

REPUBLIC OF LEBANON
MINISTRY OF PUBLIC HEALTH
THE COUNCIL FOR DEVELOPMENT AND
RECONSTRUCTION

Purchase & Installation of Medical Equipment for
KHALWAT & JBAA Health Centers

FINANCED BY THE ISLAMIC DEVELOPMENT BANK (IDB)

VOLUME II of V

TECHNICAL SPECIFICATIONS
General Cover

May-2021



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TECHNICAL SPECIFICATIONS
LOT I: MEDICAL EQUIPMENT
KHALWAT HEALTH CENTER


May-2021



Item Description	Comments
PACKAGE (C) SPECIALIZED CLINICS	
C10 ENT Unit Complete with instruments	Qty : 1
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Comprising: ■ Patient chair, motorized height adjustment, tilting to horizontal axis. ■ Basic ENT unit, all steel casing, with lateral function support, upper deposit with 4 small trays, ■ Instrument part with 4 trays, suction equipment 36 l/min with fine adjustment, one litter suction bottle with over flow safety device, electric mirror warmer, head lamp hook, instrument shelf, deposit for used instruments. ■ Water warmer, 37°C with electric temperature control ■ Examination light LED on flexible arm. Not less than 150 watt ■ Suction equipment approx. 35 ltr/min. ■ Suction tube rinsing system. : 30, 37 and 44 degree Celsius. ■ Caloric test via warm water ■ HF surgery unit ■ Cold light source, not less than 150 watt equipped with fiber optic cable ■ Compressed air device, complete with 2 medicament sprays, one powder blower, a 	

Item Description	Comments
<p>Pulitzer adapter and spray holder.</p> <ul style="list-style-type: none"> ■ Connection box for automatic switching ON/Off water supply by master switch. ■ Mains supply unit with connection box and installation kit ■ Jet connection for water irrigation handle, short, medium and angled ■ Splash protector Plexiglas ■ Hose connection for irrigation of maxillary duct ■ Water filter, complete, for warm water equipment ■ Cold light source not less than 150 watt with additional rear light outlet for operating microscope. ■ Air flow for cold light, to prevent misting ■ Mirror pre warmer ■ Holder for ear funnels ■ Tongue patches dispenser ■ Cotton swabs dispenser ■ 3 instrument cabinets, all steel casing, comprise: <ul style="list-style-type: none"> ■ Aluminum trays ■ Used instrument deposit ■ Shallow drawer ■ Deep drawer ■ 4 Large instrument trays ■ ENT Microscope mounted on a stable mobile stand with lockable castors ■ The microscope with double pantograph arm straight binocular head ■ To be delivered with all accessories necessary for E.N.T. microscope for examination ■ Adjustable microscope range by handle for focus and zoom ■ 5 steps magnification changer ■ Straight binocular tube ■ Objectives with focal length: F: 250mm to F: 400mm 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Fiber optic illumination (Halogen light source approx. 100W). ■ UV and IR filter ■ Built-in eye pieces with dioptic adjustment ■ At least 19” Touch Screen LED monitor Mounted on Unit ■ Complete with dust cover, eyepiece / lens cover, and all autoclavable cap. 	


Item Description	Comments
<p>C20 Ophthalmic unit complete with instruments Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Ergonomic, computer-intergraded, flexibility, combining the ultimate space efficient engineering and clean, contemporary styling <p>Specifications:</p> <ul style="list-style-type: none"> ■ Smooth-operating instrument delivery system including: ■ Convenient located control panel ■ Indirect Ophthalmoscope, Radioscopy with transluminator well chargers ■ Easily accessible spacious desktop ■ Counterbalanced vision tester arms ■ Overhead lamp ■ 3 well instrument charger ■ Indirect ophthalmoscope hanger w/dimmer control ■ Molded desktop surface ■ Additional storage compartment ■ High pressure laminates base cabinet ■ Manual electronics Control Panel Chair Up/Down Control ■ Examination chair ■ Slit lamp 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Vision tester ■ Power supply and printer box 2 – 220V ON/OFF ■ Convenience Outlet Swatches Low Voltage On/OFF Switches ■ Specification of the examination chair: ■ The chair should be adapted o the table. It is preferable that the chair would draw its power from the table. ■ Standard Chair features ■ Fixed chair back and armrests ■ Electric lift with 8” (20.3cm) stroke ■ Foot pedal control ■ Choice of upholstery colors ■ 15° tilt mechanism and footrest ■ Locking rotation ■ Sliding armrest ■ Fixed headrest ■ Footrest ■ Specification of the slit lamp: ■ Type: Stereoscopic Microscope ■ Magnification selection: 2 steps by objective lens rotation ■ Eyepiece: 10X, (16X) ■ Magnification ratio: 10X, 16X, (16X, 25.6X) ■ Fields of View (mm): 18, 14.5, (11.25, 9) ■ Papillary adjustment (Diopters): -5 to +3 ■ Slit illumination: ■ Slit projection magnification: 1.23X ■ Slit width (mm): 0 to 14 ■ Slit length (mm): 1, 2, 3,5,8,10,14 ■ Aperture diameter (mm): 1, 2, 3,5,8,10,14 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Slit angle: 0° to 180° ■ Filters: cobalt blue, red-free ■ Lamps: 6V, 20W halogen lamp ■ Base (guidelines) ■ Longitudinal movement (mm): 90 ■ Lateral Movement (mm) : 100 ■ Fine base movement (mm) : 15 ■ Chinrest (guidelines) : ■ Vertical Movement (mm) :80 ■ Fixation Target: Red-Led (Option) ■ Specifications for the indirect Ophthalmoscope: ■ The indirect Ophthalmoscope should have the following: ■ Synchronized illumination and observation beam ■ Stand by position for the optics ■ Light weight ■ The optics should be multi-coated for good usage in UV and IR ■ 3 different type of opening with integrated red free and bleu cobalt filters ■ Easily adjustable to different pupil sizes. ■ Electrically operated, connected to the examination table with its dimmer on the table. ■ Specifications for the vision tester: ■ The system should be attached to the arm specified for it in the examination table. ■ The projector should allow to project images, numbers and letters as per a chosen program. The projector ■ Should be programmable and controllable from distance by the mean of a remote control. The projector ■ Should come equipped with one pair of Polaroid glasses. ■ The system should have the following projections: 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Letters Qty: 6, Numbers Qty: 6, Snellen Qty: 5, Pediatric Qty: 3, Cross Grid, Clock ■ Dial for Astigmatism ■ Red/ Green, Points, Balance Binocular, Duo chrome white, Coincidence test vertical and horizontal, ■ Phoria ■ Schubert, Minute Stereo, Worth, Fixation ■ The system should allow to use a green mask or a red mask over the letters and to place a black mask over ■ Letters in vertical and horizontal mode with possibility of movement. ■ Electrical operated 	

Item Description	Comments
<p>C21 Keratometer Qty : 1</p> <ul style="list-style-type: none"> ■ Providing accurate objective refraction, through simple subjective refinement, and Keratometry measurements all in one mobile instrument. Refraction measurement (guidelines): ■ Hyperopia: 0 to +22 dptr. (0.12 or 0.25 dptr. Steps by example) ■ Myopia: 0 to -25 dptr. . (0.12 or 0.25 dptr. Steps by example) ■ Astigmatism: 0 to -7D dptr. Or +7D dptr. . (0.12 or 0.25 dptr. Steps by example) ■ Axis: 0° to 180° (1° steps by example) ■ Method of relaxation: automatic fogging ■ Measurement data display: LED monitor screen ■ Measurement Recording: Built-in printer ■ Alignment: (up to 10 measurements of each eye can be stored) ■ Corneal curvature measurement: Screen displayed ■ Corneal curvature radius measurements (guidelines): ■ Measurement range: 5.00-10.00mm (0.01 mm steps) ■ Corneal refraction: 67.50D-33.75D diopter. (0.12 dptr. Steps) ■ (Corneal refraction factor = 1.3375) ■ Corneal astigmatism: 0 to -7D dptr. Or +7D dptr. (0.12 dptr. Steps) ■ Corneal astigmatism axial angle: 0° to 180° (1° steps) ■ Measurement recording: (Up to 10 measurements of each eye can be stored. At R/K mode, only the Representative value will be printed). <p><u>Measuring Range:</u> Hyperopia : Myopia: 0 to +17 D (0.25 dptr. Steps) Astigmatism: 0 to -7D (0.25 dptr. Steps) Axis: 0 to -7D Or +7D (0.25 dptr. Steps) Chart: 0° to 180° (1° steps)</p>	

Item Description	Comments
<p>C22 Trial Lenses Box Qty : 1</p> <ul style="list-style-type: none"> ■ The complete set should be in a carry on case. ■ All lenses are corrected curve lenses with 25 mm diameter except Spheres – 20.00 corrected curved by 19mm, - 18.00 done by 21mm and – 16.00 done by 22mm. ■ Color coded for easy identification (exp.: Minux lens is Red, plus lenses in Black ace. In Grey) ■ Unbreakable light weight anodized aluminum mounts ■ Number of items: ■ Sphere : Single 20.00, 16.00,18.00, 13.00, 14.00 ■ Pairs 12.00, 11.00, 10.00, 9.00, from 8.00 to 4.00 decrement of 0.5, from 3.75 to 0.75 decrement of ■ 0.25, then 0.62, 0.50, 0.37, 0.25, 0.12 ■ + Sphere: Single 20.00, 16.00,18.00, 13.00, 14.00, 15.00, 13.50 Pairs from 12.50 to 4.00 decrement of 0.5, ■ from 3.75 to 0.75 decrement of 0.25, then 0.62, 0.50, 0.37, 0.25, 0.12 ■ Prism: Single 10, 8, 6, 5, 4, 3 Pairs 2, 1, 0.5 ■ cylinders: Pairs 6.00, 5.00 from 4.50 to 3.00 decrement of 0.5, form 2.75 to 0.25 decrement of 0.25 then 0.12 ■ + Cylinders: Pairs 6.00, 5.00, from 4.50 to 3.00 decrement of 0.5, form 2.75 to 0.25 decrement of 0.25 then 0.12 ■ Accessories: Frosted glass, Red Maddox, Green Glass, Red Glass, Cross Line 2 pcs, Stenopaic Slit, Pin Hole, ■ Plain Glass, Occlude ■ Pediatric trial frame P.D. adjustment 48 mm to 80 mm, Variable horizontal bridge fully adjustable temple length and angle 	


