

DEPARTMENT OF ENT
AYUB TEACHING HOSPITAL
ABBOTTABAD.

No _____/PA/ENT

Dated ____/____/2017

To

The Electromedical Engineer
 Ayub Teaching Hospital
 Abbottabad.

Subject: SPECIFICATION OF ENT BIOMEDICAL MACHINES/INSTRUMENTS.

Following are the specifications of Biomedical Machines and other related instruments of ENT Department:

S. #	Name of Items	Specification	qty
1)	ENT Head Lights (Rechargeable)	a. Power of light 5wLED or more b. Working time 8 to 10 hours or more. c. Adoptable voltage 100 to 240 V, 50 to 60 Hz. d. Life of light 50000 hours or more e. Brightness 55000 LUX @250mm color or more temperature, 6000 kelwin. f. Light weight	4
	ENT Head Lights (Fiber optic)	a. High Brightness & Definition b. Light spot size adjustable at 42 cm working distance c. Light weight d. high quality fibrotic cable. e. Lamp power xenon bulb 250 wX1 f. Voltage AC 95 V to 240 V; 50 to 60 Hz g. Brightness5800000 Ix or more h. Life of lamp 500 to 1000 Hrs or more i. Connection ports different	4
2)	Flexible Nasophayngoscope	a. Flexible length 30-40cm b. Overall length 50-60cm c. Shaft diameter 3.5 mm or less d. Articulation range 180 degree up 135 degree down e. Objective lens fixed focus f. Depth of field 5mm to 50mm g. Focus range +4 to _8 diopters h. Magnification power 30X or more i. Field of view 70 degree or more j. With biopsy & suction channel.	1
3)	ENT Treatment Unit	a. Spraying Device with a built in automatic micro switch & spray directly coupling with compressor motor for Nasal Spray & Laryngeal Spray. b. Suction device is operated by an automatic switch system c. Examination Lamp & arm set to be assembled on the post pole d. Instrument Tray which can pull out for checking inside of unit e. Can with cap for Swap & Medicine f. Waste container for instrument & waste material g. Medicine bottle h. Mirror Warmer	2

		<ul style="list-style-type: none"> i. Endoscope light source j. Head light with adjustable head hand (halogen) with suitable fiberoptic cable k. Doctor's Chair Hydraulic l. X-Ray view m. Head Mirror n. Tray 2 o. Endoscope Tray p. Monitor Medical Grade q. OPD Instruments 30-40 r. Endoscope Camera System s. Sinuscope 0° t. CCD camera with approximately 4000.000pixel or more integrated light source with fibro-optic cable. u. 14" Monitor. 	
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TECHNICAL SPECIFICATIONS FOR FESS WITH SHVAER & DRILL SYSTEM ALONG WITH MODULAR & UPGRADEABLE FULL HD CAMERA SYSTEM		
Sr.	DESCRIPTION	QTY
1.	ENT Telescope, diameter 4 mm, autoclavable, variable direction of view from 15° - 90°, adjustment knob for selecting the desired angle of view, Fiberoptic light transmission incorporated.	1
2	Wide Angle Straight Forward Telescope 0°, enlarged view, diameter 4 mm, autoclavable, fiber optic light transmission incorporated	1
3	Wide Angle Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, autoclavable, fiber optic light transmission incorporated	1
4	Sickle Knife, pointed	1
5	Curette, oblong, small size	1
6	Cannula, LUER-Lock, long curved, malleable, serrated grip plate, outer diameter 2.5 mm	1
7	Cannula, LUER-Lock, long curved, malleable, serrated grip plate, outer diameter 3 mm	1
8	Cannula, LUER-Lock, with cut-off hole, short curve, outer diameter 4 mm	1
9	Cannula, LUER-Lock, with cut-off hole, short curve, outer diameter 3 mm	1
10	Punch, circular cutting, for sphenoid, ethmoid and choanal atresia, diameter 4.5 mm	1
11	Punch, circular cutting, 65° upturned, for frontal sinuses recess, diameter 4.5 mm	1
12	Antrum Grasping Forceps, jaws curved to right, fixed jaw curved 90°, movable jaw backward opening 120°	1
13	Grasping Forceps, with extra long curve for anterior alveolar recess, fixed jaw curved downwards 115°, movable jaw backward opening up to 140	1
14	Forceps, 45° curved to right, size 1	1
15	Forceps, straight, through-cutting, tissue-sparing, size 1, width 3.5 mm	1
16	Forceps, 45° upturned, through-cutting, tissue-sparing, size 0, width 3 mm	1
17	Forceps, straight, size 1	1
18	Forceps, 90° upturned, size 1	1
19	Cutting Forceps	1
20	Double Spoon Forceps, vertical opening, 65° upturned, spoon diameter 3 mm	1
21	Punch, backward cutting, sheath 360° rotatable	1
22	Bipolar Suction Forceps, 45° upturned, with suction channel, for bipolar coagulation in paranasal areas	1
23	Bipolar High Frequency Cord, coagulator, with two 2 mm cable sockets for Bipolar Suction Forceps and Bipolar Forceps	1
24	Frontal Ostium Seeker, double endend, No. 5 both sides curved 77°, tips bent right and left	1
25	Suction Tube, for frontal sinus, with cut-off hole, LUER, outer diameter 2.5 mm	1
26	Nasal Scissors, medium, serrated blades	1
27	Suction Elevator, with stylet	1

