

**SPECIALIZED HEALTH CARE AND
MEDICAL EDUCATION
DEPARTMENT**

GOVERNMENT OF THE PUNJAB



**PRODUCT VOCABULARY MEDICAL
STORE (PVMS) OF OT AND
GENERAL SURGERY EQUIPMENT**

Volume - I, 2016

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Note: The minor variation in sizes would be acceptable and shall not be considered as reason of rejection.

Clinical Specialty	OT General Surgery
Generic Name	TROLLEY FOR PATIENT TRANSPORT / PATIENT SHIFTING TROLLEY
Clinical Purpose	Transport of patient from theatre to ward and vice versa.
TECHNICAL SPECIFICATIONS	
<p>2-3 sections Patient Shifting Trolley. Back section should be adjustable from 0 – 70 Degree Approx. Should have Trendelenburg / Revere Trendelenburg positions 15/-15 degree approx. Oxygen Bottle Holder Wire basket 4 Bumper at all corner to protect trolley Patient Safe Working Load capacity min 150 kg or more.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • IV rod. 	

Clinical Specialty	OT General Surgery
Generic Name	HEAVY DUTY SUCTION MACHINE
Clinical Purpose	Heavy duty suction machine is used to keep the airways clean and in operation theater for suction of various secretions/fluids from various cavities of body.
TECHNICAL SPECIFICATIONS	
<p>Reciprocating, oil free pump mechanism.</p> <p>Heavy duty Mobile Suction Unit with twin jars (Polysulfone / Polycarbonate type) of capacity up to 4 or 5 liter each, Autoclaveable.</p> <p>Aspiration rate up to 40-50 liters/minutes or more at 650-900mm.Hg</p> <p>Vacuum continuously adjustable</p> <p>Triple flow safety device</p> <p>Change over valve</p> <p>Suction tubing of silicone with coupling connection for each jar</p> <p>Noise Level 45 dB or less.</p> <p>220V/50Hz.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • 10 x bacterial filter • Original trolley with lockable wheels. 	

Clinical Specialty	OT General Surgery
Generic Name	LIGHT DUTY SUCTION MACHINE
Clinical Purpose	Light duty suction machine is used to keep the airways clean and in operation theater for suction of various secretions/fluids from various cavities of body.
TECHNICAL SPECIFICATIONS	
<p>Reciprocating, oil free pump mechanism.</p> <p>Heavy duty Mobile Suction Unit with twin jars (Polysulfone / Polycarbonate) of capacity up to 2 or 3 liter each, Autoclaveable.</p> <p>Aspiration rate up to 20-30 liters/minutes or more at 650-900mm.Hg</p> <p>Vacuum continuously adjustable</p> <p>Triple flow safety device</p> <p>Change over valve</p> <p>Suction tubing of silicone with coupling connection for each jar</p> <p>Noise Level 45 dB or less.</p> <p>220V/50Hz.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • 10 x bacterial filter • Original trolley with lockable wheels. 	

Clinical Specialty	OT General Surgery
Generic Name	MULTIPURPOSE HYDRAULIC OPERATION TABLE
Clinical Purpose	Operating Tables used to conduct the different kind of surgical interventions of patients, the dedicated tables provide all the positions required by the surgeon.
TECHNICAL SPECIFICATIONS	
<p>Table Top (Radiolucent) with antistatic mattress 4-5 sections and equipped with X-ray cassette holder. Patient weight bearing capacity: 150 Kg or more in normal position.</p> <p>TABLE TOP IS ARRANGED AS:</p> <ul style="list-style-type: none"> • Head plate • Back plate • Seat plate • Two separate leg plates. • Base of the table stainless steel /ABS cover <p>MOVEMENT:</p> <ul style="list-style-type: none"> • Height Adjustment 750-1000mm • Kidney Bridge / Flex, Reflex • Trendelenberg/Reverse Trendelenberg 25/18⁰ • Lateral tilt 20⁰ • Back plate: 70⁰/-30⁰ • Manual Leg plate movement : up 15⁰/down 90⁰ 	
<p>Accessories:</p> <ul style="list-style-type: none"> • Arm rest with clamp • Anesthesia screen • Large width body strap • Adjustable bottle holder rod • Any other accessory to be defined by the end-user. 	

Clinical Specialty	OT General Surgery
Generic Name	ELECTRO-HYDRAULIC/ELECTRO-MECHANICAL OPERATION TABLE
Clinical Purpose	Operating Tables used to conduct the different kind of surgical interventions of patients, the dedicated tables provide all the positions required by the surgeon.
TECHNICAL SPECIFICATIONS	
<p>Weight bearing capacity of 200kg or more</p> <p>4-5 Sectional Operation Table with Single Leg Section</p> <p>Table top equipped with radiolucent material.</p> <p>The mattress covers with washable, antistatic material.</p> <p>X-ray Cassette holder for X-Ray and C-Arm facility</p> <p>Electric Height adjustment: 750 to 1000 mm or more.</p> <p>Electric Trendelenburg/Reverse Trendelenburg: 25° / -25° or better.</p> <p>Electric lateral tilt: 20° / -20° or better.</p> <p>Manual/electric backrest adjustment: 70° / -15° or better.</p> <p>Manual leg section adjustment: 20° / -90° or better.</p> <p>220-230 V, 50 Hz.</p> <p>Hand control unit.</p> <p>Override panel in the column for back up control in emergency cases.</p> <p>Battery backup control of table in case of main power failure.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Arm rest with clamp • Fixation strap • Anesthesia screen • Adjustable leg rest pads • Large width body strap • Adjustable bottle holder rod • Shoulder support 	
<p><u>Optional (ACCESSORIES): End-user to specify.</u></p> <p>Provision Of Sliding Table Top</p> <p>ORTHOPAEDIC ACCESSORIES</p> <ul style="list-style-type: none"> • Leg traction device with boots, straps etc. • Accessory trolley. <p>NEUROSURGERY ACCESSORIES:</p> <ul style="list-style-type: none"> • Wilson frame complete with Patient care kit <ul style="list-style-type: none"> ○ Can be used on any general surgical table ○ Allows 360 degree unrestricted radiolucency 	

