

KHYBER COLLEGE OF DENTISTRY, PESHAWAR
LIST OF DENTAL EQUIPMENT 2018-19

DEMAND OF ORAL & MAXILLOFACIAL SURGERY, WARD AND PRIVATE ROOM

S. No	Item	Description / Specification
01	Digital Portable X-Ray USA/Japan/Germany/EU/Taiwan/ Korea	X-Ray generator : Inverter Tube voltage :50 to 60KV Tube current : 1mA Tube focal spot : 0.8 to 0.9mm Target angle : 20° Exposure time : 0.05-1.25sec Digital Sensor (Increase 0.05sec) : 0.20-1.35sec Film Power requirement : DC 14.2-16.8V Weight : 1.8 to 2Kg Detector : Film / Digital Sensor , Power supply : Rechargeable battery, Display : Graphic LCD
02	Scanner (for X-Ray film scanning) USA/Japan/Germany/EU/Taiwan	Make & Model: Imported Three templates: size 0, 1, 2, 3, 4, Panoramic and Cephalometric films Scanning area: 8.0" x12" Scanning mode: 8-bit, 16-bit grayscale Optical Resolution: 1200 dpi Interface: Hi-speed USB (USB 2.0) Dimensions (LxWxH): 576x297x118 mm Weight: Less than 7 Kg Power Supply: 100 to 240 VAC~, 47 to 63 Hz Max. Power Consumption: 45 Watts System Requirements: CD-ROM Drive (for installing software) Certifications: CE, FCC, RoHS Warranty: Minimum one year onsite warranty
03	Auto Clave USA/Japan/Germany/EU	High Speed (Fast cycles), 20 To 24 liters capacity/extra capacity (optional). Advanced control, lifelong durability, water quality check, chamber stainless steel highly polished, data management data for 100to 300 cycles is downloadable to USB memory. Built in printer/with external printer facility will also acceptable. Top/Front water filling. Built in freshwater storage container. Built in waste water storage container. Fully automatic autoclave 4 to 8 sterilization programs. Temperature control accuracy: 134°C-137°C Power Supply: 230V, 50Hz, 2,000 to 2500 Watt. Accessories: 4-6 piece of trays compatible with the steam sterilization. One piece of holder for unloading of trays.
04	Oscillating saw Germany/Japan/USA/EU	Fully automatic load-compensation over the whole oscillating field Slim and silent motor producing only 52-77 db depending on the selected oscillation, latest electronic system with various protection and security functions, special positioning of the motor protected by plaster dust, safety on/off switch, 230v,50hz or 110volt, 60hz, 500 watt or better, 6500 upto 24000 oscillation, 5 meter cable with EU-plug, light weight, double protection isolation, battery operated, with all standard accessories required by end user. Touch screen color control unit with integrated irrigation pump, single pedal foot control unit, control adjust rotational speed: min 30% >default max> 100%)> default >max100%), reverse flush continuous 100% irrigation when depressed; disable function to the selected foot control button. Motor Cable autoclavable. Reverse/forward 80-200W high speed motor for different types of handpiece with 70,000-80,000rpm, reciprocating handpiece speed 18,000-20,000 min, stroke length: 2.5mm, sagittal saw attachment, speed 18,000-20,000min, Angle of Oscillation 8°. Angled handpiece 80,000 rpm, medium size with irrigation nozzle. Adaptor for oscillating intra oral blades, sagittal and oscillating saw blade for intra oral, reciprocating saw blade, diamond burs for angled handpiece, sterilization case, lubricant oil for cleaning.