Item Description	Comments
<p>C 30 Dental Unit Complete Qty : 2</p>	
<div style="display: flex; align-items: flex-start;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> ■ This section describes the requirements for a dental unit, The unit should consist at least: <ul style="list-style-type: none"> - Dentist Element - Assistant Element - Dental Patient Chair - Dental Instrument cabinet - Dental Air Compressor - Autoclave - Dental X-ray tube - Amalgamiser - Casework for the room ■ The Unit must meet the following criteria to qualify : <ul style="list-style-type: none"> ■ Dentist Element: <ul style="list-style-type: none"> - To be attached to a long swivel and height adjustable arm mounted onto the left of the patients chair ; to include: <ul style="list-style-type: none"> ■ Dental hand-piece, high speed air turbine, contra- angle, with fiber optics. ■ Dental hand-piece, low speed electric motor (speed: 12000 – 120000 rpm), contra-angle, with fiber optics. ■ Dental hand-piece, low speed electric motor (speed: 4000 – 40000 rpm). Straight, with fiber optics. <ul style="list-style-type: none"> - Dental scalar hand piece with three types of scaler tip. - Two air / water syringe hand-pieces, cold and heated spray </div> </div>	

Item Description	Comments
<ul style="list-style-type: none"> - Dental chair for dentist ;height adjustable; back support and armrest; wide soft seat; ring type footrest; five swivel castors. ■ Assistant element: <ul style="list-style-type: none"> - To be mounted rigidly onto the patient's chair and it moves up and down with it. - Control panel and suction hand piece attached to a swivel arm with air jet pump and saliva ejector with adjustable suction rate; to include - High volume aspirator unit. - Cuspidor / spittoon assembly. - Heated tumbler filler assembly - Dental chair for Assistant; height adjustable; back support and armrest; wide soft seat; ring type footrest; five swivel castors. ■ Dental Patient Chair: <ul style="list-style-type: none"> - this chair shall allow the patient and dental staff maximum ergonomic comfort while helping facilitate ■ The dental examination or procedure. <ul style="list-style-type: none"> - The patient surface of the exam/treatment chair shall be padded and upholstered with a fire and wear- ■ Resistant, disinfectant-tolerant material. <ul style="list-style-type: none"> - The headrest shall be designed to minimize hyperextension of the neck muscles - Electrically operated (non-hydraulic); - programmed positioning control; - height adjustable between 370mm and 890mm; - adjustable "anatomical" headrest; - Swivel armrests to facilitate patient access. - Dental light unit, adjustable positioning, halogen, up to 24000 lux. ■ Dental instrument cabinet; <ul style="list-style-type: none"> - mobile; 4-6 drawers, - one dental treatment compartment; - Drawers to be fitted with instrument trays / racks. ■ Dental air compressor: <ul style="list-style-type: none"> - To deliver dust and oil proof compressed air - Pressure 3.5 bar +/- 0.3 w/ continuous flow of minimum 100L/min - Air filter < 5 Microns - Visual and audible alarm indicators for pressure temp and moisture contents in medical air. ■ Dental Autoclave: 	

Item Description	Comments
<ul style="list-style-type: none"> - S/S Chamber dimensions:400mmx200mmx210mm(DxWxH) - Max load 4 kg/cycle, Dry Heat - to be delivered with S/S trays, Deionizer Rack and recording instrument - unit to be installed in soundproof cabinet. ■ Dental Xray Tube: <ul style="list-style-type: none"> - Wall Mounted unit, on articulated arm ; - 270 deg swivel Vert. x 360 deg Horiz. with angle indicator, - 0.6mm focal spot,70Kv at 7.5mA ; timer 0.05 -3.2msec; - handset with 3m long cable; - fitted with a visual and audible warning for xray On; - to be delivered with pointed cone . ■ Dental Casework : ■ Casework for the room should conform with medical grade international standards for work surfaces in ■ Healthcare facilities. Samples of material and color with a detailed drawing of the proposed casework in the room that should fit all the working area in the dental suite should be submitted for approval by the client. ■ Amalgamizer: ■ High Capacity trooper, Wet and dry calibration to allow alteration of mix consistency simple or double 	


Item Description	Comments
PACKAGE (F) MEDICAL FURNITURE	
F01 Light Operation, Single	Qty : 1
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Single Light Head ■ Light emitting Diode Type (LED) ■ Life > 20,000 hours. ■ Ceiling suspension with spring loaded counterbalance; ■ Easy to maneuver; ■ capable of 360deg horizontal, ■ > 80 cm vertical movement. ■ Each light head should have reflector type housing with filtered light source ■ producing 120000 LUX at 1 m; ■ Color temp. 3000-5000 K daylight color light; ■ Focal Length ,cm > 65 ■ still achieved within +/- 250mm tolerance ■ Variable intensity control should be provided on unit and remotely on a wall mount ■ Light heads should provide shadow free, 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Cool, daylight quality illumination ■ shall be furnished w/heat absorbing filter ■ Lens capable of transmitting radiant energy downwards and heat upwards. ■ Center and rail handgrips; ■ Variable light field diameter: small, Medium and Large approx. 22cm; ■ W/ automatic switchover. ■ ceiling ring; transformer; automatic switch-over to emergency power in the event of failure; ■ Electronic sensor controlled magnetic brakes. ■ Zero drift tolerance is a must. ■ Un-interruptible power supply, to cover the period between main failure and the availability of emergency power (approx 30 sec), must be provided by suitably ■ Enclosed battery and required DC Power transformer. ■ A built-in system is required to provide automatic, instantaneous switch-over from main to battery power supply. ■ To be provided with all needed accessories and installation material to ensure proper and complete installation and functionality. 	


Item Description	Comments
<p>F02 Cabinet Stainless Steel (high quality) Qty : 1</p>  <p>Stainless steel sterile closets are primarily indicated for surgical material storage in operating rooms Five Shelves stainless steel swing hinged door with glass openings Dimensions: 200 x 120 x 50 cm (L x W x D)</p>	

Item Description	Comments
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F03 Trolley, X-Ray cassettes Qty : 1	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Transfer cart for cassettes. ■ 3 Tier constructions on castors. 	


Item Description	Comments
<p>F08 Wheelchair Qty :2</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ User propelled chromium, plated heavy duty folding unit, with vinyl seat and backrest for easy cleaning to accommodate adults. ■ not less than 5” , castors (front) ■ 22” diameter solid tier, rear wheels either spoke or mag type. ■ With propelling handrails. ■ Lever wheel locks on each rear wheel. ■ Elevating leg rests, can be swung to the side but cannot be removed from the chair. ■ Footplate height to be adjustable with fold up/flip up facility. ■ Removable padded armrests. ■ Support for infusion set. ■ Anti tip device, heavy duty folding unit, with vinyl seat and backrest for easy cleaning to accommodate adults. 	


Item Description	Comments
<p>F09 Cabinet Out patiant clinic Qty :10</p>  <p>stainless sheet steel structure. Upper turning glass doors, made in anodized alloy, with lock. Lower sheet steel doors with lock. 3 inner glass shelves + 1 sheet steel shelf adjustable on racks. Adjustable feets on the base. Dimensions 80x40x180 cm (W x D x L)</p>	

Item Description	Comments
<p>F10 Stool, Surgeon Qty : 1</p> <div style="text-align: center;">  </div> <p>The Surgeon Stool features a polished aluminum/black accented five-leg caster base and hood, and a foot lever height control. The foot lever offers pneumatic height adjustment and a surgical armrest stabilizes the surgeon’s arm during delicate procedures.</p> <ul style="list-style-type: none"> ■ Chrome five-leg base ■ Foot operated ■ Weight capacity: 100 Kg ■ Swivel, height – adjustable stool ■ Upholstered padded seat, 45 cm diameter. ■ Height adjustment: 45 – 80 cm 	


Item Description	Comments
<p>F12 Table, Mayo, 600x400 mm</p> <div data-bbox="499 224 980 792" data-label="Image"> </div> <p>Qty : 1</p> <ul style="list-style-type: none"> ■ Stainless steel 18/10, ■ Height adjustable between 950 – 1350 mm ■ On 3 swivel castors 50 mm dia. ■ Table top: 600x400 mm ■ To be delivered with three drapes 100% cotton, green. 	


Item Description	Comments
<p>F13 Table, Mayo, 700x500 mm Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Stainless steel 18/10, ■ Height adjustable between 95 – 135 cm ■ On 3 swivel castors 50 mm dia. ■ Table top: 70x50 cm ■ To be delivered with three drapes 100% cotton, green. 	


Item Description	Comments
<p>F16 Couch, Examination w/step Qty : 9</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ General Examination Table with a stepper ■ Patient Load : 110Kg ■ Built in Drawer: at least One ■ Metal epoxy powder coated frame ■ Foam padding covered by washable plastic ■ Adjustable head ■ Paper towel roll holder, 10 rolls of paper towel should be delivered. ■ Dimensions: 1900 x 700 x 650 mm .steps to be included. 	


Item Description	Comments
<p>F18 Bowl, double mobile Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Mobile, construction of chrome - nickel steel 18/10, seamlessly welded, with pushing handle and removable bowls. ■ 4 swivel castors 50mm dia. ■ With double ball bearing, electrically conductive. ■ Height: 800 mm. 	


Item Description	Comments
<p>F19 Couch, Examination, OB/GYN Qty : 1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ OBS/GYN dedicated Examination Table with a stepper ■ Patient Load : 110Kg ■ Built in Drawer: at least two ■ Retractable Leg Rest ■ Adjustable head ■ Metal epoxy powder coated frame ■ Foam padding covered by washable plastic ■ Paper towel roll holder, 10 rolls of paper towel should be delivered. ■ Dimensions: 1900 x 700 x 650 mm .steps to be included. 	