- Allows unrestricted C-arm access
- Head Frame with following accessories
 - Basal frame complete
 - Quarter frame
 - Slide Adjuster for retractor
 - Head holder with standard head pins
 - Table attachment
 - Spatula 6 mm & 4 mm or equivalent

OPHTHALMOLOGY/ENT ACCESSORIES

- Eye/ ENT head rest.

UROLOGY ACCESSORIES

- Kidney elevator/ Flex, Reflex
- Knee crutches with pads
- Liquid Basin
- Accessories trolley

Any other accessory to be defined by the end-user.

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Clinical Specialty	OT General Surgery
Generic Name	ELECTRONIC OPERATING TABLE
Clinical Purpose	Operating Tables used to conduct the different kind of surgical interventions of patients, the dedicated tables provide all the positions required by the surgeon.
TECHNICAL SPECIFICATIONS	
Table Top (Radiolucent) With antistatic mattress, 5-6 sections and equipped with X-ray cassette holder. Sturdy table for minimum patient weight of 450Kgin normal position. TABLE TOP IS ARRANGED AS:	
<ul style="list-style-type: none"> • Head plate • Back plate • Seat plate • Two separate leg plates • Base of the table stainless steel/ABS cover, 4 swivel castors • Sliding table top up to 270 mm 	
MOVEMENT (Remote Controlled):	
<ul style="list-style-type: none"> • Up and down movement height range: 700-1000mm • Trendelenberg/ Reverse Trendelenberg 25⁰/25⁰ • Lateral tilt 20⁰ • Back plate: up 70⁰/Down 40-50⁰ • Leg plate: up 20⁰/down 90⁰ • Operating Voltage: 220V, 50Hz with battery backup and manual override in case of electric supply failure. 	
STANDARD ACCESSORIES:	
<ul style="list-style-type: none"> • Arm rest with clamp • Fixation strap • Anesthesia screen • Adjustable leg rest pads • Large width body strap • Adjustable bottle holder rod • Shoulder support • U Shape head rest for general Surgery 	
Optional: IO to specify	
ORTHOPAEDIC ACCESSORIES	
<ul style="list-style-type: none"> • Leg traction device with boots, straps etc 	
NEUROSURGERY ACCESSORIES:	
<ul style="list-style-type: none"> • Horse shoe head rest • Multi poise head rest • Frontal sitting attachment • Posterior sitting attachment 	
OPHTHALMOLOGY/ENT ACCESSORIES	
<ul style="list-style-type: none"> • Eye/ ENT Head rest for pediatric /adult(As per requirement) IO to specify 	
UROLOGY ACCESSORIES	
<ul style="list-style-type: none"> • Kidney elevator/ Flex, Reflex • Knee crutches with pads 	

- Liquid basin
 - Accessories trolley
- Any other accessory to be defined by the end-user.**

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Clinical Specialty	OT General Surgery
Generic Name	CEILING OT LIGHT
Clinical Purpose	OT Light is a medical device intended to assist medical personnel during a surgical procedure by illuminating a local area or cavity of the patient
TECHNICAL SPECIFICATIONS	
<p>LED shadow less operation theatre ceiling light, hermetically sealed dust proof.</p> <p>Adjustable light intensity 160000 LUX at 1 meter distance.</p> <p>Satellite combination of 160000 LUX at 1 meter.</p> <p>Color temperature 4000°-5000° Kelvin.</p> <p>Electronic control panel For light field diameter and light adjustment.</p> <p>Color rendition index of 94 or more.</p> <p>LED life 50,000 hours or better.</p> <p>Autoclaveable handles.</p> <p>Operating Voltage 220V, 50Hz.</p>	
<p>Optional:</p> <p>(i) Integrated digital camera system:</p> <ul style="list-style-type: none"> • Resolution: Full HD (1,920 x 1,080 Pixels) • Video outputs: 2x HD-SDI or 1x HDMI/DVI-D • Provision of Video transmission facility • Medical graded LCD/LED 26" minimum along with mountings. <p>(ii) Third arm of 160000 LUX at 1 meter.</p> <p>(iii) UPS for at-least 2 hours battery backup.</p>	

Clinical Specialty	OT General Surgery
Generic Name	MOBILE OPERATION LIGHT
Clinical Purpose	OT Light is a medical device intended to assist medical personnel during a surgical procedure by illuminating a local area or cavity of the patient
TECHNICAL SPECIFICATIONS	
<p>Mobile LED emergency shadow less operation theater light.</p> <p>Hermetically dust proof LED head.</p> <p>Luminance at 1m distance 130,000 lux or above.</p> <p>Color temperature 4000°-5000° degree kelvin or better.</p> <p>Light field diameter between 15 – 30 cm or better (required lux should be available within max. light field area).</p> <p>Color rendering index 94 or more.</p> <p>LED life 50,000 hours or more.</p> <p>Temp. rise in surgical surface <2° C</p> <p>220 V / 50 Hz 1 phase.</p> <p>Built-in rechargeable battery backup for at least 2 hours.</p> <p>Autoclaveable handles.</p>	