05	Surgical Drill Machine Germany/Japan/USA/EU	Complete set optic with hand piece All necessary functions for oral surgery procedures and implantology Large Illuminated Surgical Drill Machine (Optic) Complete set optic with hand piece LCD. Adjustable light intensity 6 present implant system with individual 8 programs. Slim high performance pump. Powerful torque (5 to 80 Ncm) Widespread range (> 80,000/min required). High torque accuracy Lightest and smallest Micromotor. LED illumination (over 32,000 lux). Excellent durability. Autoclaveable, thermo-disinfectable and maintenance free brushless design. Contents Control unit with with data storage facility. LED Micromotor Foot Control. Optic Handpiece (20:1 Reduction) Irrigation tube (5 pcs) Micro surgery hand pieces Straight hand piece 1:2 increasing, for surgical burns (2.35) , Twist chuck, Max: 80,000/min. 20 degree Angle Hand Piece 1:2 increasing, for surgical burns (2.35), Twist chuck, Max: 80,000/min Surgical Hand Piece oscillating with surgical blades 17 degree oscillating action, 3:1 Reduction With external spray nozzle Max: 12,800 strokes/min Surgical Hand piece Sagittal with surgical blades 3 degree Sagittal action, 3:1reduction With external spray nozzle, Max: 12,600 strokes/min Surgical Hand piece Reciprocating with surgical blades 1.8 mm reciprocating action, 3:1 Reduction With external spray nozzle, Max: 12,600 strokes/min.
06	X-Ray Viewer/Illuminator (Imported)	Large/ Medium Size
07	Portable Oxygen Cylinder Imported	large & Medium Size, with stand, Key & Pressure Gauge
08	Wheel Chair Imported	Foldable and adjustable, foot rest.
09	Weight Machine Imported	(large & Medium Size)
10	Patient Monitor (BP Cuff & Pulse Oximeter) USA/Japan/Germany/EU/Taiwan/ Korea, china Dual certification mandatory	12 or more" color TFT display. Suitable for adult, pediatric and neonatal. Patient. Multiple parameters: ECG, NIBP, Pulse Rate/SpO2, Temperature, Respiration, CO2(Optional) Audible and visual alarms with adjustable alarm ranges. Networkable with central monitoring system. Reconfigurable patient settings.
11	Patient Trolley Imported	Up Down, with IV Stand cylinder cage and mattress with rexine cover.
12	Defibrillator Origin and manufacture must be same: USA/UK/Japan/Germany, Italy	Semi automatic biphasic defibrillator with monitor and AED mode Biphasic Tran thoracic (external) defibrillator with TFT/LCD color display Synchronized output with ECG. Control of energy charging/ delivering on main panel & apex paddle. Charging Indicators. The energy range should be adjustable for paed and adults up to 230 or better Joules or more Charging Time for full energy will be less than 10 sec. Screen Size of approx. 5 inch colored. Display of HR, ECG through paddles and Lead LH& HI patient cable. Built in recorder for printing of full summery on standard 50mm paper. Alarms for High and low Heart rate, low battery Warning. AC 220V / 501-lz operated. Built-in Rechargeable battery with charger for Minimum 100 shocks at max. Energy. Auto tester/self check. External paediatric and adults Paddles, ECG cable & AED facility.
13	Laryngoscope USA/Germany/UK/Japan/EU	2.5 V Standard Laryngoscope Set; Lamp at Distal Tip; Stainless Steel, Blade Sizes #1 to #4 (Qty. 4), Medium C- Cell Power Handle, Small AA-Cell Power Handle, Hard. Storage Case.

14	Fiber Optic Laryngoscope USA/Germany/UK/Japan/EU	Airway Management Solution Description 1.Intubation video endoscope 4.0 x 65 with suction valve, Latest CMOS technology based scope. Integrated LED Light Source Fibreless scope with a camera chip on the tip technology Image quality of 110,000 pixels or more Controls button for Imaging, White Balance & Video Recording Deflection up/down: 140°/140°. Direction of view: 0° Angle of view: 100°. Working length: 65 cm or better Total length: 93 cm or better. Working channel inner diameter: 1.5 mm or better. Including Accessories: Leakage Tester. Tube Holder Cleaning Brush. Irrigation Adaptor. Suction Valve. Bronchoscope Insertion Tube, size 4. Bronchoscope Insertion Tube, size 2 Plug, package of 10. Protection Cap, 2.Portable Monitor 7" or more TFT Wide Angle View Display Can connect Video Endoscope & Video Laryngoscope with toggle button Video Imaging in 4:3 format High image resolution with 110,000 pixels or more. Documentation with SD Storage and backup on USB memory Connection for use of two video endoscopes. HDMI output for connection to a external monitor. Play back system for images & videos Operates even during charging 2 hours battery back-up 3. Retromolar Intubation endoscope 5x40. For unexpected difficult airway. For use in the case of minimal mouth opening >1cm possible. Continuous Oxygen flow via tube adaptor. Autoclavable Outer Diameter: 5mm. For ETT: > 5.5mm. Useable sheath length: 40cm Distal Blending 400. Moveable eyepiece. Tube holder for ETT & Oxygen flow. Tray for cleaning & sterilization of retromolar endoscope Battery Light Source LED for endoscopes rechargeable. Brightness>110lm, lithim ion batteries charging time 60 min max suitable for wipe disinfection. Charging unit for battery light source One-chip CMOS camera head, resolution 640 x 480, focal length f = 20 mm. compatible with all endoscopes.Imported Stand from the same manufacturer. Plastic sterilization container for flexible endoscopes.
