsy process.
3. It should increase the abilities to examine the prostate for suspicious areas which may need sampling.
4. It should have advanced needle navigation and tracking to enable to view in real time.
5. It should have sophisticated recording to actual biopsy site and it should be able to re-visit these sites any time as required.
6. It should be able to view a overlay previous prostate gland volume and biopsy location.
7. It should have a semi robotic arm and ultrasound probe cradle to automatically scan the prostate, the entire system should work on 220-230V.
8. It should have MRI and TRUS fusion platform for 3-D Ultrasound guided prostate biopsy which should include planning software that works with dicom images to segment prostate glands.
9. It should have multi modality image fusion software for radiology and additionally a 3-D targeted biopsy software.

GENERAL SPECIFICATION FOR URO PERC SIMULATOR

- The system should be fully computerized and interactive
- The system should be able to provide comprehensive training in the field of Endoscopic Urological procedures in the Lower Tract, Upper Track & for PCN
- The system should feature built in tool for training group and individual trainee.
- The system should have all parameters to evaluate the trainee.
- The System should have the following accessories

  i) PC and simulator processor, including mannequin, 17" flat LCD touch screen

ii) 3 physical scopes that simulate 4 virtual scopes:

18F Pentax Bronchoscope functioning as Flexible Ureteroscope and Flexible Cystoscope

iii) 24F Rigid Cystoscope

iv) 12F Rigid Ureteroscope

v) 1 Unidex Basket Handle

vi) 1 Forceps Handle

vii) 3 x Guide-wire device

viii) 2 Pedals for tools and fluoroscopy operation

- The System should have option of selecting instruments, Telescope, Energy sources like pneumatic lithotripter, laser etc.
- The System should simulate the C-ARM Image on the screen also.
- The system should at least have 10 basic tasks in an increasing level of difficulty to enable familiarizing the trainee with the system anatomy and the skills necessary to perform endourology procedures.
- The Systems should at least have 10 different patient simulations for various procedures of Stone Management, Stricture treatment etc.
- The System should have a tool for managing workshops, training programs. The instructor should be able to manage a single trainee or groups, build training programs, assign tutorials, assign exams & review trainees' performance.

PCN SECTION

- The System should have a mannequin that also represents a patients torso approachable from the back for PCN procedures with 2 interchangable catridges to enable practise of normal or obese patients with access to both left and right side of the patient
- The cartridges should be fitted with life-like layers of epidermis, underlying tissues and real ribs to provide the physical system for percutaneous puncturing.
- The System should be provided with 2 needles, 15 cm and 21 cm
- The Percutaneous simulation should have at least 6 basic tasks in an increasing level of difficulty enable the new trainee with skills necessary to perform percutaneous renal access procedures done under real-time simulated fluoroscopy.
- The system should provide at least 7 different virtual patients each for normal & obese

patients for training of PCN procedures

- The System should have option of selecting instruments, Telescope, Energy sources like pneumatic lithotripter, laser etc.
- The system should be future ready to incorporate a visual library of patients based on anatomies created from CT/MRI images of real patients.
- The systems central processing unit should be of the latest generation.
- The system should be C.E. Certified.

General Specification for Airseal System

1	3 distinct mode - standard insuffulation; smoke evacuation mode; (airseal) stable pneumoperitoneum mode
2	Tri-lumen technology - evacuates and filters smoke for recirculation; real time pressure sensing to enable immediate response to dynamic changes in pressure; delivering filtered CO_2 to the abdomen
3	Stable Pneumoperitoneum during the entire duration of surgery even during suction and specimen/instrument removal
4	Ability to use both bottled as well as piped CO_2 supply
5	Filters smoke particles, organic material and pathogens by filtering upto 0.01µ in size.
6	Offer bladeless optical tip for light guided insertion an minimizing tissue trauma
7	Built-in Integrated touch screen
8	Visual & Audible signals

9	Buit-in CO_2 exhaust indicator(audible & visual)
10	Operates in the pressure range of 5 – 20 mmHg and flow range of 1-40 l/min.
11	Provide back-up of upto 100sec even when the CO_2 gas supply is exhausted to enable alternate CO_2 supply to be arranged without impacting the surgery
12	Valve Free Access into abdomen - to enable easy removal of specimen from the surgical site and unimpeded introduction of clips,needles,sutures, mesh etc
13	Valve Free Access should be available as bladeless optical Tip
14	Valve Free Access should be available as 100mm,120mm and 150mm length
15	Valve Free Access should be available as 5mm,8mm and 12mm diameter Access port

General Specifications for 4K Ultra High Definition Laparoscopy Imaging System

A 4KUltra High Definition Laparoscopic Imaging system will consist of the following items:
All items should be Medical Grade. It should provide 4 times more information than conventional full HD imaging system. The complete Optical Chain should be 4K for Optimized Imaging.