Clinical Specialty	OT General Surgery
Generic Name	ELECTROSURGICAL UNIT
Clinical Purpose	Electrosurgical Machine is used to cut, coagulate and desiccate the biological tissues.
TECHNICAL SPECIFICATIONS	
<p>Microprocessor based electrosurgical unit for normal and under water cutting usages.</p> <p>Automatic self-test function.</p> <p>Operation in radio frequency range.</p> <p>Controls for cutting, coagulation, spray and blends.</p> <p>Monopolar cutting power of 300 watts.</p> <p>Bipolar cutting power of 80 watts.</p> <p>Mono polar coagulation power of 100 Watts.</p> <p>Bipolar coagulation power of 50 Watts.</p> <p>Spray coagulation mode.</p> <p>Different gradations of blending of cutting and coagulation power.</p> <p>Digital display of all controls and set values of cutting and coagulation power.</p> <p>Audio and visual alarms.</p> <p>220V, 50 Hz.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Monopolar handle with cord. • Bipolar forceps with cord. • Trolley having anti-static lockable wheels. • Attachment for monopolar coagulation. • Knife electrode. • Surgical electrode, ball-shaped. • Wire loop electrode. • Needle electrode. • Ball electrode. • Bipolar coagulation forceps. • Reusable silicon patient plate. • Double paddle foot switch, explosion proof. • Trolley with lockable antistatic castors. 	

Clinical Specialty	OT General Surgery
Generic Name	ULTRASONIC DISSECTOR SYSTEM
Clinical Purpose	Ultrasonic Dissector System is used in open procedure for soft tissue dissection and vessel occlusion.
TECHNICAL SPECIFICATIONS	
<p>Ultrasonic Dissector System for cutting and coagulation.</p> <p>Generator with LED feedback indicator.</p> <p>Ultrasonic shears with 5mm diameter and 39cm shaft length approx.</p> <p>Active blade of 13-15 mm approx.</p> <p>Active blade vibrations: 47-55.5 KHz.</p> <p>Ability to seal vessel up to 5-8mm.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Laparoscopic Shear 35-45cm long with audio indicator. • Open shear 20-23cm long with audio indicator. • Torque wrench. • User manual. • Foot switch and cable. • Mobile cart. • Sterilization tray. 	

Clinical Specialty	OT General Surgery
Generic Name	DIATHERMY WITH VESSEL SEALING SYSTEM
Clinical Purpose	Diathermy with Vessel Sealing System is used for normal and under water cutting and coagulation in various open and laparoscopic procedures.
TECHNICAL SPECIFICATIONS	
<p>Touch screen/pads generator with 300 Watts or more.</p> <p>Microprocessor based solid state electrosurgical unit for normal and under water cutting with permanent safe sealing of vessel on tissue bundle: 7mm. thermal spread should be minor.</p> <p>RF power for monopolar cutting not below 300 watts.</p> <p>Monopolar coagulation 100 Watt or better.</p> <p>At least 3-4- blend/effect modes</p> <p>Bipolar coagulation</p> <p>Bipolar cutting</p> <p>Spray coagulation</p> <p>220V 50 HZ</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Complete with foot switch, reuse-able patient plate, monopolar handle with cord and surgical needles (knives, ball electrode, loop electrode and needle (Qty: 12). • Bipolar forceps straight. • Bipolar forceps bayonet. • Imported trolley with lockable wheels. 	
<p>Optional: (procuring agency to specify)</p> <p>(i) <u>Reusable/Disposable Laparoscopic Instrument 5mm,</u></p> <ul style="list-style-type: none"> • Standard sealer. • Bipolar sealing system. • Dissect ■ Seal • Autoclaveable at 134°C (273°F) <p>(ii) <u>Reusable/Disposable Open Shear Forceps</u></p> <ul style="list-style-type: none"> • Standard bipolar forceps, CVD. • Bipolar vessel sealing system. • Reusable sealing system. 	

- Autoclaveable at 134°C (273°F).

(iii) **Reusable/Disposable Open Shear bipolar Scissor**

- Standard bipolar-scissors, CVD.
- Autoclaveable at 134°C (273°F).

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Clinical Specialty	OT General Surgery
Generic Name	ULTRASONIC WITH ADVANCED VESSEL SEALING SYSTEM
Clinical Purpose	Sealing, Cutting, Backscoring, Grasping and Dissection
TECHNICAL SPECIFICATIONS	
<p>Ultrasonic and advance bipolar generator for general surgery sealing cutting grasping and dissection</p> <p>Sealing Output:</p> <ul style="list-style-type: none"> • Thermal Spread less than 1mm • Bipolar, no neutral electrode required • 100 VAC RMS maximum • 135 watts maximum 300 - 490 kHz (330 kHz unless otherwise marked in instrument IFU) <p>HS Output:</p> <ul style="list-style-type: none"> • 420 VAC RMS maximum • 0 - 100 watts continuous (unless marked with a duty cycle in the instrument IFU) • 101 - 200 watts 15s On / 15s Off 	
<p>Optional accessories:(according to requirement)</p> <ul style="list-style-type: none"> • Ultrasonic Hand Piece Grey for shears • Ultrasonic Hand piece Blue for shear foot pedal • Ultrasonic Connector • Advance bipolar connector • Generator cart/Trolley • Ultrasonic Lap shear 36 cm • Ultrasonic open shear 23 cm • Ultrasonic open shear 9 cm -18cm • Advance bi polar open shear • Advance bi polar Lap shear 	

