Department Of Orthopedic

Sr.No	Item Name	Specification	Qty	Suggested Manufacturers Name	Approx. Unit Cost (Rs.)	Usage
1	**Bone cement gun:**	Cartridge Type, Clear Cartridge-disposable Blade, Two-speed injection gun, large selection of nozzles, Up to 3 batch capacity for any application	**02**	***Harish Medical** ***Cement Vacum**	**70000-75000/-**	Used during operation of total Hip replacement for putting bone cement in the femur bone with precision.
2	**Colour Display Finger Tip Oxymeter**	Accurately measures SPO2 vale, Pulse Rate, Pefusion Index & Plethysmogram . Audio & Visual Alarm Dual-color OLED display of SPO2 and Pulse Rate Auto power on/off, Four direction display, Low battery indication, CE & FDA Certified	**04**	***Dr.Morepen** ***Equinox** ***Hicks**	**1500-2500/-**	Used for checking the oxygen saturation on blood during various operations.
3	**Plaster Room Equipments**	**1 Set innclued** a. Plaster cutter (Electric) De Soutters type Swing the highest number: More than 12, 000 times per min. Maximum swing range:More than 5 degree. Input Current:220Vac,50Hz. Machinable plaster and polymer materials. Hex drive provides 6 blade rotations extending blade life by 50% Overview:	**04**	***Striker** ***Uma Surgicals** ***Shushrut Surgicals** ***National Surgicals**	**80000/-**	Helpful to remove the plaster applied to patients for various type of injuries. Removal of plasters from patients body will become easy & comfortable to the patient by using this machine.

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<td>Work will not cause any damage on the human body,is currently used in hospitals and polymer cutting plaster bandage ideal surgical tool.

G.Weight of electric plaster saw:1.14KGS
Total G.Weight:3.54KGS
Dimension:360*240*120mm
Packaging:Aluminium Alloy
Light Weight And Portable
Easy To Operate
Virtually No Maintenance Required.
Negligible Power Consumption.
100% Convenient
<table>
<tr><td colspan="2">TECHNICAL DATA</td></tr>
<tr><td>Body</td><td>Fully Stainless Steel</td></tr>
<tr><td>Maximum Height</td><td>16 Inches</td></tr>
<tr><td>Outer Diameter</td><td>17 Inches.</td></tr>
<tr><td>Weight</td><td>9 Kgs (Appr.)</td></tr>
<tr><td>Electric Supply</td><td>230 50Hz. Single Phase A.C.</td></tr>
<tr><td>Connected Load</td><td>90 Watts</td></tr>
<tr><td>Power Consumption</td><td>0.150Kws / Hr.</td></tr>
<tr><td>Atomizing Cap.</td><td>30 – 35 ml / min</td></tr>
<tr><td>b. Plaster spreader</td><td>Heavy Duty</td></tr>
<tr><td>c. Plaster cutting scissors</td><td>Heavy Duty</td></tr>
<tr><td>d. Plaster Shear</td><td>Heavy Duty</td></tr>
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<td>4</td>
<td>OT Light Shadowless Cold light LED lamp,</td>
<td>1 set includes :
1. No of dome- Double Dome
a. Major Dome- 1,60,000 Lux at 1 m
b. Satellite Dome- 90,000 lux at 1 m
2 Single bulb Technology with switch over to reserve bulb</td>
<td>02</td>
<td>*Dr.Mac