1) Full 4K video image processor
2) Powerful 300W Xenon light source
3) 4K camera head
4) 31 inch 4096 x 2160 pixels&55" 4K – UHD (3840 pixel) medical grade monitor
5) Ultra Telescopes
6) Light Guide Cable
7) High flow CO2 Gas insufflator,

1)Full 4K High Definition Video Image processor: (Should have following specifications)

- A full 4K high definition processor should have native resolution of 4096x2160 pixels. System should also provide 3840 x 2160 or 1920 x 1080 should also be selectable. (should provide both 4K output and HD output)
- It should have Touch panel operation for easy control.
- Rich Color pick up: System should provide color gamut of ITU-BT2020 and should also provide option of ITU-BT709
- Should have AE (Automatic Exposure) – Iris function.
- Should provide at least 10 individual User preset.
- The System settings, Color Tone, color Mode, contrast, enhancement etc. should be held in memory even after video system processor is switched OFF.
- Should have compatibility for selecting 3G-SDI or HD-SDI signal output (transmission method)

2) Powerful 300W Xenon Light Source: (Should have following specifications)

- A Powerful 300 Watt Xenon Lamp with emergency lamp facility
- Automatically adjusts light intensity to achieve ideal illumination
- Built-in special filter for early cancer detection
- Backlit front panel indicators.
- Optical image enhancement to view the capillary vessels and fine patterns in the superficial layer

  mucosa for early detection and recurrence of lesions.
- Automatic switching to emergency lamp

3) Full 4K Camera head : (Should have following specifications)

- The Camera Head should incorporate Optical fiber transmission providing 4K resolution through thin cable.
- Should have Xmor-R CMOS sensor providing high sensitivity and Less noise for clear image
- Should provide One-touch Auto Focus Function
- Should provide Electronic Zoom Function (button controlled) – x2.0 electronic zooming in 6 steps (x1.0, x1.2, x1.4, x1.6, x1.8, x2.0)
- Should be immersible in disinfectant solution and sterilization through ETO &Sterrad.
- Should have Focal Length f=23.5 mm

4) 4K Medical Grade Monitor: (Should have following specifications) 31 inch & 55 inch monitor

- 31 inch UHD LCD/LED backlit monitor ultra high definition resolution 4096 x 2160 pixels. Monitor should have 17:9 aspect Ratio

OR With

- 55 inch UHD LCD/LED backlit monitor with ultra highdefinition resolution 3840x2160. Monitor should have 16:9 aspect Ratio.
- should provide wide color gamut – BT2020
- should have multi-image display format – Rotation Image, Side-by-side, Picture-in-picture and
- Picture-out-picture and flip Pattern to rotate the image.
- Should have various input/output terminals, including 3G/HD/SD SDI, DVI-D,
- BNC(x5) and HDMI.
- Monitor should have Opticontrast Panel providing higher contrast image and less color blurring.
- Monitor should preferably run on AC (without DC adapter) 100V – 240V, 50/60Hz.

5) Ultra Telescope: (Should have following specifications)

- 10mm –DOV :0 degree and 30 degree. FOV : 88 degree, Working Length: 315 mm

- 5mm - 0 degree, 30 degree and 45 degree. FOV : 84 degree, Working Length: 315 mm
- Telescopes should incorporate - ED Glass Lenses for High resolution Imaging & less Chromatic aberration.
- Completely distortion free.
- Homogenous Light distribution in the peripheral region.
- Eyepiece type connection – for uniform compatibility.
- Large field of view and depth of focus.
- Fully Autoclavable type.

6) Light Guide Cable, Must be Autoclavable: (Should have following specifications)

- High Resistance protection tube.
- Reduced diameter with high fiber density.
- Small bending radius for comfortable use.
- 3 Meter in length.
- Should be ROHS compliant.