15	Video laryngoscope USA/UK/Germany/Japan/EU	Reusable display Batteries: 3 AAA alkaline Battery life:>90min.. Reusable blades
16	Pulse oximeter Desktop USA/Germany/UK/Japan/EU/ Korea/Taiwan	Desktop unit, 1 to 2 hour use with 3 to 5 hour recharge or AC/DC power, power card & charger. Adult/Paed's cuff NBP. Finger sensor reusable, Adult/paediatric sensor clip. 3 meter cable sensor. NIBP monitor. A+D automatic digital blood pressure monitor. 3 lines display shows diastolic, systolic and pulse reading simultaneously.
17	Glucometer USA/UK/Germany/Japan/EU	5 seconds time for result with test strip. Mercury – 500 results with date & time. Battery life for 1 year at least. Measurement range- 0.6 – 33.3 ml/l. Autopower 86 30-90 seconds. Data transfer via USB.

18	<p>Dental Unit USA/UK/Germany/Japan/EU</p>	<p>Headrests: multiple position articulated Head rest.</p> <p>Chair: should be strong and comfortable hydraulic operated by electric motor that synchronized allows back rest to adopt with the body's natural movement for the patient as well as for the dentist. Multiple/two preset programmable chair position, Last memory position, the chair should return to the previous treatment position. After using, the preset rinsing/zero position are achieved. Chair movement should be controllable by dentist touch panels/Joystick and on chair base joystick (hands free operation). Foot Control for chair movements independent of computerized circuit (relay system). Everything should be integrated into the chair base, no cables on the floor, hygienic and clean. One main switch to control air, water and power. Chair-instrument lock enables safe operation; the chair is locked while an instrument is working. With safety system, backrest and seat movement can be stopped once it meets obstacle. Spacious instrument tray chair mounted, LED Dental light (shadow less) flexible and multiple axis position with different light intensity control, Sensor and manual control. Ceramic cuspidor & glass filler with easy cleaning facility and direct water control and needle valve control.</p> <p>Dentist Element: Hoses hanging or over the tray, should be adjustable according to dentist position. X-ray film viewer. Left/Right armrest (foldable for patient convenience). Instrument holder with arc edge design, more space for operation. Control panel can be used for operating functions, such as chair movement, preset and programmable positions. Cup filler, bowl rinsing, operating light on/off and intensity adjustment.</p> <p>Equipped with: 1 three way syringe. High Speed Air Turbine Push Button Type (without light). Built-in Ultrasonic Scalar with detachable Hand Piece with 3 tips. Slow speed Air Motor with Contra and Straight Angle Attachment with integrated water spray, 1air pressure gauge. 1silicon mat autoclavable. Connector 4 to 2 hole adaptor availability.</p> <p><u>Assistant Element</u> 1 Doctor stole with full back. High power Suction & saliva system with filter for easy cleaning. 1 three way syringe.</p> <p><u>Water Unit</u> Mounted to the chair. Fresh Water bottle (1.5L). A switch to choose city water or fresh water bottle. Controlled with air regulator. Programmable cup filler and bowl rinsing systems. Water supply with filter. Air filter regulator. Air & water pressure pipe best quality. The Air turbine, Air Motor with contra and straight attachment and ultra sonic scalar: price may be quoted separately.</p>