*Phillips</td>
<td>340000/-</td>
<td>Helpful for providing proper illumination of the operative area during various surgeries.</td>
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	ceiling mounted compatible with laminar air flow, double dome.	automatically when main bulb fails (operating bulb should be in center). 3. Colour Temperature should be 4200 K 4. Colour Rendering Index should be min 93 5. Light field Diameter a. Major Dome- 155 mm to 270mm b. Satellite Dome- 130 mm to 205mm 6. Depth of Illumination (L1 + L2) should be minimum 1350mm 7.irradiance / illumination itensity should be min 3,5mW/m²lx. 8. working column with homogeneous light distribution should be min 700mm 9. Switch on intensity should be 71% of max intensity automatically 10. average life cycle of illuminant should be min 1000 hrs 11. Parabolic reflector with min 3000 facets 12. Light should have completely shadow less 13. Possibility to field upgrade to wall control panel in future 14. Integration of the surgical light to central OR control systems possible via RS232 port. 15. Designed according to relevant safety standards EN 60601-1, EN 60601-1-2, EN 60601-2-41		***Surgident** ***Polaris**		LED lamps are less power consuming and also don't heat up with use. All modern OT have these lights.
5	**Drill and Saw Set Pneumatic Power Drill**	1 set includes : (A) Hand piece having - -Jacobs chuck -Quick coupling chuck -Chuck for K wire	**02**	***AO Synthes** ***Striker**	**15-18 Lacs**	Helpful for various bone operations like making Holes for putting screws, putting wires, cleaning the inside of the bone for putting metal rods, cutting the bone. This is an absolute requirements

		(B) Reamer attachment (C) Oscillating saw attachment with assortment of blades. *As per AO/ASIF specifications* C) Hand piece (fully cannulated 3.2mm diameter) having - Separate forward and reverse triggers. - Variable speed from 0-800 RPM - Safety device to cut off air supply to drill on handpiece. - Should be capable of accommodating the radiolucent drive. - Fully autoclavable. - All attachments can be fitted on single handpiece The reverse trigger should automatically lock when the oscillating saw and the reduction drive attachments are attached to the handpiece. - Air consumption upto 333 L/min. - Operating pressure upto 7 bars. - Weight of handpieceupto 1 kg. - Handpiece must be compatible to oscillating drill attachment. - With nitrogen / compressed air regulator.				for many orthopedic operations.

		- Handpiece drill torque forward 30 in LBS. - Drill torque reverse 20 in LBS. - Reaming speed forward 250 RPM - Ream torque 100 in LBS. (D) Should have following attachment :- 1. Jacob's chuck attachment. - Chuck capacity upto 6mm for round shaft, and triangular shafts up to 6.35 mm. - Cannulation of 3.2 mm diameter. - Maximum speed of 900 rpm - Torque of 4 Nm. 2. Reduction Drive for intramedullary / acetabular reaming. 3. Quick coupling for K-wire. - Continuous adjustment facility for wire diameter from 0.6 to 3.2 mm. - Speed upto 750 rpm. 4. Oscillating Saw Attachment. - Weight less than 900 gms. - Should allow settings of oscillating angles from 2.5 to 5.0				

		degrees without interrupting sawing. - Oscillating frequency up to 12,500 oscillations/min. - With saw blades for osteotomy (1 each) — 70 to 91 mm Total length, 50 to 71 mm. Usable length, 14 to 27 mm width and 0.4 to 1.0 mm thickness. - With saw blades for knee surgery (1 each) 95mm length, 19 to 25mm width and 0.9 to 1.4mm thickness. 5. Flexble Reamer Shaft 8mm (Dia) Fixed Head. Flexble Reamer Shaft For Detachable Heads Up To 12 mm. Reamer Heads, From 8.5mm To 15.00mm (Set Of 8) Flexble Reamer Shaft StdLengh 440 mm- 540mm 6.Quick coupling for dynamic hip / compression screw triple reamer : - Cannulation of 3.2mm. - Can accommodate a triple reamer 7.Quick coupling for drilling and tapping attachment : - Should have maximum speed of 900 rpm. 8. Double Air Hose :-				