7) High Flow CO2 Gas Insufflator unit: (Should have following specifications)

- Should be digital, microprocessor controlled & automatic type
- Large digital display on front panel for status checking
- Powerful Insufflation flow rate of 45 L/Min required.
- Automatic feedback control for any malfunction.
- Automatic Smoke evacuation facility with adjustable modes. Small cavity Mode insufflation

Technical Specification for Integrated Bipolar and Ultrasonic Coagulation & Cutting Unit -

The Unit should have following features :

- Synergistic of Ultrasonic energy combined with Bipolar HF energy
- Delivery of both ultrasonic and bipolar energy through one instruments simultaneously
- Units should also be able to deliver separately the other energy modality like monopolar, bipolar ,advance bipolar and Ultra sonic energy both for open as well as Endoscopic surgery.

- Rapid Dissection and reliable Hemostasis up to 7mm vessels in a Single Instrument

- The unit should also be able to deliver bipolar energy under saline for BPH management.

- Dedicated cart for transportation and storage

- Instrument recognition and automatic application of default settings for ease of use.

- Provision for Automatic mist and smoke evacuation to maintain a clear laparoscopic view reducing delays associated with compromised visualization when combined with CO_2 Gas Insufflator

- HF Unit should have operational compatibility for all Lap / Gyn / Uro / GI / Open Surgery and should have minimum 16 Monopolar & Bipolar modes to cover all OR requirements, boot time not more than 6 Sec, 4000 times feedback control cycle per second.
- LCD and Touch Screen user Interface

- HF unit should have Fast Spark Monitor ensures smooth and reproducible cutting in varying tissue (e.g., muscle & fat)

- HF unit should have Automatic Saline Detection mode for Urology application

- HF & US device should have CF type Protection against electric shock

- Device should have dedicated Seal and & Seal & Cut mode by hand activation as well as foot switch without exchanging the instruments.

- Device should have best in class versatility, upto and including 7 mm vessel sealing capability, fast cutting speed, fine and easy dissection. hemostatic seal mode, optimised grasping etc for getting less instrument usage & exchange, Uninterrupted operation flow and reduced OR time.

- The device should be FDA approved and CE certified.

- Device should be supplied with following instrumentations :
    1) Ultrasonic Generator with Foot Switch
    2) Advanced HF Generator with Foot Switch
    3) Transportation Cart
    4) Communication Cables
    5) Autoclavable Transducer with cable (2 pcs)
    6) Hand piece probes for lap (15 pcs)
    7) Hand Piece probes for open surgery (5pcs)

General Specification for Combined RF, Argon Plasma and Water Jet Surgical WorkStation.

An integrated RF, Argon and Kinetic energy surgical platform which can dissect, coagulate and seal the tissues during open and laparoscopic surgeries. System should comprise of below

RF Energy Platform - Electro surgery unit with Thermo fusion (Vessel Sealing)

- Integrated flash microprocessor modular (custom configuration) unit with plug and play feature using digital instrument recognition and high resolution color TFT display and instrument usage counter,
- The system should be able to store minimum 100 programs with various settings and its software & hardware should be upgradeable.
- Should have 8 cutting and more than 8 coagulation modes, namely Auto cut, High cut, Dry cut, Bipolar cut, Bipolar Resection cut (saline), Precise cut, Endocut I, Endocut Q. Coagulation modes should have – Soft Coagulation, Swift Coagulation, Forced Coagulation, Spray coagulation, Bipolar soft coagulation, Bipolar forced coagulation, Bipolar Resection coagulation (Saline), Twin coagulation, biclamp –
- Bipolar Thermo fusion and precise coagulation.
- Should have Bipolar Auto start and Auto stop facility for thermofusion.
- Should have Power and Voltage automatic regulation feature to prevent tissue damage and charring. The output voltage should be regulated in various levels.
- The initial spark required for cutting has to be automatic depending on the type of tissue and during this time the unit has to be capable to generate upto 400 watts (power peak system).
- Special bipolar mode for coagulation of vascular tissue (Thermo fusion) upto 7 mm with reusable hand instrument for open as well laparoscopic surgeries, its FDA approval for 7 mm
- Vessel sealing and cutting simultaneous.
- The unit should be FDA approval for 7mm Vessel.