Clinical Specialty	OT General Surgery
Generic Name	SOLID STATE ELECTROSURGICAL UNIT WITH ARGON PLASMA SYSTEM
Clinical Purpose	Energy device used for surface coagulation and debulking tumor and mostly introduced through endoscopy.
TECHNICAL SPECIFICATIONS	
<p>Microprocessor based Argon plasma electrosurgical unit for normal and under water cutting usages. Automatic self-test function. Operation in radio frequency range. Controls for cutting, coagulation, spray and blends. Monopolar cutting power of 300 Watts. Bipolar cutting power of 80 Watts. Monopolar coagulation power of 100 Watts. Bipolar coagulation power of 50 Watts. Spray coagulation mode. Different gradations of blending of cutting and coagulation power. Digital display of all controls and set values of cutting and coagulation power. Audio and visual alarms. 220V, 50 Hz.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Argon plasma beam attachment with argon cylinders. • Complete with its handle and electrodes (sizes to be defined by the end-user)/forceps controlled by foot switch. • Reusable Silicon patient plate • Double paddle foot switch, explosion proof. • Monopolar handle with cord. • Bipolar forceps with cord. • Trolley having anti-static lockable wheels. 	

Clinical Specialty	OT General Surgery
Generic Name	BLOOD WARMER
Clinical Purpose	A blood warmer is used in healthcare facilities for warming blood product.
TECHNICAL SPECIFICATIONS	
<p>Microprocessor controlled unit should have facility of reliable transfusion and infusion for intra and post-operative hypothermia.</p> <p>Dry warming system.</p> <p>Online warming with tubing.</p> <p>Pre-selected temperature settings over the range 37°C to 39°C.</p> <p>Indications/ display for different temperatures.</p> <p>Blood warming device with safety cutout at 41-43°C.</p> <p>Visual and audible alarm for low and high temperature</p>	

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Clinical Specialty	OT General Surgery
Generic Name	WARMER BLANKET
Clinical Purpose	Warmer Blanket is used for maintaining the optimum temperature of the patient for optimum recovery.
TECHNICAL SPECIFICATIONS	
<p>Microprocessor controlled patient warming system for prevention of hypothermia.</p> <p>Temperature control range of 32 - 39°C.</p> <p>Individual control of blankets.</p> <p>Set and actual temperature display.</p> <p>Low noise fan.</p> <p>Fully automatic system for wide range of application.</p> <p>Complete system with filters.</p> <p>Automatic stop in case of overheating.</p> <p>Coupling for different type of blankets.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Blankets should be washable, resistant to disinfectant and fluid resistant, replaceable type. The blanket sizes are approximate. • Arm shoulder blanket 170x30 cm. • Torso blanket 45x90 cm. • Leg blanket 45x90 cm. • Recovery blanket 120x200 cm. 	

Clinical Specialty	OT General Surgery
Generic Name	UV LIGHT
Clinical Purpose	This is germicidal lamp for environment, surface and air sterilization.
TECHNICAL SPECIFICATIONS	
<p>Environments disinfect unit; wall mounted / mobile standalone unit.</p> <p>The system should have UV lights or alternate media (plasma) which would be used for destruction of reproduction capacity of microorganism.</p> <p>The UV lights/ media (plasma) should be sealed.</p> <p>In case of UV; the length of UV lamp should be around 700 – 1000 mm with life of 8000 - 10,000hrs.</p>	

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Clinical Specialty	OT General Surgery
Generic Name	AUTOMATIC WATER DISPENSER FOR SCRUB AREA
Clinical Purpose	Clean area for scrubbing of surgeons and nurses.
TECHNICAL SPECIFICATIONS	
<p>Three stations knee operated scrub station. Made of stainless steel. Anti-splash basin. 1/2-siphon. Removable front panel. 3-knee controls, 3-water tapes with a mixing valve. Water pipe hoses for cold and hot water. Stainless steel brackets/ fittings to fix the sink to the wall. Hygienic tap shaving built-in-tap thermostatic mixing valve to supply 42°C hot water. The tap shall also have built-in strainers and the provision for easy and quick thermal disinfection to remove the scaling.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Soap dispenser unit. • Hand washing brush dispenser made of SS 	

Clinical Specialty	OT General Surgery
Generic Name	OPERATING LAPROSCOPE ADULT
Clinical Purpose	Laparoscope is used for the surgical procedure in which fine instruments are inserted through abdominal wall to view the organs in the abdomen or permit small scale surgery.
TECHNICAL SPECIFICATIONS	
<p>Imaging system should have backward and forward compatibility and modularity for futures upgrade and with latest image enhancement modules for better image quality and identifications of the land marks and pathology for better outcomes of the surgery</p> <p>The laparoscope and all allied components of these specifications shall be provided with full HD minimum of 1920 x 1080 pixels with the method of Progressive Scanning.</p> <p>Telescope</p> <ul style="list-style-type: none"> • Diameter 10 mm, 0° working length 290-310 mm. • 10 mm straight, 30° view working length 290-310 mm. • 5 mm straight forward “0” degree. • 5 mm forward oblique “30” degree <p>Camera Full HD</p> <ul style="list-style-type: none"> • Camera control unit and video camera Head, Pal system. • Resolution 1920 x 1080 pixels progressive scan • Integrated (image processing model) • Power supply 100-240 VAC 50 Hz <p>Special Feature Required:</p> <ul style="list-style-type: none"> • Automatic while balance • Powerful video signal processing • Image enhancement modes • Picture in picture mode control via camera head button • Control of peripheral i.e. light source, recording system parameter via camera head button • Still image capturing in full HD quality (JPEG) format via camera head buttons • Video capturing in full HD quality (MPEG 4 format) via camera head buttons • Grid & pointer mode for teaching and training purpose • 20 individual preset or better • 20 patient data backup or better • Should have compatibility with future upgrade like flexible scope, 3 D or better or equivalent. • Max. resolution : 1920 x 1080 pixel, progressive scan <p>Video Output:</p> <ul style="list-style-type: none"> • Composite signal to BNC socket • S-video signal to 4-pin, mini DIN socket (2X) • RGB signal to D-sub socket 	

- DV signal to DV socket (only with DV module)
- SDI signal to BNC socket (only with SDI module) (2X)
- HDTV signal to DVI-D socket

Monitor

Medical graded Full HD LCD/LED 26 inch from the same manufacturer.