		- Length at least 15 feet.				
6	**Laminar Air Flow System**	Average air flow velocity 90(#10) FPM (0.45 m/s) 6" Below the filter. Sound level not exceeding 65 dBA 30" (76.2o cm) with avg. air flow of 90 FPM. Vibration level not more than 0.09 MILS. 3 Stage filtration pre-filter true HEPA, activated carbon &Ioniser. HEPA with DOP testing in accordance with les-rp-cc-011-86 standards. HEPA filter of 6"/ 72 pleats with 99.9% efficiency in removal of particles 0.3 micron and larger. Leak proof. Filter media of micro glass fibre with poly string separators internally sealed. Face guard is epoxy coated. Direct driven fan motor with sealed double bearing. Dual speed with thermal overload protection. Capable of delivery 700 cfm(0.329 m3/s) of air filter pressure drop from 0.35 0.90" WG. Prolonged washable pre-filters arresting 90% of particles 5 micron. Centrifugal blower regulated by dampers/electronic speed control. Average work zone velocity 0.4/0.5m/sec. Active carbon filter. Double blower system. Special composite material housing to reduce noise, corrosion and vibration. Sealed gasket. Stainless steel diffuser plate. Differential pressure manometer. Provision to take in 5% of fresh air. O.T. is pressurized with clean fresh air thus outside air does	**02**	***Striker** ***Karl Storz** **(Custom Installation)**	**10-12 Lacs**	Used to provide clean and bacteria free air in operation theatre so that patients wounds don't get contaminated by bacteria in the operation room air. Very important for Hip & knee replacement surgeries.

		not enter the OT. Return air is taken from the lowermost part of the OT thus providing complete coverage of OT, staff, trolley, table etc. It is independent of air cooling system which prevents moisture deposited on the H.E.P.A. filter (HE.P.A gets destroyed very fast because of moisture).				
7	**C-Arm Image Intensifier 9”**	1 set includes : C-ARM 9” with IITV System Mobile C arm image intensifier television systems for applications in orthopeadics and general surgery State of the art system with high frequency X-ray generator, 9” image intensifier system and suitable CCD camera. High frequency generator with atleast 2.4 KW output. Fluoroscopy kV atleast 110 kV and atleast 6 mA for better contrast. Possibility for doing fluoroscopy in high contrast mode (7 mA at lower kV). Radiography from 40 kV to 100 kV and mAsupto 200 mAs. Radiography mA atleast 60 mA. Cassette exposure on 8x 10 cassette. Suitable cassette holder to be provided. It shall be possible to fix the cassette holder on the image intensifier. Dual focus X-ray tube with small focal spot not larger than 0.6 mm. Fluoroscopy release from footswitch. System shall operate in automatic dose rate mode. However it shall be possible to switch to manual adjustment of fluoroscopy parameters also. Radiography exposure release from two step exposure switch with extendable cord. Image intensifier system with atleast 9 inch input field and one zoom. The zoom shall be selectable from the control panel. The Image Intensifier shall be fitted with suitable grid on the input face. CCD camera with live image rotation facility and possibility of last image hold and atleast 4 frame image storage. . Two medical grade monitors, atleast 17” screen diagonals,	**02**	***Adonis** ***Allerger** ***Meditronics**	**10 Lacs**	Provides live X-Ray images of bones during various orthopedic operations. With this device many operations can be performed through small incidents which would otherwise require very long incisions.

		shall be provided on a separate monitor trolley. The monitor shall have provision to mount additional accessories like video recorder. . X-ray collimator with iris collimation with automatic switchover to full field for cassette exposures. . C arm movements – horizontal movement 200 mm, orbital movement atleast 115□, angulation atleast□ 190□, swivel range atleast□ 12.5□ and motorised vertical movement of atleast 400 mm. Lateral movement if the entire machine should be possible using steering handle. System braking on rear wheels with foot-operated lock. . The system shall be powered from a normal 15A earthed mains socket. . The equipment should be approved by AERB for the quoted output parameters and the entire equipment should have CE or some other international certification. Electro – Hydraulic Operating Table with Remote Control Electro-Hydraulic Surgical Operating Table with Radio-Translucence Top suited for use with 'C' Arm Image Intensifier for all types of surgery. Built-in Sliding Table Top mechanism to facilitate the Image Intensifier greatly. Operating positions including Trendelenberg, Reverse Trendelenberg, Lateral Tilt, Height Adjustment, Back Section Adjustment, Table Top Sliding should be controlled by Portable Hand Control Switch with feather touch symbolic. Working with the help of electric circuit. Table should have built-in Battery Backup. Should be provided with Override Functions i.e. all the Operating Positions should be achieved manually with the help of Hydraulic Pump pedal mounted on the base (positions should be selected through Hand Set). Motor with Built-in Hydraulic system and miniature solenoid valve. Head section & leg section should be				