Item Description	Comments
<p>F24 Trolley, Patient Record Qty :1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Patient record holder cart complete with 20 record holders. ■ Unit shall be constructed of heavy duty frame and have convenient under shelf. ■ Unit shall be approximately 550mm W x 420mm D x 700mm H. ■ Unit shall have Four (4) 75mm ball-bearing castors, two with locks. 	


Item Description	Comments
<p>F26 Trolley, Dressing Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ To be constructed of stainless steel 2 removable stainless steel shelves, guard rails. ■ Includes Bucket with holder ■ Includes Pan with holder ■ Trolley to be mounted on 3” antistatic castors. ■ Dimensions : W 750 x D 450 x H 900 	


Item Description	Comments
<p>F28 Trolley, Instrument Qty : 10</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Stainless steel trolley with two shelves ■ 2 casters with brakes ■ Trolley top dimensions: 75 x 50 cm ■ To be delivered with one cover 100% cotton, green 	

Item Description	Comments
<p>F29 Stand, I.V. Qty : 3</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ I.V. stand finished in stainless steel ■ Mounted on 5-star base castors ■ Adjustable height with 4 hooks 	


Item Description	Comments
<p>F31 Light, Examination, Wall mounted Qty :7</p> <div style="text-align: center;">  </div> <p>Examination / treatment light:</p> <ul style="list-style-type: none"> ■ Wall mounted with Single light head. ■ Swivel mounted yoke suitable for examination and minor treatment room use. ■ Light head shall be with filtered light source producing 30,000 to 35,000 lux at 1 meter with > 50 Watt halogen lamp or LED light ■ Color temperature shall be no less than 4400° Kelvin at maximum setting. ■ Light head shall provide shadow-free, cool, daylight quality illumination and be furnished with a heat absorbing glass filter to minimize radiant heat energy downward. ■ Light head shall be provided with a positioning ring or Handle for maneuvering the unit. ■ Proper focus shall be attained at any distance from 750mm to 1500mm below reflector rim with optimum focus around 1050mm. ■ The light field shall be > 1220mm in diameter. ■ The light source shall be easily accessible and replaceable d without tools. ■ The light head shall be mounted on a counterbalanced arm capable of 180° horizontal movement, ■ Approximately 750mm vertical movement and with swivel adjustments. The assemblies shall move freely, silently and smoothly throughout it is range of maneuverability without drifting when positioned at any point. ■ Exterior of unit shall have a factory applied baked enamel finish free of cracks, bubbles or other 	


Item Description	Comments
<p>F32 Light, Examination, Mobile Qty : 4</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Spring loaded counterbalance; ■ variable intensity control > 30000 Lux ■ The bulb should be quartz halogen Or LED and should have a Life of at least 1,000 hours. Or 20,000 hours respectively. ■ The light generated by the bulb should be in the 4000 to 5000 K color-temperature range. ■ On mobile stand with 5 castors ; ■ height adjustable;840mm vertically ■ Swivel on approx. 700mm ■ Variable light field diameter. 	


Item Description	Comments
<p>F33 Kick Bucket Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Fully stainless steel. ■ Capacity: 14 liters. ■ Mounted on 4 castors. 	


Item Description	Comments
<p>F34 Plaster Cutter Kit Qty : 1</p> <div style="text-align: center;">  </div> <p>It is a multi-purpose cast removal tool with an ergonomic design that optimizes user control and comfort.</p> <ul style="list-style-type: none"> ■ Dual speed cutting to meet varied cast removal needs ■ Compact design to enhance maneuverability ■ Three blades to fit multiple casts types ■ Mains operated with 2 meter power cord. 	

Item Description	Comments
<p>F36 X-Ray Viewer, Double Qty : 1</p> <p>The viewer should be large enough to accommodate 2 films of 36x43cm. The viewer should have three internal separations. Every viewing section of the viewer should have independent On/Off switch. The screen would be made of “Altuglas” opal of 4mm thickness. The film holder will be made of stainless steel:</p> <p>On/Off system: Incorporated on/off bipolar switch. Electronic rheostat Day light fluorescent tube tension 220 volts 50 Hz. Color temperature 6500 deg Kelvin The viewer will be mounted on the wall in an apparent fashion. Dim: 900Wx70Dx500H.</p>	


Item Description	Comments
<p>F40 Refrigerator, Pharmacy Qty : 1</p> <div style="text-align: center;">  </div> <p>Unit shall have the following features:</p> <ul style="list-style-type: none"> ■ Stainless steel construction ■ Capacity: Minimum 850L. ■ Well insulated ■ Single door with lock ■ Internal lighting ■ Temp range 2deg-4 deg C ■ Continuous temp. Monitoring and control to display low-, safe- and high temp. of contents ■ Alarm (sound and light) at high/low temperatures ■ Digital display ■ Drawers/ removable/ adjustable. ■ Automatic defrost ■ Power supply: 220V / 50 Hz. Line cord and plug suitable for conditions of use. ■ The unit has to be delivered with all accessories necessary for normal and safe use. ■ Unit shall meet international safety- and electrical standards. 	


Item Description	Comments
<p>F41 Shelving, Pharmacy Qty : 4</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Made of chipboard covered with laminated plastic, doors, to be of solid wood frame, covered with laminated plastic and have handles and cylinder lock. ■ The internal shelving to be made of molded plastic, double faced, panels, with approx. 40 spaces divided in 2 heights and 20 special spaces with double depth. ■ Each space to be equipped with railings and a plastic divider with incorporated label-holder. ■ Double faced panels to be mounted on swivels allowing them 90o out swing, allowing access to the 5 rear shelves of the cabinet. ■ Equipped with an inner safe for dangerous drugs, made of steel plate 12 / 10mm thick, complete with door and lock of anti-picking type. ■ The cabinet stands on epoxy-coated steel legs, with adjustable feet. ■ Approximate dimensions: 1000mm x 700mm x 2000mm (W x D x H) 	


Item Description	Comments
<p>F42 Cabinet, Safety, drug Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Wall mounted compartments for controlled drugs and medicines. Specifically designed for drugs. ■ Door with key lock and audio / visual alarm. ■ Dimensions: Minimum 45 x 35 x 45 cm 	


Item Description	Comments
<p>F43 Scale, infant Qty : 1</p> <div style="display: flex; align-items: center;">  </div> <ul style="list-style-type: none"> ■ Table-top; capacity to 20kg; ■ LCD display; ■ tare compensation; ■ enameled finish. 	

Item Description	Comments
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F44 Examination unit, infant	Qty : 1
<div style="display: flex; justify-content: space-around; align-items: center;">  </div> <ul style="list-style-type: none"> ■ 95 cm working surface ■ cupboard and drawers below; ■ Hidden Paper roll holder ■ horizontal measure on front edge of work-top; 	


Item Description	Comments
F45 Cleaner, Ultrasonic Qty : 1	
<div style="display: flex; align-items: flex-start;">  <ul style="list-style-type: none"> ■ Table top model with stainless steel exterior ■ Top Load /unload Cover ■ Single chamber with minimum size 14 Liters ■ Manually operated timer and ON/OFF switch. ■ Three different Sizes wire baskets , Qty 2 each size. </div>	


Item Description	Comments
<p>F46 Sterilizer, table top Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Bench top Model Minimum 22Liters Chamber Capacity. ▪ To be used in Laboratory and OR . ▪ Suited for the sterilization of wrapped, simple hollow instruments and small quantities of textiles, also wrapped ▪ Microprocessor controlled. ▪ Stain less steel construction. ▪ Two automatic programmers for steam sterilization at 134deg and 121 deg C. ▪ Pressure gauge and temperature indicator. ▪ Safety pressure valve. ▪ Process times approx. 20 and 30 min respectively. ▪ Water tank capacity 5-7 lt of distilled or deionizer water. Complete with tray rack, two small trays, ▪ One large tray and two tray carrying handles. 	

Item Description	Comments
PACKAGE (I) IMAGING	
I05 Radiographic Units, Mammographic Qty : 1	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ The mammography unit shall use x-rays to produce a film image of the breast (a mammogram) that provides information about breast morphology, normal anatomy, and gross pathology. ■ The mammography unit shall be an x-ray machine that is mechanically and electronically designed to meet the stringent radiographic and positioning requirements of breast imaging. The unit shall be a dedicated mammography system. <p>At minimum, the mammography unit should include the following:</p> <ul style="list-style-type: none"> ■ X-ray generator ■ X-ray tube ■ C-Arm Stand ■ Recording medium 	

Item Description	Comments
<p>The Mammography Unit should meet the following minimum criteria to qualify:</p> <ul style="list-style-type: none"> ■ Should utilize a high-frequency generator. ■ Generator power : 22KV-35KV in 1 KV steps ■ Exposure time: 2ms to 8 sec selectable ■ The x-ray tube's focal spot geometry (e.g., the ratio of the focal spot dimension to the SID) should result in a resolving capability of the film (16.6 Lp/mm) for an object 25 mm from the top of the breast-support surface. ■ Exposure times should not exceed 2 sec with the large focal spot ■ X-ray tube voltage should be within 2 kVp of the preset kVp and have minimal ripple over the kVp range typically used in screen-film mammography. ■ The x-ray tube should have a rotating anode with dual focal spot of 0.1mm and 0.3mm. ■ Anode Heat Storage Capacity: minimum 300KHU. ■ Motorized vertical movement of the C-arm stand, with integrated transparent radiation protection shield, electromagnetic Control of brakes. ■ Includes AEC Detector ■ Source Image Distance(SID): Minimum 60 cm ■ The unit shall use low-energy radiation. ■ The radiation exposure (dose) to the patient should be as low as reasonably achievable (ALARA) and should not exceed the upper limit on average glandular dose of 100 mrad (cGy) for a craniocaudal contact view, 300 mrad for a similar view with the Bucky, and 400 mrad for a xeromammographic exposure. ■ The radiation field should not extend more than 3 mm beyond the patient side edge of the cassette. ■ The mammography unit should include a compression device that releases automatically or at a preset pressure. ■ Compression forces in the range of 160 to 250 N (36 to 56 lb) should be obtainable. ■ Foot pedals should include a control for both compression and release of force. 	