19	<p>Pulse Oximeter (Handheld/moveable) USA/Germany/UK/Japan/EU/ Korea/Taiwan</p>	<p>High resolution large 2.8" TFT screen displays SpO₂, PR, waveform and pulse bar. Adjustable audible and visual alarms. Bright colored alarm lamp on front of unit, separate from the screen. Very easy to use menu system for adjusting settings and features. Battery-low indicator. Adjustable backlight. Automatic power-off function. Lock function to prevent keys from being accidentally pressed. Robust attachment for sensors to main unit, prevents accidental removal of cable Lock prevents unauthorized removal of batteries Allows 127 different patient IDs 70-hour data storage and Review. The large built-in screen allows you to review the recent results as well as instantly view average SpO₂ and PR Even on-screen graphs are easy and clear to display. Audible alarm suppression - can be silenced for 2 minutes. Med View software & USB cable/Bluetooth connectivity for further data analysis on a PC. AAA alkaline batteries. Supplied with reusable adult finger sensor probe. SpO₂ Range 70%-100%. Pulse Rate Range 30-235bpm. Display Parameters: SpO₂, PR, pulse Bar, Plethysmogram. Alarm SpO₂, PR, Probe off, Finger Out Latex free</p>

20	<p>ICU Ventilator Make: USA/Switzerland /Japan/Germany</p>	<p>Microprocessor control ventilation system for Adult, Paeds and Neonates. Mounted on trolley with height adjustment & with lockable wheels. Built in LCD/TFT color Touch Screen 12'' or more. Should be upgradable in future via USB Ventilator Should have RS 232 for central monitoring with HL7 protocol. Breathing Classification: Pressure control, Volume Control and Target ventilation. Modes of Ventilation: Volume control, PCV+,SIMV+/APRV, SIMV + Volume control, Pressure assists control. Adaptive Ventilation mode or equivalent. Pressure support, Auto mode. Non invasive ventilation, Bi-Level, nCPAP, nIPPV Measuring Parameters: Tidal Volume: 02-2000ml or more Respiratory frequency: 1-150bpm or more Inspiratory pressure: 2-60cmH2O or more, PEEP: 0-25cmH2O or more I:E ratio: 1:9 upto 4:1 or more, Peak flow up to 240 l/min or more Oxygen flow: 21-100% ,Inspiratory/Expiratory Hold. Total breath rate., Oxygen concentration 21-100% Expired & Inspired minute volume, Peak pressure. Plateau pressure, Mean pressure, Auto PEEP, NIF, Leak Flow Static Compliance ,Dynamic Compliance. Suction tool minimum for 02 mint or more. 4 or more monitoring parameters on a single display. Minute Volume, Automatic tube compensation(ATC) Other Control and functions: Backup apnea ventilation, Breathe Circuit compliance compensation. Ventilator should have set and measured parameters on a single display. Manual Breath & sigh.NIF Lung Mechanics with pressure / volume/ flow loops including facility to overlay, freeze & reference loop and screen shots for teaching purpose. Trending with Patient History upto 10days or more. Ventilator should have Suction tool to increase the oxygen concentration for minimum 2 minutes or more .Built in CO2 Capnography module active full system. Built in Integrated Nebulizer. Ventilator should be operate on single air source at 21% Alarms:Apnea. High and low Expired Minute Volume High and low Airway pressure. High and low Breath rate. High and low tidal volume, apnea rate. Fio2 variation. Gas supply source failure ,loss of peep, Low battery.AC power failure. Alarms must be audio, display in text and with different illumination colors.Prioritized Alarms(High, Medium, Low) Air Supply Source: Built in Turbine system with built in battery backup min 03 hours or more for full functions without external source. AC source: 220-240VAC 50Hz. Patient circuit for adults&Peads& Neonates use. Test lung with each device.</p>
----	---	---