		manually operated by mean of ratchet system. Built-in Kidney-Bridge (manually gear operated). TECHNICAL DATA : The OT Table should Length : 1900 mm min. ± 10 mm Width : 510 mm min. ± 10 mm Trendelenberg& Reverse Trendelenberg : 25° each min. Lateral Tilt : 20° both side min. Minimum Height : 750 mm min. Maximum Height : 970 mm min. Leg Section Drop : 90° min. Back Section Up : 80° Back Section Down : 20° min. Head Rest Up &Down : 40° Up / 80° Down min. Longitudinal Slide : 300 mm min. **STANDARD ACCESSORIES :** L-shaped AnaestheticFrame : One Pc. Shoulder Supports with Pad : One Pair Armboard with S.S. Top : Two Pcs. Lateral Supports with Pad : One Pair Knee Crutches Goepel Type : One Pair Wrist Strap : One Pair Water Proof Rubber Mattress : One Set **ORTHOPAEDIC ACCESSORIES** : Orthopaedic Leg Traction Attachment with screw controlled foot traction apparatus, Foot Plates, Perineal Post and Sacral Rest. Made of STAINLESS STEEL and mounted on wheels for easy manoeuvrability. Hand Traction Device with screw controlled traction apparatus. Made of Stainless Steel. Spinal Frame. Poplital Support.				

		Radio Translucent Top Hand Operating Table with telescopic support. Hip Nailing Support (Inner thigh rest with pad). Tibia Support (L-shaped knee rest with pad). Adjustable Arm Support with cushion for Lateral position. Steinmein Pin. SPINAL SURGERY : Spinal Bridge The Equipment should be ISO 13485 Certified The Equipment should be CE Marked				
8	**Arthroscope auto-clavable instrument**	<table><tr><th>No</th><th>DIRECT VIEW, ARTHROSCOPE AUTOCLAVABLE</th></tr><tr><td>1.</td><td>Arthroscope: • 4.0 mm - 30°, 70° (two) • 2.9 mm - 0°, 30°, 70° (three)</td></tr><tr><td>2.</td><td>Cannula for arthroscope: • operative cannula with blunt trocar and obturator for 4 mm arthroscope and 2.9mm 1 each</td></tr><tr><td>3.</td><td>Hand Instruments for knee arthroscopy: Hook Probe calibrated 2 3.4 mm grasping forceps with ratchet / without rachet 1 each 3.4 mm straight big bite punch forceps / without rachet 1 each 3.4 mm 30° left big bite punch forceps 2 3.4 mm 30° right big bite punch forceps 2 3.4 mm 15° up bit punch forceps 2 3.4 mm hook scissors 2 Cigar punch 2 3.4mm 45 deg. Left right punch forcep 1 each</td></tr><tr><td>4.</td><td>Hand instruments for shoulder arthroscopy: Hook Probe calibrated. 2 3.4 mm grasping forceps with ratchet / without rachet 1 each 3.4 mm straight big bite punch forceps / without rachet 1 each 3.4 mm 45° left big bite punch forceps 1 each 3.4 mm 70° right big bite punch forceps 1 each 3.4 mm 15° up bit punch forceps 1 each 3.4 mm hook scissors 1 each Graspers 1 each</td></tr><tr><td>5.</td><td>Hand instruments for arthroscopy of small joints: Hook Probe calibrated. 1 each</td></tr></table>	**01**	***Striker USA** ***Karl Storz**	**23 Lacs**	Used for key Hole surgeries on joints. Involved putting about 10mm diameter tube with a camera in the joint and operation on the join is done through 2 or 3 small holes visualizing the joint on a television monitor. This avoids opening the whole joint and so rehabilitation is much faster.