Item Description	Comments
<ul style="list-style-type: none"> ■ The mammography unit should include a stationary grid and a Bucky (i.e., a reciprocating grid) that can accommodate size of detector cassettes. Any accessories required to use these must also be included, at least one cassette of each size. ■ The Bucky system should not produce in-homogeneities or patterns that can be misinterpreted as pathological findings or that degrades the image quality. ■ The unit should include any devices required to produce images magnified at least 1.5 times. ■ A stereotactic device should be available. <p>Accessories:</p> <ul style="list-style-type: none"> ■ Cassette 24x34cm ■ Complete set of compression plates ■ Face Shield ■ Positioning tray magnification/abdomen shield 	

Item Description	Comments
<p>I06 CR Reader W Printer Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ For mammography and general radiography ■ State-of-the-art image quality, with potential dose reduction ■ Advanced image processing with full Dicom 3 Interface ■ Accepts both needle-based detectors and standard phosphor plates ■ Process speed: > 50 plates / hour ■ LCD touchscreen > 15” Size ■ LED status indicator ■ Includes Image identification , patient ID modules ■ To be supplied with Cassettes and plates to support Mammography, General Xray and Mobile Xray Systems ■ Total of 8 Cassettes/Plates with Sizes : 35x 43 cm, 24x30cm,18x24cm,15x 30 cm, Qty 2 of each ■ Spatial Resolution 10 pixels/mm ■ Full compatibility and connection to the PACS system 	

Item Description	Comments
<p>I07 Apron set Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Flexible lead rubber in tear resistant plastic cover; sleeveless; half length at back; fastening with crossed elastic straps with Velcro ends; 0,5 lead thickness; small, medium and large sizes. ■ Qty 4 Rail, S/S; Each to hold one apron and one pair of gloves 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Pan/Zoom , Real Time Imaging,Freeze ■ Processing and post processing programs ■ Selectable Dynamic range. ■ Image reversible and switch able Convex angle ■ Adjustable Transmit Focus ■ Multifunction Digital calipers. ■ Vascular Scanning Protocols ■ OB/GYN Protocols ,including application and calculation software programs ■ Number of User Protocols: At least 45 ■ Dicom 3 Compatibility with the required software ■ At least 15” color HD LED Screen ■ 2.5-5 MHz Linear (General) ■ 3-5 MHz Linear (OBS/GYN) ■ 2.5-5 MHz Convex (General) ■ 3-5 MHz Convex (OBS/GYN) ■ 2.5-5 MHz Phased Array (General) ■ 5-7.5 MHz Multifrequency Endovaginal (OBS/GYN) ■ Image Storage: HDD (> 100GB), CD-R, DVD and USB Flash ■ The following are the Accessories required: ■ Color Paper printer 	

Item Description	Comments
<p>10) All the probes have a multi-frequency</p> <p>11) At least 3-probe selector & one for pencil probe</p> <p>12) Can support the following probes: Convex, Linear, Sector, Micro convex, Intra operative, Endocavity (Transvaginal, Tran rectal), Bi-plane Tran rectal, Endoscope, Laparoscopic, Laparoscopic, Pencil probe and Tran esophageal TEE.</p> <p>13) Color Enhancement.</p> <p>Measurement:</p> <p>Digital image filter – high speed real time for clear sharp images</p> <p>Multi-frequency dynamic beam control – A single dial switches between three different scanning frequencies on the same transducer for broad applications.</p> <p>Motion Artiface Eliminator – by cutting off unwanted noise, artifacts caused by hear motion and respiration are removed.</p> <p>Image memory – Provides storage for up to 2 seconds worth of scanning.</p> <p>Velocity range processing – a single switch selects the best velocity range for the given flow conditions in the current scan.</p> <p>Selecting display mode after image freezing - In color Angio mode, after image freezing, you can switch to standard color Doppler display to confirm the direction of the flow.</p> <p>The scanning modes are:</p> <p>B-Mode</p> <p>Depth: max. 24 cm</p> <p>Frame Rate: max 74 frames/sec</p> <p>Scanning lines: max. 239 ultrasound lines</p> <p>Multiple Frequency: Triple frequency dynamic beam control</p> <p>M-Mode</p>	

Item Description	Comments
<p>Channel: Single</p> <p>Display Speed: 1,2,4,8 s/screen</p> <p>Focusing</p> <p>Reception: Progressive Dynamic Focusing, 32 steps max.</p> <p>FFT Doppler</p> <p>Mode: (PWD) (CWD (CWD)</p> <p>Velocity range process (VRP)</p> <p>Selectable application: Programmable function for convenient selection in various applications of optimum parameters for velocity detection.</p> <p>Pulse repetition frequency (PRF)</p> <p>Color Doppler</p> <p>Display mode: Velocity-variance, power, variance, velocity, saturation, color reversed, color contrast</p> <p>Velocity Range Processing (VRP)</p> <p>Display format: BDF/MDF or BDF/MDF/FFT (triplex mode) Simultaneous display</p> <p>Image Processing: Programmable image quality adjustment function; for CDI smooting, CDI average, scale cut, lateral filter, color persistence</p> <p>Color Enhancements:</p> <p>Display Format</p> <p>B/M Scan: B (dual B), B/M, M</p> <p>Doppler (D Mode) : B, B/M/D, B/D, M/D, D</p> <p>Color Doppler: BDF (Dual BDF), BDF/MDF, BDF/MDF/D, MDF, MDF/D</p> <p>Memory size of DSC</p>	

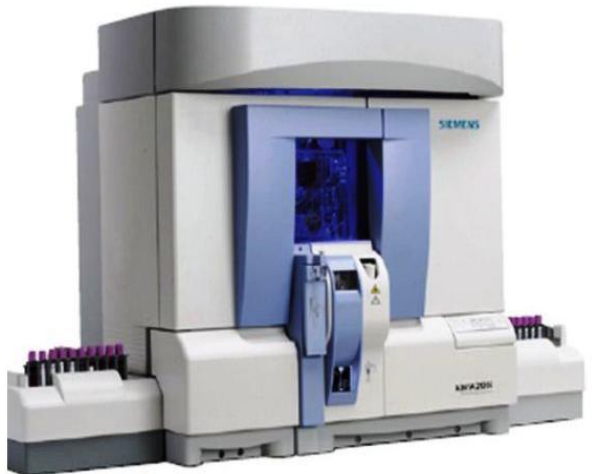
Item Description	Comments
<p>Image Memory : 512 x 512 x 8 bits x 4 frames B/W 512 x 512 x 16 bits x 6 frames color Graphic Memory: 640 x 512 x 1 bit x 6 frames Observation Monitor: 15-inch non-interlaced color monitor RGB input Reference Signal This function provides ECG reference signal display and ECG trigger mode for single mode. Signal: ECG (lead II) , PCG ECG trigger: 1 channel Measurement B-Mode: Distance, angle, area, circumference, volume, short axis diameter, long axis diameter, cross distance, parallel distance, hip joint M-Mode: Distance, time slope, heart rate Doppler: Velocity, time acceleration, heart rate Color Doppler: instantaneous flow velocity Histogram B-Mode; Echo amplitude histogram Doppler: Velocity histogram Profile Display B-Mode: echo amplitude display Color Doppler: Velocity, variance, power or amplitude display Application software Cardiac application Left ventricular B-Mode Modified Simpson</p>	

Item Description	Comments
<p>Single-plane, Bi-plane, bullet</p> <p>M-Mode Cubes, Teichholz, Gibson</p> <p>Mitral Valve M-mode</p> <p>Aortic Valve M-mode</p> <p>Doppler Valve orifice area measurement</p> <p>Pressure gradient measurement</p> <p>Flow measurement</p> <p>PI (pulsatility index) measurement</p> <p>Obstetric calculations (OB advisor)</p> <p>This function provides data for determining fetal growth based on the measurements of fetal size. Featuring: application to twin pregnancy, application to various authors' charts, max. 65 items.</p> <p>Report</p> <p>Includes items such as patient ID, Measurement Data, Comment.</p> <p>Ratio measurement, scientific Calculation Function, hip measurement.</p> <p>Accessories to be delivered:</p> <p>1- Convex probe frequency 3.0 ~ 6.0 MHz</p> <p>2- Linear probe frequency 5.0 ~ 8.0 MHz</p> <p>3- Sector (phased array) probe frequency 2.5 ~ 3.7 MHz</p> <p>4- Sector (phased array) probe frequency 3.0 ~ 5.0 MHz</p> <p>5- Endocavity probe frequency 5.0 ~ 7.0 MHz</p> <p>6- Pencil probe 2.5 MHz Doppler only</p> <p>7- Convex probe frequency 5.0 – 7.5 MHz</p>	


Item Description	Comments
<p>I10 Radiographic System Qty : 1</p> <div style="text-align: center;">  </div> <p>General-purpose radiographic systems are used to perform routine diagnostic x-ray procedures. At minimum, the radiographic system shall include the following :</p> <ul style="list-style-type: none"> ■ X ray generator ■ Radiographic table ■ X-ray tube and collimator unit ■ Wall-mounted Bucky with AEC <p>The System Proposed should at least meet the following criteria to qualify:</p> <p><u>Table:</u></p> <ul style="list-style-type: none"> ■ Radiographic Table ■ The table shall exhibit the following features: ■ Four way power assist ■ Low absorption flat top (maximum 1.5 mm Al equivalence at 100 kVp) 	