28	Elevator, double-ended, semisharp and blunt	1
29	Plastic Container for Sterilization, especially suited for gas and hydrogen peroxide, sterilization and storage, perforated, with lid	1
30	ECO unit with two motor outputs and integrated irrigation pump, power supply 100-240 VAC, 50/60 Hz, Consisting of: Mains Cord Two-Pedal Footswitch Single Use Tubing Set, sterile, package of 3 Note:- The Unit should be compatible to operate Drill machine, Shaver hand piece & Micro Sagittal Saw.	1
31	High-Performance Micro Motor for use with Connecting Cable	1
32	Connecting Cable, to connect High-Performance Micro Motor	1
33	Shaver Handpiece <ul style="list-style-type: none"> • Oscillation mode Max: 10000rpm for shaver blade. • Rotation mode from: 10000 to 12000rpm for shaver blade • Must have inbuilt / integrated suction & irrigation channel. • Autoclaveable. 	1
34	Autoclaveable Reusable Suction Shaver Blade with integrated irrigation for Handpiece, straight, sterilizable, double serrated cutting edge, rectangular cutting window, diameter 4 mm	1
35	Autoclaveable Reusable Suction Shaver Blade with integrated irrigation for Handpiece, straight, sterilizable, serrated cutting edge, Rectangular cutting window, diameter 4 mm	1
36	Autoclaveable Reusable Suction Shaver Blade with integrated irrigation for Handpiece curved 40°, sterilizable, cutting edge serrated backwards, double serrated, rectangular cutting window, diameter 4 mm	1
37	Universal spray with Spray nozzle for cleaning & oiling of shaver & drill handpieces	1
38	Cleaning Brush	1
MODULAR & UPGRADEABLE FULL HD CAMERA SYSTEM		
39	MAIN PROCESSOR FULL HD VIDEO PROCESSING WITH INTEGRATED DOCUMENTATION SYSTEM, COMPATIBLE FOR 3 MODULES <ol style="list-style-type: none"> 1. Video output connections 2x dvi-D , 1x3G-SDI, 3x inputs for compatible camera modules, LAN Connection 2. Data Ports Multiple USB Connections. 3. Resolution 1920x1080P or more 4. Power supply 100-120VAC, 50/60Hz, 200-2014VAC 50/60HZ 6. Special Display Parallel live display of visualization modes besides white light mode (picture-in-picture) with 3 display settings 7. 3D Compatibility Should be able to upgrade in 3D Camera system. 8. Modularity Compatible Up to three camera modules can be connected to Video processing module 9. Integrated PIP Primary and secondary camera signals display through PIP in 3 different sizes in full HD mode simultaneously 	1