21	<p>Anesthesia Machine with Ventilator and Modular Patient Monitor UK/USA/GERMANY/JAPAN</p>	<p>Clinical Specialty Anesthesia & Ventilator Generic Name Anesthesia Machine Clinical Purpose The anesthesia machine is used by anesthesiologists and anesthetists to support the administration of anesthesia. The most common type of anesthetic machine is the continuous-flow anesthetic machine, which is designed to provide an accurate and continuous supply of medical gases (such as oxygen and nitrous oxide), mixed with an accurate concentration of anesthetic vapor (such as isoflurane), and deliver this to the patient at a safe pressure and flow. Additionally, machines incorporate a ventilator, suction unit, and patient monitoring devices.</p> <p>TECHNICAL SPECIFICATIONS Anesthesia machine to administer anesthetic agents in precise control and flow manner for Adult, pediatric. Mobile 3-gases O2/N2O/AIR. It must comprise of the following components: Non-interchangeable pipeline inlets. Pipeline & cylinder gauges for O2, N2O and Air. Central gas/ electronically driven unit. Pin index cylinder yokes for Oxygen & N2O (One each), as backup. Gas outlet and O2 flush control. 1 auxiliary O2 outlet. Two Lockable castors. Stainless steel/fiber work surface. Absorber bag support arm. Three gas flow meters /electronic gas mixing for precise control and monitoring of gases. Drawer unit 4-6" high. Scavenging system Passive / Active type.</p> <p>ANESTHESIA VENTILATOR: Anesthesia Ventilator with minimum 10" color touch Screen/ manual. The ventilator shall be capable of ventilating adult and pediatric patients. The ventilator shall have following features as a minimum requirement: Volume Preset Time Cycled Ventilator (IPPV Mode) Pressure Controlled and pressure support Modes. Breathing Mode Selection (Standby / Volume / Spontaneous and Pressure). Built in Oxygen Monitor. Inverse I:E ratio Capability. Gas Specific Input Connectors (Air or Oxygen ISO or ANSI Standards). Tidal Volume from 5ml to 1400ml or more. Rate or Frequency 4 to 100 bpm. PEEP (4 to 20 cm H2O). Inspiratory Pressure Limit. Power Supply 220 VAC, 50 Hz. Battery Backup (30 Minutes or more) Low / High FiO2 Alarm. Incorrect Rate or Ratio alarm Mains Failure alarm. Low battery alarm advance indication Hypoxic device guard.. Pressure and Volume (Spirometry) Loops / curves. High / Low pressure alarm. The ventilator shall be supplied with complete drive hose and power cable.</p> <p>Note: Annual maintenance kits (needs to replace annually) will be included in the warranty period as per manufacturer's guidelines. The warranty of equipment will be including batteries, oxygen sensor and flow sensor: Anesthesia Accessories Power outlet with 3/4 socket outlets to connect the auxiliary equipment. CO2 absorber 1,300 gm or better complete with valve for bag/ventilator Manometer. Breathing bags. Re-usable Silicon Autoclave able breathing circuit (Adult, Peads or Infant 01 each). Mounts and Y-piece. Additional breathing hose and connector with 03 adult & 03 pediatric bellows: Optional: Two pre calibrated Vaporizers of Isoflurane & Sevoflurane vaporizer, temperature and flow Compensated: Monitoring: (Modular Type) Vital sign monitor. Size of minimum 15" or more for display of vital sign parameters. Measurement of ECG 5 leads. NIBP with re-usable single hose cuff for children and adults. SpO2 with re-usable cable and sensors for children and adults size (Massimo Type/Equivalent Motion tolerance technology).HR. Temperature with nasal probe. Respiration. EtCO2 (main or side stream) (If required Procuring agency to specify). Dual Channel IBP (If required Procuring agency to specify). 220V, 50 Hz operated. Note: Vital sign Monitor must be Compatible with the machine and Ventilator : (Monitor Accessories: 2 NIBP Cuff each. 2 Spo2 probe 2 temperature probe. IBP Leads. 2 ECG Leads. Note: The machine should FDA and CE or JIS certified (Any Two Certificated)</p>