Imported Trolley

Light Source

300 watt Xenon / LED with all standard accessories, (The replacements of lamps shall be the responsibility of supplying firm during warranty period)

Light guide cable, diameter 6mm or more, Length minimum 200 to 300 cm

Electronic CO2 insufflator

40-50 liter/min, complete in all respect with all standard accessories.

Clip applicators.

Trocar with trocar sleeve 10mm Approx.

Trocar with trocar sleeve 5mm Approx.

High flow veress needle.

Suction Irrigation System complete in all respects with all standard accessories.

Reducing sleeve.

Integrated / separate medical graded video recorder with storage capacity of 500 GB or more.

Accessories:

- (i) Online 2KVA UPS with 30 min backup to be provided locally.
- (ii) CO2 Cylinder 240CFT with complete accessories (to be supplied locally) certified by respective agency.
- (iii) Imported storage boxes for instruments and optics.
- (iv) Imported disinfection boxes.
- (v) Standard cleaning set as per manufacturer recommendations for cleaning of tubular shafts and other instruments.
- (vi) Diathermy leads Autoclaveable.
- (vii) Bipolar forceps and lead.

LIST OF INSTRUMENTS REQUIRED FOR GENERAL SURGERY

Note: the minor variation in size and type of the instruments would be acceptable.

The size of instruments is approximate. The mentioned shape and style of instruments is for reference and may be quoted their equivalent.

• **Hasson Cone:**

- Trocar size 10/11 mm (with color code) with cannula & multifunction valve, length 10.5 cm, pyramidal tip & conical tip one.
- Trocar size 5/6 mm (with color code) cannula & multifunction valve length 6cm, conical tip & 8.5 cm pyramidal tip.
- Reduction sleeve 11/5 mm (Compatible).
- Veresspneumo peritoneum needle with spring loaded blunt sty let with leur lock 7cm and 13cm.

- Maryland dissecting forceps slightly curved with Cannula pin for unipolar coagulation 5mm, length 30-36 cm, insulated, rotatable.
- Dissecting forceps insulated rotatable needle nose.
- Reddick-Olsen dissecting and grasping Forceps, heavy.
- Dissecting and Grasping forceps, alligator jaws with connector pin for unipolar coagulation, size 5mm. (rotatable, straight)
- Dissecting and Grasping Forceps, (Kelly's) with connector pin for unipolar coagulation, size 5mm. length 30-36 cm length, double action jaw.
- Dissecting and grasping forceps, (Kelly's) with connector pin for unipolar coagulation, size 5mm 36 cm length, double action jaw grasping forceps with teeth with connector pin for unipolar coagulation, size 5mm double action jaw with ratchet.
- Multifunction grasping forceps, 1x2 teeth with connector pin for unipolar coagulation, size 5mm
- Bowel grasping forceps, two rows of traumatic teeth without connector pin for unipolar coagulation, size 5/10mm.
- Bowel Grasping Forceps With connector pin for unipolar coagulation, size 5/10mm.
- Babcock Grasping Forceps rotating, dismantling with connector pin for unipolar coagulation, size 5/10mm. (with ratchet).
- Babcock Grasping Forceps rounded without connector pin for unipolar coagulation, size 5/10mm.
- Claw forceps, single/double/action jaw, with teeth, size 5/10mm, length 33-36, 01short, rotating consisting of metal handle with ratchet, outer tube, insulated, forceps insert.
- Clip applicator (medium large) & medium, rotating, ratchet with clips.
- Tenaculum forceps, rotating, size 5/10 mm, length 33-36 cm, and metal handle with ratchet, outer tube, insulated, and forceps insert.
- Metzenbaum scissors, curved rotating, with connector pin for unipolar coagulation, size 5 mm, length 33-36 cm insulated handle, outer tube, insulated.
- Curved/angled scissors, rotating, size 5mm, length 33-36cm: insulated handle, outer tube, insulated.
- Micro scissor curved 5mm, insulated with diathermy .
- Hook scissor single action jaws, size 5 mm, length 33-36 cm: insulated handle, outer tube, insulated, insert.
- Scissor straight 5mm insulated with diathermy.
- L Shaped dissecting electrode /diathermy size 5mm, insulated, length 33-36 cm (L-hook dissector).
- Coagulating and dissecting electrode, spatula-shaped, blunt with connector pin for unipolar coagulation, size 5 mm, working length 33-36cm.
- (Injection) Aspiration needle 5mm.
- Biopsy forceps insulated (5mm).
- Bipolar diathermy electrode .
- Uterine cannula, with 2 cones, large and small spring-loaded fixation for forceps with luer-lock adaptor for cleaning.
- Uterine tenaculum forceps, length 22cm.
- Suction and coagulation cannula, 3mm, with connector pin for unipolar coagulation, 30cm.
- Dissecting electrode I and J shaped.
- Needle holder 5 mm
- Needle grasper 5 mm
- Thread manipulator 5 mm
- Retractor 10 mm (3 blade)
- Knot pusher