Argon Plasma Coagulation

For management of bleeding and devitalisation of tissue abnormalities achieved by optimal coordination with RF generator

- The Argon Plasma Coagulation system should have automatic parameters setting for various types of instruments and automatic depth controlled plasma regulation.
- Should have three different APC modes suitable for different indications
  - Precise APC – adjustment made using the effect settings
  - Pulsed APC – adjustment made using the parameter power settings
  - Forced APC – adjustment made using the parameter power settings

- Should have Adjustable argon flow rate from 0.1L/min to 8L/ min in steps of 0.1 L /min with automatic regulation of selected flow rate.
- Should have the facility to use Argon plasma coagulation and monopolar coagulation simultaneously
- Should have automatic monitoring of flow rate and Argon supply and auto purge facility. It should have the facility to connect with central gas supply.
- Should give visual display of argon gas bottle content and should give Acoustic alarm when bottle content reaches a minimum.
- Should have facility for activation of unit by foot pedal of the Electro Surgical unit.
- Should have facility to use in double balloon endoscopy procedures.
- Should have facility for Argon supported cutting and coagulation.

Water Jet Tissue Dissection System

For management of separating the different tissue types with their varying elasticity and firmness with the help of adjusted water pressure based on the kinetic energy principle.

- Should have pressure range:1–80 bars & Volume flow:1–65ml/min. It should indicate delivered fluid vol.
- Should adapt any sterile saline solution bag (disposable) as separation medium.
- Should be integrated with Electro surgical workstation with other accessories and facility to connect Monopolar coagulation with the applicator
- Should have facility to individually configure programs for different surgeries.
- Water jet activation should be via footswitch and Remote facility for switching between two different user settings.
- Should have facility for various applicators to be used in Laparoscopy, flexible endoscopy and open surgeries.

Following accessories to be supplied with the workstation.

- Reusable hand pencil with facility for swapping between programs.
- Reusable Thermo fusion hand instrument for open surgeries (for vasculatures up to 7mm).
- Reusable thermo fusion hand instrument for Laparoscopic surgeries (for vasculatures up to (7mm).
- 5mm bowel shaped sealing and cutting hand instrument with maximum of 1.1 mm thermal spread
- Footswitch with facility for swapping between programs.
- Reusable Bipolar forceps with irrigation port.
- Patient plate with equipotential ring - 50 nos.
- Argon Plasma Coagulation 3 button electrosurgical pencil, connecting cable, probes and applicators for both Laparoscopy & Open surgery.
- Argon assisted cutting instrument for open surgery and laparoscopic surgery.
- Water Jet accessories for Laparoscopy and open surgery.
- Workstation trolley with attached suction unit.
- Bipolar Scissor for open and Laparoscopic surgery with cable.
- Laparoscopic Cable attachment for Minimal Invasive Instruments.

General Specification for Lithium Triborate Laser XPS 180 WATT

This unit should have the following features:

- Laser should be designed for Photoselective vaporization of Prostate.
- Laser should be new generation Lithium Triborate (LBO) Solid State Laser, able to emit
  wavelength of 530-540 nm.

- Should be able to treat Bladder Tumor also.

- Should have maximum power of 180 Watt.

- It should be capable of delivering power of 20 - 180 watts in 10-watt increment.
- Should have touch screen for easy adjustment of power and mode setting & should have independent settings for Coagulation and Vaporization.
- Should have Dual Foot Switch control for Vaporization and Coagulation & should be color coded
- Should have voice alert system to inform automatically the status of the Laser during operation.
- Should display energy used and lasing time
- Should have inbuilt Chiller System.
- Should vaporize in non-contact mode and work at a distance of 3mm effectively.
- Should not require morcellation of tissue.
- Should be supplied complete with Liquid Cooled Laser delivery Fiber – 50 Nos.
- Should be supplied with a compatible UPS.
- Should be supplied with a compatible continuous flow laser Cystoscope – 1 No.
- Should be supplied with a compatible continuous flow laser Resectoscope – 1 No.
- Should be supplied with a compatible telescope – 1 No.
- Should be US FDA approved and should have a Multi-Centre trial data.
- Should have installation in at least two premier Govt. Institutes in India.
- Should be supplied with 5 years warranty.
- CMC rate for 5 years after warranty period should be quoted after warranty period.
- Rate of consumables /accessories should be quoted separately and will be fixed For two years.

Technical Specification:

Laser Type	:	Diode-pumped Solid State Laser Platform (LBO)
Wavelength	:	530-540 nm
Power Settings	:	20-180 Watts in 10 Watt increments
Aiming Beam	:	Diode Laser, red 635 nm, < 5 mW adjustable
Cooling	:	Air Cooled
Operating Temperature	:	$13\text{-}30^0$ C
Electrical Requirements	:	200 – 240 VAC, 30 Amps @ 50/60Hz, self adjust voltage and frequency.