Item Description	Comments
<ul style="list-style-type: none"> ■ The tabletop shall be capable of supporting a 200 Kg patient at maximum tabletop extension ■ Power Assist Travel feature, 100 cm Longitudinal, 25cm Lateral, ■ Pedestal Table Support ■ Electromagnetic Locking System ■ The table should have a three field ionization chamber (AEC) <p><u>TABLE BUCKY SYSTEM:</u></p> <ul style="list-style-type: none"> ■ Type: Motorized ■ Size : 43x43 cm ■ AEC: 3 Field ■ Spatial Resolution: 4 Lines/mm ■ Grid ratio : 10:1 ■ Cassette Sizes ; All Standard ■ Longitudinal Travel: minimum 50 cm ■ Bucky Servo linked to Xray tube ■ Automatic Tube Positioning <p><u>X ray Generator:</u></p> <ul style="list-style-type: none"> ■ The generator shall be a minimum 60 Kw unit. ■ High frequency with solid state rectification and switching ■ Radiographic range of 40 to 150 kVp ■ 500 mA at 100 kVp, ■ Focal Spot 0.6 and 1.2 mm per NEMA standards ■ Heat Capacity: At least 600KHU ■ Cooling Rate; at least 162KHU/min ■ High speed Rotor 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Selectable mAs or time ■ Adjustment of kVp in 1 Kv steps over the entire range ■ At least 24 mAs stations, with minimum mAs of 1.25 ■ Shortest exposure time of not greater than 2 msec ■ Capability for up to 6 exposures/second ■ Displays of all technique parameters, system status, tube overload, percentage of tube heat load, and actual radiographic exposure time ■ A minimum of 12 basic anatomic programs with modifications in basic programs for variations in patient size ■ Exposure counter ■ The generator shall incorporate automatic exposure control for three field detectors with selectable density levels. ■ Overtable Tube Support, Overtable X-ray Tube, and Vertical Cassette Holder ■ The over table x ray tube assembly shall rotate through 360° with locks or detents at 90° intervals and shall tilt 135° from vertical with locks or detents at 0° and 90°. <p><u>Wall mounted vertical Bucky Stand.</u></p> <ul style="list-style-type: none"> ■ The cassette holder shall accommodate various cassette sizes up to 14”x 17” in either a vertical or horizontal position. ■ Vertical travel shall be at least 90cm ■ The cassette holder shall include a 103 line, 12:1 grid, 3 field ionization chamber, automatic exposure control, cassette size sensing. <p>Accessories :</p> <ul style="list-style-type: none"> ■ Patient Handles ■ Foot rest ■ Compression belt ■ Lateral cassette holder ■ Various size Digital cassettes.2 each 	


Item Description	Comments
PACKAGE (L) - LABORATORY	
L01 Analyzer, Hematology Qty : 1	I
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Table-top model; ■ Automated hematology analyzer for the determination of WBC, RBC, Hgb, Hct, MCV, MCH, MCHC, PLT , PCT, MPV, RDW, PDW ; ■ WBC Differentials: neutrophils, lymphocytes, monocytes. ■ Startup Time : < 10 minutes ■ Cycle Time around 60 Seconds ■ Samples Rate: Minimum 60 samples/hr (CBC/Differential) ■ Blood sample Volume approximately 0.025mL – 0.32mL; open or closed tube sampling. ■ Automatic Dilution; Self washing per sample ■ Storage for normal and abnormal control value; ■ Hard copy ticket display; 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Visual display on screen; ■ Ability to accumulate moving average data control libraries automatically; ■ System to include latest Computer with necessary hardware and multitask software. ■ Storage capacity : Minimum 5000 ticket results with composite histogram / Scaterplots displays; ■ Alarms: Multiple data flags, diagnostic and reagent alerts, user-selectable alerts ■ Quality Control: At least 20 Files ■ Require all Reagents for startup period ; ■ All necessary accessories to complete the functions as listed above. 	


Item Description	Comments
<p>L02 Photometer Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Capable of PC-controlled operation using dedicated Spectrophotometer Software, the instrument performs full spectral analysis across the 190 -1100 nm wavelength range, as well as kinetic measurements and both quantitative and photometric analysis modes for sample assays. ■ Wavelength range 200-1000 nm; ■ Spectral slit width 10nm; ■ Complete with universal cuvette holder, pushbutton decimal selector; ■ 12 cuvettes of 10nm path length; ■ Two thermo-regulated cuvette holders; ■ Two semi-micro or flow-through cuvettes; ■ Six matched sets of two square cuvettes, (optical glass) of 10nm path length; ■ Two deuterium lamps; eight tungsten /halogen lamp assemblies; ■ Dust cover; ■ System to include: <ul style="list-style-type: none"> ■ 1 tungsten/halogen lamp ■ 1 general purpose sample compartment. 	


Item Description	Comments
<p>L03 Centrifuge, micro-haematocrit Qty : 1</p> <div style="text-align: center;">  </div> <p>This describes the requirements for a micro hematocrit centrifuge.</p> <ul style="list-style-type: none"> ■ In general, this centrifuge should apply centrifugal force to separate phases of different densities. ■ Bench top type, stable and vibration proof housing. ■ Microprocessor controlled with variable settings and digital display ■ RPM required > 12000 rpm. Speed (RPM) should not be greater than 10% of the displayed speed. ■ Rotor Radius: Minimum 8 cm ■ The centrifuge should have a Capillary reading plate and a removable capillary rotor. ■ Alert Indications: Audio able for Imbalance, overspeed, and End of Run ■ Capacity of tubes: Unit should accept 50 uL tubes and 75mm Capillary tubes ■ Timer Range: 0 to >60 min 	

Item Description	Comments
<p>L06 Microscope, Binocular Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Quadruple revolving nose piece; ■ mechanical stage; ■ specimen holder with spring clip; ■ achromatic condenser ■ 0,9; built-in 6V/20W illuminator with luminous field diaphragm insert with iris; ■ halogen bulb; ■ stabilized power supply; ■ binocular tube 45°; ■ conversion filter; ■ dust cover; objectives Achromat 10/0,25, 25/0,45 Ph2, 40/0,65 Ph2, 100/1,25 oil Ph2; ■ phase slider Ph2; ■ oiler (with oil); ■ two eyepieces KF 10x/18Br (one focusing) with eye cups; ■ auxiliary microscope; spare bulbs; <p>Accessories:</p> <ul style="list-style-type: none"> ■ Eyepieces C8 x (one focusing). ■ Dust Cover 	


Item Description	Comments
<p>L08 Centrifuge, Universal Qty : 1</p>	
<div style="display: flex; align-items: flex-start;">  <ul style="list-style-type: none"> ■ Digital display of time and speed; ■ programmable speed : range100-6000 rpm; ■ 0-60 minute programmable timer; ■ Volume Range: Minimum 6000mL ■ Acceleration Time: At least 3 Rates ■ Deceleration Time: at least 3 Rates ■ Speed : Minimum 6000 rpm ■ Rotor Chamber diameter: Minimum 55 cm ■ Steplessly variable generating brake; ■ imbalance switch with flashing light signal; ■ lid lock and interlock; ■ power supply pushbutton; ■ Unit to include: </div>	


Item Description	Comments
<ul style="list-style-type: none"> ■ Fixed angled rotor for 20x15mL ■ 6-place swing out rotor with wind shield ■ Sealed buckets of 100mL ■ Tube racks for 12 x 15ml ■ Aluminum adapters for 4 x 15ml ■ Aluminum adapters for 2 x 50ml ■ Aluminum adapters for 3 universal containers ■ 15ml centrifuge tubes ■ Pack of 80 x 12ml tubes ■ Pack of 25 x 50ml tubes. 	

Item Description	Comments
<p>L15 Mixer Vortex Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Variable mixing speed control up to 1800 rpm; ■ ON/Off switch; ■ Continuous and intermittent mixing facility; ■ Accessories: 2 stirring pads, rubber cup head 	


Item Description	Comments
<p>L20 Bunsen burner Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Die cast base, stainless steel grid, and rust free, chrome finished tube. ■ No back flash, and needle leakage valve. ■ Complete with, regular and nozzle for 6.5mm tubing, pressure regulator and 20kg capacity high pressure butane cylinder 	


Item Description	Comments
<p>L22 Chair blood sample taking Qty : 1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Specialized phlebotomy chair equipped with a hydraulic lift mechanism heavy duty that allows the height of chair seat to be easily adjusted from 20 inches to 28 inches. ■ Durable arm rest assembly to be fully movable both horizontally and vertically to ensure optimum positioning for venipuncture and collection. Both arm rests are wide and padded for patient comfort. ■ The reinforced chair shell and durable steel frame should be maintenance free. ■ The arm rest tray should have a pull out drawer and a fixed tray for convenient storage. The drawer should contain a built in tube holder and multiple compartments for supplies. The tray should have raised sides. ■ Both drawer and tray must be constructed of durable polyethylene thermoplastic that can be easily 	


Item Description	Comments
<p>L26 Micropipettes Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Assorted set of 10 micropipettes as follows: ■ 2 micropipettes volume 5-50 micro Liter, division 1 micro Liter. Accuracy < +/- 1.5% ■ 5 micropipettes volume 50-200 micro Liter, division 1 micro Liter. Accuracy < +/- 0.6% ■ 3 micropipettes volume 200-1000 micro Liter, division 10 micro Liter. Accuracy < +/- 0.5% ■ Should have eject-able tip mechanism. 	


Item Description	Comments
<p>L27 Sedimentation test Qty : 1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Blood sedimentation apparatus to hold minimum of 10 ESR tubes. ■ With digital display for time and result. ■ Main test items: PT, APTT, TT, FIB ■ 2 reagent pre-warm position ■ Automated level sensing and intelligent startup testing ■ Readings could be read in 1 hour or 30 minutes with audible signal. 	


Item Description	Comments
<p data-bbox="184 188 676 224">L28 Thermometer, Electronic, laboratory</p> <p data-bbox="1144 188 1234 224">Qty : 1</p> <div data-bbox="531 235 856 755" data-label="Image"> </div> <ul data-bbox="193 776 913 1031" style="list-style-type: none"> ■ For Laboratory use. Dual scale oC ■ Temperature range : -50 deg - +150 Deg.C ■ Accuracy +/- 0.1 oC ■ Digital display. Complete with probe and one meter cable. ■ Battery life minimum 5000 measurements 	


Item Description	Comments
<p>L29 Titration Set Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Complete system to permit micro titration procedures ■ Automated titration device used to control the pH and polyelectrolyte concentration in solutions , colloids, suspensions, and emulsions. ■ System to include: <ol style="list-style-type: none"> 1) 12 Channel pipette with variable volume. 5-50 micro liters. With accuracy +/- 0.8 to 5% (0.8 at 50 microL and 5% at 5 microL). Pipette to incorporate tip ejector. Complete with box of pipette tips. 2) Box of disposable micro plates of flexible PVC. To have 96 wells. 	