Clinical Specialty	OT General Surgery
Generic Name	ENDOSCOPY VIDEO ASSISTED ANAL FISTULA
Clinical Purpose	Endoscopy video assisted anal fistula is used for the surgical treatment of complex anal fistula and there recurrences.
TECHNICAL SPECIFICATIONS	
<p>8-12 degree rigid telescope or equivalent. Angled eye piece outer diameter 4-5 mm working 14-20cm, working channel 2-3mm.</p> <p>Consisting of:</p> <p>Sterilization tray. Coagulating electrode, 5-7 Fr., unipolar. Biopsy forceps 5-7 Fr. Hook scissors semi flexible 5-7 Fr. Grasping forceps, 5-7 Fr.</p>	

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Clinical Specialty	OT General Surgery
Generic Name	Choledochoscope
Clinical Purpose	Used for retrieving the stones from common bile duct.
TECHNICAL SPECIFICATIONS	
Angle of View:	90 -120
Direction of View:	0
Inner Diameter:	1.2mm or more
Outer Diameter:	2.8mm or better
Deflection of Tip:	270 /270 or better
Working Length:	60cm
Compatible Choledoscope adaptor with existing laparoscopic camera	
<u>Accessories:</u>	
<ul style="list-style-type: none"> • Case for Choledochoscope. • Pressure compensation cap for ventilation during sterilizations. • Leakage tester with bulb and monometer. • Cleaning brush. • Applicator and guide tube for Choledochoscope for use with trocar size 6mm. • grasping forceps • Micro knife pointed opening the hepatic duct and the bile duct size 5mm length 31cm. • Biopsy forceps, 1mm double action jaws length 100cm flexible. • Grasping forceps, 1mm double action jaws length 100cm flexible. • Stone basket sterile, single use length 120cm package of 10. 	

Clinical Specialty	OT General Surgery	
Generic Name	BINOCULAR MAGNIFYING LOUPES	
Clinical Purpose	Use in fine surgery especially surgery on nerves,tendons and small vessels.	
TECHNICAL SPECIFICATIONS		
TYPE A	<p>Binocular alileanloupes with fatigueless view. Magnification: 2.5x – 3.0x Working distance: 550-300 mm. Field of view: 115-70 mm. Titanium or sport frame designed specifically to use with loupes in different colors.</p>	End User to Specify the type required
TYPE B	<p>Binocular prismatic loupes with fatigueless view. Magnification: 4.0x – 4.5x Working distance: 550-400 mm. Field of view: 95-65 mm. Titanium or sport frame or head band system designed. Specifically to use with loupes in different colors.</p>	
TYPE C	<p>Binocular prismatic loupes with fatigueless view. Magnification: 5.5x – 6.0x Working distance: 550-350 mm. Field of view: 60-40 mm. Titanium or sport frame or head band designed Specifically to use with loupes in different colors.</p>	
<p>Accessories:</p> <ul style="list-style-type: none"> • Storage case • Magnification loupes and frame (incase of spectral frame) • Flip paddle • Protective lens cap • Protective shield • Screw driver • Cleaning cloth • Head strap • User Manual 		

Clinical Specialty	OT General Surgery
Generic Name	MODULAR OPERATION THEATRE
Clinical Purpose	Purpose built operation theatre with clean air to minimize the chances of nosocomial infections and hence reducing morbidity and hospital stay of patients.

TECHNICAL SPECIFICATIONS

Wall Paneling System

Material – Galvanized Stainless steel AISI304 with gauge / thickness of metal sheet of min. 0.8 mm or more. The equivalent material of Glass or any other may also be considered, End-user to specify.

Finish – Should be Powder Coated in any Color with antimicrobial protection.

Joints–The wall panels should be fixed on the sub-structure leaving intermediate space between the panel and will be filled with silicon seal/gasket. Resistant to UV, detergents, bactericidal products.

Corners–Wall to wall and wall to ceiling connections should be rounded / coved made of metal sheet powder coated finishing like the wall panels and smoothly integrated with the wall panels.

Services/utilities Outlet Panel– should be provided for the on-wall utility and service outlets.

Sub-Structure Profiles-Floor rails should be made of galvanized steel sheet of appropriate thickness with base height. Fastened with screws and dowels over leveled screed. The sectional supports should be suitable to support the wall panels.

CLEAN ROOM SUSPENDED CEILING SYSTEM

General Description– The clean room suspended ceiling system should be made of specified material having specialized durable powder coating with integrated antimicrobial protection on the face side in specified color.

- **Material**–Ceiling panels should be made of galvanized steel sheet 0.60mm-0.80mm thick,
- **Finish**– The ceiling panels should be powder coated in color having bactericidal properties.
- **Dimension** – 600 x 600mm or 1200 x 600 mm Approx.

PERIPHERAL LIGHTS FOR OPERATING ROOM

- Clean room Luminaries of recessed type for linear fluorescent lamps, should be designed for clean room suspended ceilings
- Dimension: 600 x 1200 mm or 600 x 600 mm Approx.
- Lamp: T5/ LED
- Power: 3 x 54W or equivalent
- Built-in Battery Backup upto 2 hours

X-RAY VIEWER FOR OPERATING ROOM

Recessed/Built-in type, LED X-Ray viewer integrate able with the modular wall system

- No. of Films : 2 or 3
- Effective Life of LED Lights: 30,000 hours
- Flickering less

CLEAN ROOM FLOORING

- Should be static dissipative homogenous vinyl /PVC Flooring of 615mm x 615mm tile size of 2.0 mm thickness sliced from highly compressed solid block of homogenous material.