				2.75 mm grasping forceps with ratchet / without rachet 2.75 mm straight big bite punch forceps / without rachet 2.75 mm 30° left big bite punch forceps 2.75 mm 30° right big bite punch forceps 2.75 mm 15° up bit punch forceps 2.75 mm hook scissors Graspers				
			6.	Camera 1. Three-chip Camera with Head Progressive scan technology camera with optimum image quality and good resolution. Hi definition Video -1280-1024 natvie resolution should have thumb control for brightness / 200m / contrast. Multi specialty setting user selectable specialty settings which customize video outputs for the needs of all surgeries. With automatic focus. Technical Details: 1. Imaging system – 1/3" Progressive scan. 2. Resolution 1100 lines minimum. 3. Signal noise ratio – 70db or cm. 4. Minimum illumination - < 0.8 lux. 5. Auto shutter – 1/60 – 1/50,000. 6. Grain – 5 levels 0-20 db. 7. Engance – 16 – levels. 8. Zoom-digital. 9. Electronic shutter adjustment. 10. Flexible scope filter. 11. Auto brightness control technology. 12. 8 function programmable head. 13. Video outputs – Composite, SVHS, DVI, RGB.(HD) 14. Connector – Super limo gold pin connector.				
			7.	300 watts Xenon light source Xenon light source with auto light adjustment, single handed cable insertion, the bulb should have a life time of 500 hours and provide 6 extra bulbs Light source with standby mode and auto shutter switch, should have the manual intensity control. The light source should be compatible with any light cable make. Cable				
			8.	LCD Monitor 19" panel - 1 Screen size 19". Native resolution 1280*-1024 Pixel pitch 0.294 Contrast ratio > 600:1 Brightness 350. Viewing angle (U/D/L/R) less than from above/below/left and right.				

				Input S – video/C/VGA/DVI. Fast response time. Serial port USB : Full serial port protocol embedded USB port. Power 90-240 Vac, 15Vde				
			9.	Digital capturing device Digital capturing device with a USB connection to allow high speed data transfer to a variety of media types (USB hard drive, Media card reader. USB hard drive, Media card reader, USB Flash card). The Machine should have a software package to origanize photographs and videos. Print option from the machine should be available. Machine too should the capability to annotate images and videos. The machine should be able to burn images and videos to CD and DVD, DVD+R, DVD+RW. Images should be printable on 8 ½ x 11 paper size. Should automatically print 1,2,4,,12 or 18 images per page. Patient and surgical data should be directly taken in a print out. Video files MPEG1, MPEG2, MPEG4. Should have the capacity to write MPEG files in a data or video format. Should accommodate separate audio files.				
			10.	Shaver system Console 220 V, electrically operated (digitally controlled circuit speed control (adjustable speed). Foot switch – Bi-directional control speed control Forward, Reverse and Oscillation modes. Shaver hand piece with total suction control. A0a) weight( ) b)bb) compatible with heads Detachable hand switch – autoclavable and telescopic. Synovial resector.(hand piece instrument) Full radius cutter. (hand piece instrument) Bone cutter. (hand piece instrument) Burr. (hand piece instrument)				
			11.	Endoscopy Radiofrequency Ablation System Radio Frequency Ablation Generator Console – 1 No. Features: Bipolar ablation system, hand controlled ablation probes with multiple button functions and should allow operating cut and coagulation as well as changing the power settings on the system. with both suction and non-suction probes. with footswitch option. Technical details Generator: 1. Waveform – frequency of the signal – 461 kHz. 2. Dimensions 31 x 38 x 10.5 cm.				

				3. Maximum cut output – 225 watts. 4. Maximum coagulation output – 40 watts. 5. Operation temperature range – 10 deg C to 40 deg C. 6. Operating range – 200-240 VAC @ 50 Hz.				
			12.	Radio frequency energy probes For Knee Arthroscopy: 1. Probes for Menisectomy – 90° 2. Probes for posterior menisectomy 50 degrees. 3. Probes for Articular Cartilage Debridement Ablation. 4. Probes for soft tissue deibridement – ablation. For Shoulder Arthroscopy: 1. Subacromial decompression 90° ablation 2. Capsular release ablation probes For Small Joints: 1. Ablators for small joints – 45° 2. Ablators for small joints – 90° 3. Ball electrode Features Probes should be designed with a rigid shaft in order to prevent unwanted bending during use, non suction probes should be bent up to 45 deg. with a probe bender. Each probe should be designed with integrated cable allowing for easy case preparation and clean up. All probes should be equipped with a memory chip that contains specific optimized settings for each probe. **ACL Instruments:** Tibial drill guide Spine (C guide). a) Elbow airway b) Tibial drill guide bold. Tibial drill guide double point forked arm. 7 mm Femoral aimer. 7 mm Femoral fluted reamer. 8 mm Femoral fluted reamer. 9 mm Femoral fluted reamer. 10 mm Femoral fluted reamer. 11 mm Femoral fluted reamer. 8 mm Tibial Cortex Reamer 9 mm Tibial Cortex Reamer 10 mm Tibial Cortex Reamer 11 mm Tibial Cortex Reamer **Tunnel Notcher**: mm femoral eye loop guide pin 18” pack of 6 2.4 mm Tibial guide pin 9” pack of 6 1.5 mm x 3.5 mm Hex driver with 1.5 mm cannulation a) small joints				