ELECTRONICALLY OPERATED AUTOMATIC PATIENT TRANSFER SYSTEM - Specifications

ELECTRONCIALLY OPERATED AUTOMATED PATIENT TRANSFER SYSTEM -.
The Electronically operated automated patient transfer system should have following features so that the dimensions are suited to the International Standard dimension, so that it is easy to shift from bed to operation theatre or vice versa and should be suitable to any patient admitted to any specialty including Oncology patients operated or bed ridden due to disease condition.
Height: Min 27”(67 cm),max 42”(104 cm) or better
Length: 82”(204) or better
Maximum weight of patient:450lbs(200kg) or higher
Width:30”(76cm) or better
Weight of equipment: 460lbs(209 Kg.) or lesser
Length of transfer surface:73”(185 cm) or better

The system shall be battery operated with 24 V Dc or higher with atleast 2 hours back up for continuous and should be rechargeable in normal 240V,50Hz power which is normally available in India and output should be any value between 0.8 to 1.5 A and voltage should be any value between 25 – 30V.

There should be revolving transfer belts which enable single operator to transfer the patient with no manual handling be which the hazard to operators and other staff is reduced besides painless patient handling during patient transfer which is a routine in any hospital when patient admitted with severity of disease.
There should be advanced electronic control system which enable single operator to take care of the transfer and other person if required will only take care of the patient, their limp position which should not stuck at any adjacent projections, or due to linens used on the beds.

The system should have wheel breaks on all 4 wheels and there should be directional lever, to enable movement of the system form one area in hospital to another area as required and there should be side retraction rails which is for patient safety.
The System should have certification for safety from CE Europe and US FDA.

Technical Specification for Integrated Bipolar and Ultrasonic Coagulation & cutting

Unit THUNDERBEAT (Model ESG-400, USG-400 with Accessories (OLYMPUS)

The unit should have following features:

- Synergistic delivery of Ultrasonic energy combined with Bipolar HF energy
- Simultaneous delivery of both ultrasonic and bipolar energy through One instrument
- There should be no capping on transducer activation both for Synergistic Ultrasonic energy combined with Bipolar HF Energy and dedicated Ultra sonic Energy.
- Units should also be able to deliver separately the other energy modality like monopolar, bipolar advance bipolar and Ultra sonic energy both for open as well as Endoscopic surgery.
- Facility for Rapid Dissection and Reliable vessel sealing up to 7mm Vessels in a Single Instrument
- The unit should be able to attach different variety of dedicated Bipolar PK Instruments like cutting forceps, spatula, Hook, Needle, Morcellator etc. for various surgical applications.
- The unit should also be able to deliver bipolar energy under saline for BPH Management.
- Dedicated cart for transportation and storage
- Instrument recognition and automatic application of default settings for ease of use.
- Provision for Automatic mist and smoke evacuation to maintain a clear laparoscopic view reducing delays associated with compromised visualization when combined with Co2 Gas Insufflator.
- HF Unit should have operational compatibility for all Lap / Gyn / Uro / GI / Open Surgery and should have minimum 16 Monopolar & Bipolar modes to cover all OR requirements, boot time not more than 6 Sec, 4000 times feedback control cycle per second.
- LCD and Touch Screen user Interface
- HF unit should have Fast Spark Monitor ensures smooth and reproducible cutting in varying tissue (e.g., muscle & fat)
- HF & US device should have CF type protection against electric shock

- Device should have dedicated seal and seal & Cut mode by hand activation as well as foot switch without exchanging the instruments.
- Device should have best in class versatility, upto and including 7 mm vessel sealing capability, Fast cutting speed, Fine and easy dissection. Hemostatic seal mode, Optimised grasping etc for getting less instrument usage& exchange, Uninterrupted operation flow and reduced OR time.

- The device should be FDA approved and CE certified.

- Device should be supplied with following instrumentations :
  1) Ultrasonic Generator with Foot Switch
  2) Advanced HF Generator with Foot Switch
  3) Transportation Cart
  4) Communication Cables
  5) Autoclavable Transducer with cable
  6) Hand piece probes for lap (5 pcs)
  7) Hand piece probes for open surgery (5pcs)

  Two Years Warranty with 5 Years CMC. CMC rates should be quoted separately.