----	---	---

22	Cardiac Monitor Origin: UK/ USA/ Germany/ Japan/Switzerland, china Dual certificate mandatory	Monitor with color display with ECG, Heart Rate, Non Invasive Blood Pressure, Pulse Oximetry and Temperature, Resp for adult, paed, neonates. Screen Size min 12" or more ECG: Numeric Heart Rate Wave form: 7 or more Real time cascade facility and freeze ECG Trace ECG Leads.I, II,III,Avr ,AVL,AVF, V (Minimum five leads) Lead Detection: Alarm on lead failure. Variable Gain:X250,X500,X1000,X2000 and auto. Heart Beat Indication: Beep/Tone at QRS detection. Heart Rate Range: 15-350 BPM NIBP: Method: Osciliometric Principle Display of Numeric Systolic / Mean / Diastolic Pressure. Selectable auto and inflate interval settings. Rising cuffs/Continuous pressure display. Pulse Oximetry. Range:0-100% Pulse rate range: 15-300 Resolution: 1 BPM Waveform: Plethysomograph pulse with pulse strength indication. Re-Usable Sensors. Arrhythmic analysis 15 or more. Respiration: Measurement Ranges- 0-150 BPM Other Features: Trend data: Graphical and Tabular more than 72 hours built in optional. Alarms. High and low selectable in all parameters. Visual and Audible indications of Alarms. Operating requirements. 220-240 V 50/60 Hz. Low power design with standby made rechargeable High energy built in battery for at least 01 Hour or more Including all standard accessories for above mentioned parameters along with operating and service manual. Drug dose calculation. TEMPERATURE: Input: Isolated protected against defibrillator and electrosurgical potentials. Alarms:Adjustable high and low limits. Low alarm range: +12 to +42 deg C Approx. High Alarm range: +13 to +44 deg C Approx Range: +12 to +44 deg C Approx. Accuracy: +- 0.1 deg C full range, 0.2 deg C with 0.1 deg C display if used with recommended probe. Probe fault: On screen indication. Calibration: 37.0 +- 0.1 deg C performed automatically and continuously. Touch/ Manual Upgradable capability in future NMT , BIS
DEMAND OF OPERATIVE DENTISTRY		
23	Endo motor (Rotary plus reciprocating) Made: US/Europe/Japan	Torque range 0.6 - 4.0 Ncm in continuous rotation Speed range 250 - 1200 rpm in continuous rotation Multiples angle available for clockwise and counterclockwise reciprocation. Rated input DC 18 V 0.5 A. Charging time 5 hours approx. Consists of; Endo motor Hand piece, endo motor Control unit, Contra-Angle Attachment, endo motor AC adapter.
24	Vertical Obturating System Made: US/Europe/Japan	Down pack procedure. Pluggers of various sizes Easy click on pluggers Pluggers can be used for down packing and searing of gutta-percha. Thermal response tip for pulp vitality testing Temperature and flow rate can be seen t individually
25	Rubber Dam Kit Imported (C.E)	Sheets: fine, medium and heavy Clamps: More than 5 types, 3 molars, 1 premolar and 1 anterior butterfly type Must be stable and made of stainless steel Frames: both plastic and metals, small and large size must be there

26	Apex locator Made: US/Europe/Japan/EU	Apex Locator for Canal Length Measurement Should have Documented / Published Accuracy of above 95% Measurement thorough Ratio Technique Accuracy of Measurement should not be affected by Presence or Absence of Blood / Other Discharge, Electrolytes, Saline, Tap Water, Hydrogen Peroxide No Zero-Adjustment should be required Before Measuring Individual Canals Apex Locator should Calibrate itself Automatically There should be no affect of Temperature & Moisture on Auto Calibration There should be Large Color Liquid Crystal Display for Easy Reading There should be Live Indicator Bar showing File Position in the canal There should be Live Indicator Bar showing Canal Length Possibility of Adjusting Apical Line between 0.1 mm to 1 mm There should be at least two memories for Setting Apical Line Green Indicator Bars should Illuminate when the File Approaches Apical Constriction Battery Status should be shown on the Screen Apex Locator Should Beep as the File Approaches the Apex Beep Should Convert into Continuous Sound as File Touches the Apical Line. Sound of the Beep can be adjusted Consists of Probe cord, files electrodes, contrary electrodes and function tester. It should operate on AA Batteries