Item Description	Comments
<p>L30 Timer Qty : 1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Table top, for laboratory use. ■ Solid plastic, impact resistant and moisture proof construction. Large LCD or E.L. display. Start, stop and reset buttons, large sizes. Chronometer +/- 0.01 sec accuracy. ■ 2 Channels. Displays: hour, minute, seconds, fraction of second. 	

Item Description	Comments
<p>L32 Refrigerator Under table Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Under table laboratory fridge ■ Capacity at least 90 Liters ■ Glass Door ■ Digital Temperature display on front ■ Temperature range 2-20 deg C ■ Includes Minimum 2 shelves ■ Automatic Defrosting 	

Item Description	Comments
<p>L33 Casework, laboratory/ meter Qty : 16</p>	
<div style="display: flex; align-items: flex-start;">  </div> <ul style="list-style-type: none"> ■ Casework, laboratory, complete Measured by meter. ■ All laboratory casework must conform to an internationally acceptable standard dedicated for laboratory work. ■ The Laboratory casework should cover all areas in the laboratory as illustrated in the tender drawings (approx.40 m length). ■ The case work should consist of work surface, under bench drawers and cabinets and where shown (In the tender drawings) sinks and the required faucets for hot and cold water. ■ A set of detailed drawings for the proposed casework with all views shown should be submitted to the client for approval; ■ All material used in this unit such as : sinks, faucets, drains, etc. must be acid resistant; all work 	

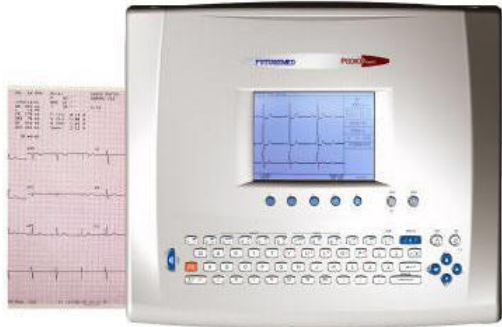
Item Description	Comments
L35 Container, Tubes Qty : 1	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Phlebotomy tray includes two removable tube racks each with a 32 tube capacity and one metal mounting bracket that holds a one quart sharps container. ■ The tray ensures a storage area under the handle for gloves or tourniquets. ■ Latched pull out drawer that has six compartments for concealed storage. 	

Item Description	Comments
<p>L38 Mixer Blood Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ flexible lab mixer and lab rotator ■ Rotates 5-30 RPM ■ Capable of performing three modes of mixing, all of which are programmable and can all be used in the same mixing run. ■ can hold many different sizes of test tubes ranging from 1.5 ml to 50 ml ■ Mixer, blood; Aliquot mixer 	


Item Description	Comments
PACKAGE (M) MONITORING	
M01 Monitoring unit, Mobile Qty : 1	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Color Hi-resolution display at least 10" ■ Minimum 3 waveform simultaneous display with corresponding digital readouts. ■ Mains and Battery operated (2hr capacity), with a charging module built in. ■ Non-invasive blood pressure (NIBP), ■ Two invasive blood pressures (IBP), ■ Temperature Monitoring ■ SPO2 ■ EtCO2 ■ Trend facilities up to 24 hrs ■ Transportable on stand with five Casters <p>Accessories :</p> <ul style="list-style-type: none"> ■ ECG cables with 100 electrodes ■ SPo2 sensors for adult and child and infant ■ NIBP cuffs three sizes ■ IBP transducers (20) with two connect cable ■ Temperature probe ■ CO2 sensor with cables. 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Built-in ECG displays and chart recorder ■ Isolated CF Class 3, 4, or 10 lead patient cables ■ Cardiac freq: 10-300 b/min ■ Operating mode: semi auto, manual, sync (20ms after R-wave) non sync, various testing protocols, ■ VF and VT above 180bpm ■ Sensitivity: 98.8% ■ Specificity: 99.97% ■ Detection level :> 0.20mV ECG ■ Built in Spo2 display <p>The Cart should include the following items:</p> <ul style="list-style-type: none"> ■ Oxygen supply system with 2 cylinders. ■ Suction unit ■ Venture system. ■ Oxygen flow meter 0-15 liter/minute. ■ Laryngoscope set with adult/child/infant blades. ■ Guedel airway set, size 0 to 8. ■ Set of oxygen therapy masks (adult & pediatric). ■ Set of endotracheal tubes, size 5-10 mm with 15mm ISO connectors. ■ Resuscitation bags (children/infant) with masks. ■ Suction handle and tubing. ■ Tourniquet with Velcro fasteners. ■ Artery forceps, magill forceps. ■ Suture scissors, dressing scissors. ■ Penlight; bite stick; nasal canula set. 	


Item Description	Comments
<ul style="list-style-type: none"> ■ Stopwatch, rail mounted. ■ Sphygmomanometer, rail mounted, complete with adult and pediatric cuffs. ■ Stethoscope ■ Angle poise lamp ■ Telescopic infusion pole. ■ ECG patient lead set. ■ Disposable ECG electrodes (pack of 30). ■ ECG chart recorder paper (pack of 5 rolls). 	


Item Description	Comments
<p>M03 ECG Recorder, 12- Channels Qty : 1</p> <div style="text-align: center;">  </div> <p>Twelve channels ECG recording unit with:</p> <ul style="list-style-type: none"> ■ Twelve leads ■ 7 inches or more TFT LCD display ■ Pacemaker detection ■ Built in Battery with charger module ■ Indicators for mains/Battery Battery low, Loose electrodes and paper tray empty. ■ Analysis programs; ■ Digital filters eliminate EMG, AC, Baseline Drift Interference ■ Frequency response 0.05-150Hz ■ Digital data storage 50 ECG reports and above ■ Chart recording with patient data and ECG analysis annotated ■ With paper speed of 5/25/50mm/s and sensitivity of 5/ 10 / 20 mm /Mv with automatic adjustment. ■ High resolution thermal print ■ Alphanumeric data display panel with menu-driven software 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Mobile cart/trolley with at least one drawer and chart paper receiving compartment and patient lead support arm assembly. ■ Accessories to include: <ul style="list-style-type: none"> ■ 12 lead patient lead assembly; ■ ECG electrodes, disposable, pack of 300; ■ ECG plate electrodes, one set; ■ Patient ECG electrodes straps set; ■ ECG chart recording paper, 10 rolls; ■ Protective plastic cover for recorder unit. 	

Item Description	Comments
<p>M05 Fetal heart detector Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Portable; battery operated with built-in battery charger; LCD display, sound amplifier w/ volume control; earphones,2-3Mhz probe; auto correlation noise filter, complete with accessories and charger unit. 	

Item Description	Comments
<p>M06 Monitor, SpO2 Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Monitors adults, pediatric and neonates ■ User configurable power-on settings ■ SpO2: 0-100 % : ± 2 digits ■ Pulse rate: 20-250 beats per minute (bpm) ± 3bpm ■ Mains and battery operated up to 12 hrs ■ Digital displays: 3-digit LED display for oxygen saturation (%SPO2) ■ Pulse Rate amplitude indicator ■ Visual indicators: Pulse search, audible alarms of low battery and battery charging. <p>Alarms:</p> <ul style="list-style-type: none"> ■ Audible and visual alarms for high / low saturation and pulse rate. ■ Audible and visual warning indicators for low battery. 	


Item Description	Comments
<p>M07 Sphygmomanometer, aneroid, Mobile Qty : 4</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Mounted on a mobile stand with 5 swivel casters, measurement 0-300Hg, approximately 150mm diameter black dial with white pointer; Stand should be adjustable in height , ■ Velcro cuffs for adult and pediatric to be included and storage case; ■ To include a stethoscope, adult and pediatric and accessory Basket. 	


Item Description	Comments
<p>M08 Examination Kit Wall Mounted. Qty : 7</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Sphygmomanometer, aneroid, Wall -mounted; approximately 150mm diameter black dial with white pointer; Velcro cuff and storage case; ■ Complete with rail mounting clamp. Measurement range 0-300mm Hg. Adult and pediatric cuffs and bellows to be included, ■ To include a stethoscope, adult and pediatric and accessory basket. 	


Item Description	Comments
<p>M09 Standing patient scale Qty : 2</p> <p>Heavy duty stand scale for patient, anticorrosive material, Analogue scaling, graduated markings: 1/2 kilo division, up to 180 K.</p>	


Item Description	Comments
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PACKAGE R: RESPIRATORY CARE

<p>R02 Nebulizer, Ultrasonic</p>	<p>Qty : 1</p>
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Unit to be used in attendance to acute diseases of the respiratory tract. Unit should be able to accept various medical drugs. ■ Microprocessor controlled; adjustable between 0ml and 4ml per minute; Transducer frequency: around 1.7 MHz drops size: digital readout; PMG compatible hoses and support; auto switching off in case of lack of water. Complete with all necessary accessories. 	

Item Description	Comments
<p>R07 Resuscitator, infant Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Resuscitator bag with non-rebreathing valve, ■ Bag capacity approximately 240ml; ■ Transparent face mask, size OA; ■ Rendell-Baker mask, size 0; ■ Guedel airways set, sizes 00,0 and 1; ■ Safety valve on resuscitator bag specially for infant use up to two years of age; ■ Transparent carrying/storage case; ■ Resuscitator bag and face masks to be autoclavable. 	

Item Description	Comments
<p>R08 Resuscitator, Adult / pediatric Qty : 1</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Resuscitator bag with non-rebreathing valve; with two size bags ■ Bag capacity of approximately 700ml and 1700ml: reservoir; ■ Set of transparent face masks, sizes 0, 2 and 5; ■ Guedel airways, sizes 1, 2 and 4; ■ Transparent carrying/storage case; ■ Resuscitator bag and face masks to be autoclavable. 	