	<p>10. White balancing Can be perform through button on video processing module</p> <p>11.. Orientation At least 2 selections during procedure: 1- grid. 2- pointer /teaching features</p> <p>12. Integrated control Parameters can be adjust during surgery</p> <p>13. Brightness and fiberscope filters Integrated digital imaging processing module for a 4 level brightness regulation and 2 electronic anti-moirée filters for fiberscope's</p>	
	<p><u>CAMERA HEAD PROCESSOR</u> Digital FULL HD camera module for use with Three-Chip-FULL-HD camera Head</p> <p>1. Camera Input 1 x three-chip-FULL HD camera head.</p> <p>2. Resolution 1920x1080 or more</p> <p>4. Power supply 100 - 120 VAC, 50/60 Hz, 200 - 240 VAC, 50/60 Hz.</p>	
	<p><u>CAMERA HEAD</u> 3 chip FULL HD CAMERA HEAD FOR MODULAR HD CAMERA SYSTEM</p> <p>1. CAMERA SENSOR 3 chip</p> <p>2. Resolution 1920X1080 p (FULLHD)</p> <p>3. Scan mode , Ratio Progressive,16:9</p> <p>4. camera head 2 to 3 programmable buttons with 5 to 6 functions in icon f buttons</p> <p>5. Integrated Par focal Zoom Optical Zooming and focusing through individual couplers f=15- optical par focal zoom)</p> <p>6. Weight Less than 250g</p> <p>7. Minimum light intensity 1.17 lux (f=1.4mm)</p> <p>8. Integrated Control Should be able to control complete cameras system i.e. Video Ca images etc Through camera head.</p> <p>9. integrated, innovative visualization technology At least 5 different image enhancement for better visualization in</p>	
40	<p><u>INTIGRATED/DEVICE RECORDING SYSTEM</u></p> <p>1. Device type In built/External Device</p> <p>2. Still Images FULL HD Quality (JPEG)</p> <p>3. Video Capturing Full HD quality (MPEG4)</p> <p>4. Patient record Up to 50 patients data record facility</p> <p>5. Data Storage 32GB USB External OR Internal Storage 32GB or better</p> <p>6. Printer compatibility Device or system should have compatibility for medical gra</p> <p>7. System compatibility Device or Integrated system should be from same manufact</p> <p>8. Dual capture Function The system should be able to capture still image while video already in use.</p>	1
41	<p><u>26 inches full HD monitor</u></p> <p>1. Max. screen resolution 1920 x 1080</p> <p>2. Image Format 16:9</p> <p>3. Video Signal Input DVI, VGA, S-Video, Composite</p> <p>4. Video Signal Output DVI, S-Video, Composite</p> <p>5. Power Supply 12 to 24V External Power Supply</p>	1
42	<p><u>LED LIGHT SOURCE UNIT</u></p> <p>1. Lamp type High Performance LED</p> <p>2. Color Temperature 6400K</p> <p>3. Lamp Out let 1</p> <p>4. Control Knob or Buttons</p>	1
43	Trolley best quality local made.	1

44	ENT Otoscope (Rechargeable) <ol style="list-style-type: none"> with port for pneumatic otoscopy adjustable focus and zoom ability with reusable speculums in 'mm' 2.5/3/4/5/6 pediatric disposable specula 2.75 with 3.5v halogen lamp light weight with lithium ion rechargeable handle with AC charging mode	12
45	Medical examination stools <ol style="list-style-type: none"> with adjustable height steplessly adjustable with base ring and wheels for mobility no backrest light weight 	12
46	Facial/ peripheral Nerve Monitor/stimulator For monitoring of facial nerve during parotid surgery and mastoidectomy	1

<u>47</u>	<u>OPERATION MICROSCOPE FOR E.N.T SURGERY</u>	1
	<p style="text-align: center;">On Floor stand With fiber optic high intensity Xenon illumination system</p> <ul style="list-style-type: none"> • Motorized zoom ratio 1:6 or more • Motorized internal focusing system and working distance adjustment <p>Integrated spot/shadow free illumination Coaxial fiber optic illumination</p> <p style="text-align: center;">Optical Data</p> <ul style="list-style-type: none"> • Magnification range: 1.5x-17.2x or more 1.8x-21.5x or more • Field of view: 12.20mm-142.50mm or more 10.50mm-122.20mm or more <p style="text-align: center;">Floor stand</p> <ul style="list-style-type: none"> • Floors stand with fiber optic high intensity Xenon illumination system 180W or more with variable light intensity, standby/backup 180W Xenon lamp and counterbalanced suspension arm. • Hand grips with zoom and focus controls. ➤ Digital Imaging and communication system DICOM compatible. ➤ Laser compatible through dovetail/adaptor plate for laser micromanipulator. 	
	<p style="text-align: center;">Accessories</p> <ul style="list-style-type: none"> • Wide field eye pieces 	2
	<ul style="list-style-type: none"> • Asepsis set 	1
	<ul style="list-style-type: none"> • Beam splitter 	1
	<ul style="list-style-type: none"> • 180 Inclinable Binocular tube=170mm with IPD adjustment. 	1
	<ul style="list-style-type: none"> • Multifunction wired foot control panel, water proof. 	1
	<ul style="list-style-type: none"> • Dust cover. 	1
	<ul style="list-style-type: none"> • Extra Student/assistant hand piece. 	1