		b) large joints. **Shoulder Instruments:** Sabilihook, leff / right 1each Cuff hook, left / right 1each Stich blade suture cutter / manipulator Crochet hook Knot pusher Rasp 20' up / down 1each Tissue Liberator Blade up / down 1each Soft Tissue Grasper 4 mm wissinger rod small 5 mm wissinger rod large Wissinger rod handles 4 mm switching stick small 5 mm switching stick large				
09	**Electronic Pneumatic Tourniquet**	Should have option for bier's block bilateral procedures. Cuff Pressure Range: 10 To 450 Mm Hg. Online Setting: Increase And Decrease In Pressure Settings. Timer: Range From 9 Hours To 59 Minutes. Internal Least Count: Timer 1 Minute / Internal 1/1000 Second. Alarm: Audible On Timer Equaling Set Value. Memory Function: Pressure Set In Earlier Session Is Stored And Displayed When The Machine Is Switched On Again. Back Up: 3 Hours Battery Backup (In Case Of Full Charge). Switchover: Automatic Switchover From Offline To Online (Vise Versa). Power: 230v (Ac) / 50 Hz +_ 10%. Stabilizer : Inbuilt. Digital Display: Digital Display Of Set Pressure, Actual Pressure, Time Elapsed & Set Time. Silicon Autoclavable Cuff: Different Sizes Of 5 Cuffs - Washable & Easy Fitting (Paediatric, Small, Medium, Big & Large). Dimensions: 222.25mm (I) X 139.7mm (W) X 101.6mm	**02**	***Zimmer** ***Meditronics**	**3.5 Lacs** **2 Lacs**	Used to stop blood flow to a limb by compressing the blood vessels above the operative area. Provides a blood less clear field to the surgeon during operation. Reduces blood loss during surgery.

		(H) Weight : 3.9 Kg Rechargeable battery operated system. Charger to be provided if integrated charger not there.				
10	**Electric Drill**	Electric Driving Unit Includes Motor 220volts /5amp, Stand, Foot Controlfor On/Off And Speed, Flexible Shaftlength 2m, Wt. 1000 GmsApprox,Autoclavable Tool Kit, Oil Bottle & Special Container. With 5.5mm Cannulated Drill Handpiece Max. Speed 1200 Rpm & With Fixed S.S. Chuck (0-1/4"), Wt. 800 GmsApprox, Autoclavable. Straight Saggital Saw (Set Of Five Blades) Reaming Handpiece With Max. Speed 400 Rpm Cannulated5.5mm , &Ao Type Quick Coupling,Wt. 750 Gms Approx,Autoclavable And Jocobs Chuck Adaptable To Hand Peace Flexble Reamer Shaft 8mm (Dia) Fixed Head Flexble Reamer Shaft For Detachable Heads Up To 12 mm Reamer Heads, From 8.5mm To 15.00mm (Set Of 8) Flexble Reamer Shaft StdLengh 440 mm- 540mm	**04**	***Synthes** ***Mun Mun**	**14 Lacs** **1 Lacs**	This is also used for operations on bone like making Holes putting screws, cutting the bone. A pneumatic drill is a far more superior option for these purposes. Electric drill is a cost effective option and can be used if the pneumatic drill is not available. Reamers given with this drill are used to create space within the bone for putting metal rods.