- The flooring should be electrically resistive.
- Factory molded corners and coved corner.
- Copper taping for grounding.

AUTOMATIC SLIDING DOOR FOR OPERATING ROOMS WITH ELECTRONIC PRIVACY GLASS

- Single wing of thickness 0.8mm or more Stainless Steel AISI304/AISI301 brushed finish or powder coated outer skinfully
- Door acoustically and thermally isolated with highly pressured polyurethane foam
- Stainless Steel long handles from internal and external side of the door wing
- Inspection Window–300 x 1500mm / 400 x 600 mm double glazed (safety glass) with electronic privacy having control button provided near the door accessible from inside of the OT.
- Safety sensor– 2set of photo cells in door frame along with infrared sensor at door drive level on inner and outer side of the door.

MEDICAL CABINET FOR OPERATING ROOM

The construction of the cabinets' body should be self-supporting, welded–without the inside frame sand rivets, entirely made of stainless steel/tempered glass

- The cabinet body should be built-in to the supporting profile integrated with modular wall system.
- The cabinet body and doors should be flushed with wall panel surface. Cabinets' should be sealed with a hermetic removable silicone seal.
- The doors should be made of double steel plates with glazing. Safe Glass, set in double steel sheet window frame
- The shelves with height adjustments, should be made of stainless steel 1mm thick, supported from the bottom by trapeze profile
- **Shelves**– 4-5 adjustable shelves
- **Dimension:** As Per Required size

CEILING MOUNTED ANESTHESIA PENDANT

Ceiling mounted Anesthesia Pendant system should be powder coated, Hygienically smooth surface, impact and disinfectant resistant.

Shelves – 3 or 4Pcs

Drawer – 1 or 2 Pcs

No. of Arms: 2

Length of first arm: 1000mm

Length of second arm: 800mm

Max. Degree of rotation at each arm: 300° or better

Max. Loading capacity: 200Kg or better

Braking system: Electromagnetic / Electric / pneumatic brakes to control horizontal movement.

Electrical Sockets British Standard – 16 to 20 Pcs

LAN Data ports RJ45 for PC – 1 Pc

Telephone Outlets RJ11 – 1Pc

Oxygen Outlet: 2Pcs

Medical Air 4 Bar: 2Pcs

Vacuum Outlet: 2Pcs

Nitrous Oxide Outlet: 2Pcs

AGSS Outlet: 1Pc

I.V Pole – 1 Pc

Basket for accessories

CEILING MOUNTED SURGICAL PENDANT

Ceiling mounted Surgical Pendant system should be powder coated, hygienically smooth surface, impact and disinfectant resistant

Shelves – 3 or 4Pcs

Drawer – 1 or 2 Pcs

No. of Arms: 2

Length of first arm: 1000mm

Length of second arm:800mm

Max. degree of rotation at each arm: 300° or better

Max. loading capacity:200Kg or better

Braking system: Electromagnetic/electric/pneumatic brakes to control horizontal movement.

Electrical Sockets British Standard – 16 to 20 Pcs

LAN Data ports RJ45 for PC – 1 Pc

Telephone Outlets RJ11 – 1Pc

Oxygen Outlet: 2Pcs

Medical Air 4 Bar: 2Pcs

Vacuum Outlet: 2 Pcs

I.V Pole – 1 Pc

Basket for accessories

DOUBLE DOME LED OPERATING LIGHT WITH HD CAMERA

Refer to the Ceiling light specifications as defined in O.T/Surgery PVMS.

LAMINAR AIR FLOW CEILING SYSTEM

Laminar flow ceiling system should be round/rectangular base form to produce a germ-and particle lean area through unidirectional homogeneous, low turbulence laminar air flow.

All components for the receptacle of the filter element should be made of corrosion-proof materials. Air tight welded filter intake made of aluminum

TECHNICAL DATA (All numerical values are approximate)

Total Air Flow: 6360 m³/h

Air Velocity:0.25m/s

Avg. illumination: 500 lux

Filter Class to EN1822: H14|99.998%

Initial Pressure drop: 115 Pa

Final Pressure drop (Recommended): 240 Pa

Size: 2800 x 2800 mm or Diameter: 3000mm According to Standard

Positive pressure should be maintain inside the OT to prevent contamination of air from outside OT

OR As per drawing/actual requirement of the hospital.

HYGIENIC AIR HANDLING UNIT

- Local provision for the theaters (If already not installed HVAC System)
- Fan Type : Plug-fan
- Filter: At least two stage filtration G4 and F9
- Fan efficiency :70% or batter
- Temperature range adjustable for heating and cooling

OR As per drawing/actual requirement of the hospital.