	3CCD HD VIDEO CAMERA	1
	3-CHIP High Definition (HD) Camera system	
	With Camera control unit	
	Technical Data:	
	Camera optics: Apochromatic HDTV optics f=50mm or more	
	Image sensor: 1/3 progressive scan 3 CCD	
	Scan system: Progressive 50/60Hz (frames per second	
	Resolution: 1920x1080 pixels or more (full HD)	
	Aspect ratio: 16:9 or more	
	Digital video output ports: HD-SDI,HDMI/DVI or more	
	High definition Red Green Blue (RGB) 1080i	
	• MEDIALINK HD Recording	
	Efficient image data management system for HD recording & storage on USB media.	
	CO2 Laser FOR ENT DEPARTMENT	1
	<u>TECHNICAL Specification:-</u>	
	Microprocessor control	
	Novel ,Futuristic design	
	Special Line scan function for robotic vocal cord surgery	
	Micro scan patterns for laser - assisted stapedial surgery	
	Quick Tip Panel for easy and time -saving parameter selection	
	Easy-moving beam delivery system with excellent beam characteristics	
	Five Program Storage Locations for saving user-defined parameter sets	
	safe locking of the articulated (mirror joint)arm in two different positions	
	Reliable Beam Guidance with minimal spot sizes and high power densities	
	Possibility to select and turn scan patterns directly via the Micro Point micromanipulator	
	Micromanipulator Micro point 2 with minimal spot size of 0.11 mm and highest power densities	
	Versilate , user oriented operating modes such as ultra -short single pluses,superpluse mode and cycle mode.	
	Integrated ,programmable "soft scan plus R" scanner for multi- disciplinary use in conjunction	
	with different handpieces and micromanipulators	
	Technical Data MCO 25Plus	
	Type Of Laser 25Plus	
	Wavelength 10.6um infrared	
	Lase Power(applied for Tissue) 2-25 W	
	Co2 Laser Tube Sealed Off DC-Excited	
	Operating Modes:	
	Continous-Wave (CW) 2-25 W	
	super pluse0.3ms:11 W,Average,max, Power	
	single pluse 5ms-10s Output power:10-25 W	
	pluse train minimum Pluse Length ::5ms average output Power:<0.1-25 W	
	Cyclically repeated Pluses Cycle Length :-permanent -10ms-10s	
	Plus Laser Light Diode laser continously adjustable	
	Colar 635nm,<5mw light -red	
	Laser Beam Delivery	
	Articulated spring arm with 7 joints/mirrors	
	handpeice exchangeable	
	arm length =1,300 mm,	
	Focus Diameter	
	0.15 mm with a Focal distance	
	of 50 mm (spot size)	
	0.20 mm with the standard focal distance of 127 mm	
	0.30 mm with a focal distance of 200 mm	
	Operator/Control Panel	
	Blue mode LCD (Liquid Srystal display)	
	with illuminated buttons featuring symbols ,	
	keypad sealed , eith integrated scanner functions	

	Program Memory	
	5 freely assignable memory locations (can be used for scanner as well)	
	Cooling Internal	
	Power Requirement 230 V / 4 V - 50/60 HZ	
	Protection Class I	
	Type (Of Applied part) B	
	Laser Class 4	
	Dimensions 290x450x1,950 mm (Height With articulated arm folded down : 1,180 mm)	
	<u>Consisting of:</u>	
	Micromanipulator Micro Point 2R (+Microsw)	
	Focusing Handpiece 200 mm	
	Back Stop for Focusing Handpiece 200 mm	
	Laser Protection Goggles CO ² Laser	
	Special Optics with 0 degree Attachment with cleaning brush.	
	Online UPS with stabilizer	
	Dust Cover	

PROF: DR MUHAMMAD ASIF
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