Item Description	Comments
<p>R09 Spirometer, Volumetric Portable Qty : 1</p>	
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Pulmonary function determination from single patient breath; <ul style="list-style-type: none"> - Hand held, lightweight - Mains and Battery operated - Built-in display panel to display graphics and A/N ; - Alphanumeric data; - Built-in chart recorder unit - For patient test record; to perform the following tests slow spirometry, Vcin, Vcex, ERV, Flow volumes, FVC,FEVI,FEVI%,FEF 25-75%,PEF, Max. Volume. Ventilation, airway resistance, Rhinomanometry and % comparisons. ■ Accessories to include: <ul style="list-style-type: none"> - 10 rolls of chart paper - Pack of 250 disposesable mouthpieces for patient use. 	

Item Description	Comments
<p>R12 Fast Track Kit (difficult intubation) Qty : 1</p> <div style="text-align: center;">  </div> <p>This kit is designed to enable the Paramedic or Nurse to quickly intubate a patient whether in ER or Operating theatres. Kit Should Contain:</p> <ul style="list-style-type: none"> ■ 2 Miller Blades, #2 & #3 ■ 2 Macintosh Blades, #3 & #4 ■ 1 Medium Laryngoscope Handle ■ 1 Adult Magill Forceps ■ 1 Adult Stylet ■ 4 Cuffed Endotracheal Tubes 6, 7.0, 7.5, 8.0 ■ 1 Thomas ET Holder ■ 1 Robertazzi Latex-Free Nasal Airway Kit (9 sizes) ■ 1 Berman Oral Airways (6 sizes) ■ 9 Water Based Lubricant Packets ■ 1 Roll 1" Dermicel Tape ■ 1 Dynamed Professional Intubation Bag 	

REPUBLIC OF LEBANON
MINISTRY OF PUBLIC HEALTH
THE COUNCIL FOR DEVELOPMENT AND
RECONSTRUCTION

Purchase & Installation of Medical Equipment for
KHALWAT & JBAA Health Centers


FINANCED BY THE ISLAMIC DEVELOPMENT BANK (IDB)

VOLUME II of V

TECHNICAL SPECIFICATIONS
LOT I: MEDICAL EQUIPMENT
JBAA HEALTH CENTER

May-2021





Item Description	Comments
PACKAGE (C) SPECIALIZED CLINICS	
C20 Ophthalmic unit complete with instruments	Qty : 1
<div style="text-align: center;">  </div> <ul style="list-style-type: none"> ■ Ergonomic, computer-intergraded, flexibility, combining the ultimate space efficient engineering and clean, contemporary styling <p>Specifications:</p> <ul style="list-style-type: none"> ■ Smooth-operating instrument delivery system including: ■ Convenient located control panel ■ Indirect Ophthalmoscope, Radioscopy with transluminator well chargers ■ Easily accessible spacious desktop ■ Counterbalanced vision tester arms ■ Overhead lamp ■ 3 well instrument charger ■ Indirect ophthalmoscope hanger w/dimmer control ■ Molded desktop surface ■ Additional storage compartment ■ High pressure laminates base cabinet ■ Manual electronics Control Panel Chair Up/Down Control ■ Examination chair 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Slit lamp ■ Vision tester ■ Power supply and printer box 2 – 220V ON/OFF ■ Convenience Outlet Swatches Low Voltage On/OFF Switches ■ Specification of the examination chair: ■ The chair should be adapted o the table. It is preferable that the chair would draw its power from the table. ■ Standard Chair features ■ Fixed chair back and armrests ■ Electric lift with 8” (20.3cm) stroke ■ Foot pedal control ■ Choice of upholstery colors ■ 15° tilt mechanism and footrest ■ Locking rotation ■ Sliding armrest ■ Fixed headrest ■ Footrest ■ Specification of the slit lamp: ■ Type: Stereoscopic Microscope ■ Magnification selection: 2 steps by objective lens rotation ■ Eyepiece: 10X, (16X) ■ Magnification ratio: 10X, 16X, (16X, 25.6X) ■ Fields of View (mm): 18, 14.5, (11.25, 9) ■ Papillary adjustment (Diopters): -5 to +3 ■ Slit illumination: ■ Slit projection magnification: 1.23X ■ Slit width (mm): 0 to 14 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Slit length (mm): 1, 2, 3,5,8,10,14 ■ Aperture diameter (mm): 1, 2, 3,5,8,10,14 ■ Slit angle: 0° to 180° ■ Filters: cobalt blue, red-free ■ Lamps: 6V, 20W halogen lamp ■ Base (guidelines) ■ Longitudinal movement (mm): 90 ■ Lateral Movement (mm) : 100 ■ Fine base movement (mm) : 15 ■ Chinrest (guidelines) : ■ Vertical Movement (mm) :80 ■ Fixation Target: Red-Led (Option) ■ Specifications for the indirect Ophthalmoscope: ■ The indirect Ophthalmoscope should have the following: ■ Synchronized illumination and observation beam ■ Stand by position for the optics ■ Light weight ■ The optics should be multi-coated for good usage in UV and IR ■ 3 different type of opening with integrated red free and bleu cobalt filters ■ Easily adjustable to different pupil sizes. ■ Electrically operated, connected to the examination table with its dimmer on the table. ■ Specifications for the vision tester: ■ The system should be attached to the arm specified for it in the examination table. ■ The projector should allow to project images, numbers and letters as per a chosen program. The projector ■ Should be programmable and controllable from distance by the mean of a remote control. The projector 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Should come equipped with one pair of Polaroid glasses. ■ The system should have the following projections: ■ Letters Qty: 6, Numbers Qty: 6, Snellen Qty: 5, Pediatric Qty: 3, Cross Grid, Clock ■ Dial for Astigmatism ■ Red/ Green, Points, Balance Binocular, Duo chrome white, Coincidence test vertical and horizontal, ■ Phoria ■ Schubert, Minute Stereo, Worth, Fixation ■ The system should allow to use a green mask or a red mask over the letters and to place a black mask over ■ Letters in vertical and horizontal mode with possibility of movement. ■ Electrical operated 	

Item Description	Comments
<p>C21 Keratometer Qty : 1</p> <ul style="list-style-type: none"> ■ Providing accurate objective refraction, through simple subjective refinement, and Keratometry measurements all in one mobile instrument. Refraction measurement (guidelines): ■ Hyperopia: 0 to +22 dptr. (0.12 or 0.25 dptr. Steps by example) ■ Myopia: 0 to -25 dptr. . (0.12 or 0.25 dptr. Steps by example) ■ Astigmatism: 0 to -7D dptr. Or +7D dptr. . (0.12 or 0.25 dptr. Steps by example) ■ Axis: 0° to 180° (1° steps by example) ■ Method of relaxation: automatic fogging ■ Measurement data display: LED monitor screen ■ Measurement Recording: Built-in printer ■ Alignment: (up to 10 measurements of each eye can be stored) ■ Corneal curvature measurement: Screen displayed ■ Corneal curvature radius measurements (guidelines): ■ Measurement range: 5.00-10.00mm (0.01 mm steps) ■ Corneal refraction: 67.50D-33.75D diopter. (0.12 dptr. Steps) ■ (Corneal refraction factor = 1.3375) ■ Corneal astigmatism: 0 to -7D dptr. Or +7D dptr. (0.12 dptr. Steps) ■ Corneal astigmatism axial angle: 0° to 180° (1° steps) ■ Measurement recording: (Up to 10 measurements of each eye can be stored. At R/K mode, only the Representative value will be printed). <p><u>Measuring Range:</u> Hyperopia : Myopia: 0 to +17 D (0.25 dptr. Steps) Astigmatism: 0 to -7D (0.25 dptr. Steps) Axis: 0 to -7D Or +7D (0.25 dptr. Steps) Chart: 0° to 180° (1° steps)</p>	

Item Description	Comments
<p>C22 Trial Lenses Box Qty : 1</p> <ul style="list-style-type: none"> ■ The complete set should be in a carry on case. ■ All lenses are corrected curve lenses with 25 mm diameter except Spheres – 20.00 corrected curved by 19mm, - 18.00 done by 21mm and – 16.00 done by 22mm. ■ Color coded for easy identification (exp.: Minux lens is Red, plus lenses in Black ace. In Grey) ■ Unbreakable light weight anodized aluminum mounts ■ Number of items: ■ Sphere : Single 20.00, 16.00,18.00, 13.00, 14.00 ■ Pairs 12.00, 11.00, 10.00, 9.00, from 8.00 to 4.00 decrement of 0.5, from 3.75 to 0.75 decrement of ■ 0.25, then 0.62, 0.50, 0.37, 0.25, 0.12 ■ + Sphere: Single 20.00, 16.00,18.00, 13.00, 14.00, 15.00, 13.50 Pairs from 12.50 to 4.00 decrement of 0.5, ■ from 3.75 to 0.75 decrement of 0.25, then 0.62, 0.50, 0.37, 0.25, 0.12 ■ Prism: Single 10, 8, 6, 5, 4, 3 Pairs 2, 1, 0.5 ■ cylinders: Pairs 6.00, 5.00 from 4.50 to 3.00 decrement of 0.5, form 2.75 to 0.25 decrement of 0.25 then 0.12 ■ + Cylinders: Pairs 6.00, 5.00, from 4.50 to 3.00 decrement of 0.5, form 2.75 to 0.25 decrement of 0.25 then 0.12 ■ Accessories: Frosted glass, Red Maddox, Green Glass, Red Glass, Cross Line 2 pcs, Stenopaic Slit, Pin Hole, ■ Plain Glass, Occlude ■ Pediatric trial frame P.D. adjustment 48 mm to 80 mm, Variable horizontal bridge fully adjustable temple length and angle <div style="text-align: center;">  </div>	

Item Description	Comments
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C 30 Dental Unit Complete (adults / kids)	Qty : 2
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- This section describes the requirements for a dental unit, The unit should consist at least:
 - Dentist Element
 - Assistant Element
 - Dental Patient Chair
 - Dental Instrument cabinet
 - Dental Air Compressor
 - Autoclave
 - Dental X-ray tube
 - Amalgamiser
 - Casework for the room
- The Unit must meet the following criteria to qualify :
- Dentist Element:
 - To be attached to a long swivel and height adjustable arm mounted onto the left of the patients chair ; to include:
 - Dental hand-piece, high speed air turbine, contra- angle, with fiber optics.
 - Dental hand-piece, low speed electric motor (speed: 12000 – 120000 rpm), contra-angle, with fiber optics.
 - Dental hand-piece, low speed electric motor (speed: 4000 – 40000 rpm). Straight, with fiber optics.
 - Dental scalar hand piece with three types of scaler tip.