APPROVED PVMS

Clinical Specialty	OT General Surgery
Generic Name	OPERATING HEAD LIGHT XENON/LED WITH LIGHT SOURCE
Clinical Purpose	Operating theatre light for emergency and elective surgery.
TECHNICAL SPECIFICATIONS	
LED/Xenon Head Light Sources (end-user to specify)	
Head band carrying Battery with fiber connection to the light with rechargeable battery and charger	

APPROVED PVMS

Clinical Specialty	OT General Surgery
Generic Name	MOBILE AIR PURIFICATION SYSTEM
Clinical Purpose	Mobile air purification system is used to remove contaminants from the air in a room / theater / ICU etc.
TECHNICAL SPECIFICATIONS	
<p>Air purification system for the removal of bacteria, viruses, mould spores and gases from indoor areas of hospitals, operation theatre/ICU and Wards.</p> <p>Gas absorber for the removal of gases and ozone.</p> <p>With filter less technology / In case of filter it should be ULPA filter with five years free replacement of filter.</p> <p>Cleaning capacity maximum 430-450 m³/h or 200-230 m³/h (End user to specify).</p> <p>Minimum particle removal size less than 0.003 – 0.001 um.</p> <p>Cleaning efficiency 90-95 %.</p> <p>Automatic cleaning of the system.</p> <p>Sound level 42 dB or less.</p>	

Clinical Specialty	OT General Surgery
Generic Name	HAND HELD DOPPLER
Clinical Purpose	Hand Held Doppler is used for the assessment of peripheral vessels
Vascular Probes 4, 5 and 8. MHz	
Main unit should have LCD Display of waveform and numerical data	

APPROVED PVMS

Clinical Specialty	O.T General Surgery
Generic Name	SIMULATORS
Clinical Purpose	Simulators provide teaching aid and are used in skill lab of any teaching hospital.
TECHNICAL SPECIFICATIONS	
Laparoscopic training simulator	
Note:	
The generalized specifications of Simulators to be prepared by the end-user. The end-user shall certify the generalization of specifications and get it approved from the concerned committee and competent authority before the process of procurement.	

APPROVED PVMS

Clinical Specialty	O.T General Surgery
Generic Name	SIGMOIDOSCOPE / ANOSCOPE (REUSEABLE)
Clinical Purpose	Sigmoidoscope is used for diagnostic and therapeutic in rectum and sigmoid colon.
TECHNICAL SPECIFICATIONS	
It should have light source, opturator and insufflation system.	

APPROVED PVMS

Clinical Specialty	OT General Surgery
Generic Name	Video Colonoscope
Clinical Purpose	Colonoscopes are used for the removal of foreign bodies, excision of tumors or colorectal polyps (polypectomy), and control of hemorrhage
<p>HD Video Colonoscope with Video Processing System</p> <p>Working channel diameter: 3.2 mm or more</p> <p>Sheath diameter: 13.0 mm or less</p> <p>Working length: 1400 mm or more</p> <p>Deflection up/down: 180°/180° or better</p> <p>Deflection left/right 160°/160 or better</p> <p><u>Following accessories are included:</u></p> <ul style="list-style-type: none"> Case for colonoscope Pressure compensation cap Suction valve Air/water valve Leakage tester Cap (package of 10) Tube, for suction/biopsy channel Irrigation tube, for suction/irrigation Biopsy forceps, for single use package of 10 Cleaning brush, for single use package of 10 Valve brush, for video endoscopes <p><u>HD Camera System</u></p> <p>Camera Control Unit, max. resolution 1920 x 1080 Pixel, progressive scan with inbuilt HD Video Recording and snap shooting power supply 100 - 240 VAC, 50/60 Hz</p> <p><u>Special Feature or Equivalent</u></p> <ul style="list-style-type: none"> Video endoscope Adapter DVI- Connecting Cable Keyboard <p>Complete with all standard accessories.</p> <p>Cold Light Fountain XENON/LED Light Source with integrated including an insufflation pump ,</p> <p>Power</p>	

supply 100 - 240 VAC, 50/60 Hz,

Consisting of:

Water Bottle

Irrigation Bottle Holder

Irrigation Adaptor, for water bottle System

Compatible 26'' HD Monitor resolution 1920 x 1080 with complete accessories from the same manufacturer.

Suction Pump set integrated / standalone, power supply: 230 VAC, 50/60 Hz

Consisting of:

Bakterial filter

Suction bottle,

Bottle cap with handle

connecting tube, short

Patient tube

APPROVED PVMS

Clinical Specialty	O.T General Surgery
Generic Name	Video Gastroscopy
Clinical Purpose	A flexible, lighted instrument that is put through the mouth and esophagus to view the stomach. Tissue from the stomach can be removed through a 'gastroscope
TECHNICAL SPECIFICATIONS	
<p>Working channel: 2.8 mm Diameter: 9.8 mm Working length: 1000 mm or more Bending section: Up: 210° Down: 90° Left/Right: 100°/100°</p> <p>Following Accessories are included:</p> <p>1x Transport Case 1x ETO Cap 1 x Suction valve 1 x Air-Water Valve 1x Leakage tester 1x Caps for biopsy channel (10 pcs.) 1x Irrigation tube 1x Y irrigation tube 1x Bite protector (single-use / reusable) end user to specify 1x Biopsy forceps (single-use / reusable) end user to specify 1x Cleaning brush (single-use / reusable) end user to specify 1x Valve brush for video endoscopes</p> <p><u>Electro Video Endoscopy System</u></p> <p>Camera Control Unit, max. resolution 1920 x 1080 Pixel, with integrated or separate Image / video recorder power supply 100 - 240 VAC, 50/60 Hz</p> <p><u>Special features:</u></p>	

- High definition HD, max. resolution 1 080p
- Full screen image WIDE VISION
- Picture in picture mode
- Individual contrast and brightness adjustment in 3 levels
- Automatic control of light intensity
- White balance with save function
- Digital Zoom Function
- USB port on front panel for storing images
- USB port for storing images and for compatible printers
- Wide range of possible connections (DVI , HD-SDI, RGB, S-Video, Composite)

Consisting of:

Cold light fountain XENON 100 to 300 Watt

Mains cord

Water bottle

Bottle holder

Rinsing connector for water bottle

Complete with all standard accessories.

26" HD Monitor, from the same manufacture with complete accessories in all aspects.
Equipment cart,