Item Description	Comments
<ul style="list-style-type: none"> - Two air / water syringe hand-pieces, cold and heated spray - Dental chair for dentist ;height adjustable; back support and armrest; wide soft seat; ring type footrest; five swivel castors. ■ Assistant element: <ul style="list-style-type: none"> - To be mounted rigidly onto the patient's chair and it moves up and down with it. - Control panel and suction hand piece attached to a swivel arm with air jet pump and saliva ejector with adjustable suction rate; to include - High volume aspirator unit. - Cuspidor / spittoon assembly. - Heated tumbler filler assembly - Dental chair for Assistant; height adjustable; back support and armrest; wide soft seat; ring type footrest; five swivel castors. ■ Dental Patient Chair: <ul style="list-style-type: none"> - this chair shall allow the patient and dental staff maximum ergonomic comfort while helping facilitate ■ The dental examination or procedure. <ul style="list-style-type: none"> - The patient surface of the exam/treatment chair shall be padded and upholstered with a fire and wear- ■ Resistant, disinfectant-tolerant material. <ul style="list-style-type: none"> - The headrest shall be designed to minimize hyperextension of the neck muscles - Electrically operated (non-hydraulic); - programmed positioning control; - height adjustable between 370mm and 890mm; - adjustable "anatomical" headrest; - Swivel armrests to facilitate patient access. - Dental light unit, adjustable positioning, halogen, up to 24000 lux. ■ Dental instrument cabinet; <ul style="list-style-type: none"> - mobile; 4-6 drawers, - one dental treatment compartment; - Drawers to be fitted with instrument trays / racks. ■ Dental air compressor: <ul style="list-style-type: none"> - To deliver dust and oil proof compressed air - Pressure 3.5 bar +/- 0.3 w/ continuous flow of minimum 100L/min - Air filter < 5 Microns - Visual and audible alarm indicators for pressure temp and moisture contents in medical air. 	

Item Description	Comments
<ul style="list-style-type: none"> ■ Dental Autoclave: <ul style="list-style-type: none"> - S/S Chamber dimensions:400mmx200mmx210mm(DxWxH) - Max load 4 kg/cycle, Dry Heat - to be delivered with S/S trays, Deionizer Rack and recording instrument - unit to be installed in soundproof cabinet. ■ Dental Xray Tube: <ul style="list-style-type: none"> - Wall Mounted unit, on articulated arm ; - 270 deg swivel Vert. x 360 deg Horiz. with angle indicator, - 0.6mm focal spot,70Kv at 7.5mA ; timer 0.05 -3.2msec; - handset with 3m long cable; - fitted with a visual and audible warning for xray On; - to be delivered with pointed cone . ■ Dental Casework : ■ Casework for the room should conform with medical grade international standards for work surfaces in ■ Healthcare facilities. Samples of material and color with a detailed drawing of the proposed casework in the room that should fit all the working area in the dental suite should be submitted for approval by the client. ■ Amalgamizer: ■ High Capacity trooper, Wet and dry calibration to allow alteration of mix consistency simple or double <p>Note: One of the items should take in consideration the properties of kids (Dental Unit) colors and shapes specifications.</p>	

Item Description	Comments
PHYSIOTHERAPY PACKAGE	
<p>P01 Treat. & Massage Couch. Qty : 1</p> <p>Treatment and massage couch to be mounted on a rigid square – section tubular steel frame. Patient support to consist of a 2 cm thick board upholstered with a 4 cm thick layer of polyether foam and covered in tough and washable black simulated leather. Paper roll holder. Couch to be delivered with 10 rolls of paper and steps. Three cubicles complete with cubicle curtains should be installed.</p>	
<p>P02 Mat, exercise. Qty : 1</p> <p>Exercise mat, washable, impermeable covered polyurethane foam, sewn . Carrying handles on long edges. Size: approximately 1200mm W x 1900mm L x 500mm H.</p>	

Item Description	Comments
<p>P03 Lamp, infrared Qty : 1</p> <p>Unit shall emit IR radiation with approx. 400W output. With ON/OFF switch, two IR tubes, filter and metal safety grille. Automatic timer . unit shall be mobile on stable base with lockable casters. Power supply: 220V/50 Hz. Line cord and plug suitable for conditions of use. The unit has to be delivered with all accessories necessary for normal and safe use. Unit shall meet international safety – and electrical standards.</p>	
<p>P04 Fango Mixing Unit Qty : 1</p> <p>Fango mixing unit,small size. shell pressure chamber, Lid with safety contact & agitating gear, Heated outlet valve. Micro-computer controlled device with: Temperature adjustable degrees, Automatic sterilization, Timer for continuous agitation. Supplied with temperature controlled cabinet, aluminum shelves, gliding rails, Micro-processor controlled, display of time, equipped with fan. Enforced work surface Supplied with 10 kg of Parafango and 500 Para foil sheets.</p>	

Item Description	Comments
<p>P05 Bars, stall Qty : 1</p> <p>Wall mounted stall bars, single section Approximate size: 900mm W x 2400mm H. Constructed of splinter – proof, polyethylene varnished wooden bars at 100mm intervals. Brackets for fixing shall be supplied</p>	
<p>P06 Pulley Assembly, Wall Mounted, Triplex Qty : 1</p> <p>Triplex wall mounted pulley assembly unit shall be designed as an adjustable weight/pulley system for exercising shaller, elbow, arm, back, and chest. Assembly shall include vertical, wall mounted chrome – plated steel weight guides, ball bearing wooden pulleys in cast iron housings (1 pair floor mounted , 2 pair wall mounted, 1pair ceiling mounted), and metal handles with wooden hand grips (1pair suspend from ceiling mount). Pulleys shall be mounted on 25 mm white oak backboards securely attached to blocking, floor and concealed supports as required. Approximately 12 kg of cast iron weights shall be provided with the unit. The unit has to be delivered with all accessories necessary for normal and safe use. Unit shall meet international safety – and electrical standards.</p>	

Item Description	Comments
<p>P07 Portable Ultrasound Apparatus Qty : 1</p> <p>Portable ultrasound unit, rechargeable battery operated. 1 & 3 MHz Continuous & intermittent modes. Supplied with : 1 x treatment head, large, 1 & 3 MHz 1 x treatment head, small, 1 & 3 MHz Side radiation should be < 10 mW BNR & ERA, Control mode to be specified</p>	
<p>P08 Shortwave Appratus Qty : 1</p> <p>Shortwave apparatus with 2 outlets for 2 induction electrodes. Outlets can be used independently or simultaneously. Continuous & adjustable intermittent modes. Ajustable pulse widths, adjustable frequencies, adjustable powers. Should contain treatment protocols, and programmable memory. The electrode should be equipped with power indicator, and sound warning for insufficient load. Should be supplied with 2 x small electrodes (inductive), 2 x medium electrodes (inductive), 1 x large electrode (inductive)</p>	

Item Description	Comments
<p>P09 Continuous Passive Knee Mobilization Qty : 1</p> <p>Knee CPM unit, with adjustable extension & flexion unit – 5 – 0 – 120 degrees Adjustable speed, pause time interval. Femur scale, Equipped with 2 goniometry, one on each side. Adjustable foot support. Supplied with safety control.</p>	
<p>P10 Continuous Passive Hip Mobilization Qty : 1</p> <p>Hip CPM unit easily adaptable to right & left sides. Flexion – extension movements between 0 & 100 degrees Abduction – adduction movements from 50 – 0 – 50 degrees Possibility to decouple knee & hip motions Inward – outward rotation between 40 – 0 – 40 degrees Supplied with safety control . 220 volts, 50 Hz</p>	

Item Description	Comments
<p>P11 Complete cervical & lomber traction unit Qty : 1</p> <p>Traction apparatus operating on intermittent & continuous modes. Constant automatic monitoring of the traction force by microprocessor. Should be supplied with neck harness, lumbar & pelvic belt, stool with separate height adjustment for each leg, remote security control. The unit should be installed on a traction table with the following specifications: 2 – Section table with a rolling traction part. Electrical height adjustment between 45 & 95 cm. Equipped with fixation rails for thoracic & pelvic belts. Central wheel elevation system & clutches. Approximately 210 x 67 x 7 cm 220 Volts, 50 Hz. Traction apparatus supplied with a wall bracket for cervical traction. Also supplied with neck harness, security control & mobile hydraulic height adjustable upholstered patient stool. Independent cubicle curtain to be supplied.</p>	
<p>P12 Shoulder Wheel Qty : 1</p> <p>Shoulder wheel, Chrome plated, variable height between app. 1 & 2 meters. Adjustable resistance & balance</p>	

Item Description	Comments
<p>P13 Training machines & tools Qty : 1</p> <p> Quadriceps training machine Stationary bicycle Rectangular & circular freeman balance boards Dumb-bellsCold packs Exercise elastic bands One set of Cushions consist of:Half Roll, flat underside cushion 56 c 15 c 18 cm Same but 50 x 18 x 10 cm Same but 27 x 15 x 18 cm Position cushion 40 x 20 x 15 Wedge cushion 50 x 40 x 30/2 Same but 50 x 30 x 15/2 Same but 40 x 40 x 12/2 Mobile correction mirror, with wooden frame and squares 180 x 66 cm, mirror 168 x 60 cm (approx) Wooden storage rack app 114 x 62 cm. with 6 exercise sticks, 6 clubs, 6 dumb bells of different weights and 3 medicine balls, leather (1,2,3 kg). </p>	
<p>P14 Pressotherapy machine Qty : 1</p> <p> 12-channel presso-therapy device, 8 pre-set programs for most common protocols Continuous pressure setting 20 -160 mmHg with gradient setting Silent and reliable compressor run, Speed of inflation set-up Numerous applicators with additional zipper for enlarging the sleeves Overlapping sectors for gentler, more homogenous treatment Full-length zipper for easy wear , Automatic sleeve emptying after the treatment Connectors for easy applicator-swapping, just plug and treat Electronic pressure control system </p>	