27	Electric Pulp Tester Made: Imported (C.E)	Must consist of main tester body with a hand piece (in which tips are inserted), 2 short tips, 2 long tips, mini crown tester body (optional), grounding lead with lip clips. Senses sensitivity or vitality of a tooth Digital type showing readings from 00 to 80. Must turn on automatically as it contacts tooth surface. Powered by 1.5V size AA batteries
28	Light Cure Gun Made: Imported (C.E)	Cordless, Rechargeable Minimum 1 year warranty Past experience of use of Light cure gun must be checked
29	High Speed Hand pieces (Japan, Germany, USA, EU)	Stainless steel body Clean head system ISB turbine Water spray Push button/Key Speed= 360,000-430,000 rpm Standard head size: W=12.1*H=13.3mm LED light option if possible, Connector type : 2/4 hole
30	Slow Speed Hand pieces (Japan, Germany, USA, EU)	Combination for RA latch burs, Latch type, Maximum 25000 rpm, Latch type head, 1:1 contra angle, Fits all standard E type motors Connector type : 2/4 hole
31	Mini head Handpiece Germany/France/USA/Japan/EU	Stainless steel body Clean head system ISB turbine Water spray Push button Power= 16 Watts Speed= 380,000-450,000 rpm Mini head size: W= 10.6mm*H=12.4mm Easy replacement of cartridge LED light option if possible
DEMAND OF ORTHODONTICS		
32	Digital Dental Camera Germany/Japan/USA/EU	12 Mega Pixel, Touch operations, an lightweight, LCD Touch screen, ring flash.
33	Diode Laser Germany/Japan/USA/EU	Max. output power is <7w, 810nm or 10w, 940nm/980nm, there is a big color screen, wireless foot switch and customizable pre-setting protocols
34	Fractional RF with Micro needle electrodes system Korea/EU/Japan	0.5 – 3.5mm of penetration, touch screen with multi functions, insulated/non insulated needle delivery system.
35	Model trimmer dual wheel Imported	Voltage 230V/50/60 Hz REF 031-100-00, Motor power 2 x 450 W motor speed 1400 min-1 dimensions width 53cm, Height 40 cm, depth 38.5cm, weight 39 kg, color front grey rear black discs Corundum, fine REF 091-102-00 Diamond disc, coarse REF -091-105-00

DEMAND OF PAEDIARTIC DENTISTRY		
36	Anesthesia Machine for inhalation sedation	<p>Nitrous oxide Inlet, pressure requirements: 50 to 55 psi, flow requirements: 10 LPM minimum. Fittings: Fresh gas outlet: 15mm IDx22mm OD, Nitrous Oxide Inlet: male DISS CGA 1040, Oxygen Inlet: Male DISS CGA 1240, Environmental: Storage Temperature: 40°F to 120 °F (47°C to 48°C) allow stabilizing to room temperature before operating) Operating Temperature 72°F nominal (22°C), Humidity: ambient, no condensing. Gas Supply: Oxygen Inlet; Pressure Requirements: 50 to 55 psi, Flow requirements: 30LPM minimum flow. Gas Delivery: Oxygen Flush: 10 to 30LPM (20 LPM) nominal A 50psi input) Minimum Nitrous Oxide Concentration 00%, Maximum Nitrous Oxide Concentration 70%, Minimum Oxygen Concentration 30%, Maximum Oxygen Concentration 100%, Flow Range @ 100% Oxygen 1.0 to 9.9 LPM, Flow Range @ any % mixture up to 9.9LPM (low end limited by 1.0 LPM oxygen limit). Electrical (Domestic 115-120V) Input Voltage supply 115 VAC nominal, Input line Frequency 60Hz, Circuit Protection 2.5 amp time delay fuses (Matrix PN 63882537). PERFORMANCE AND ACCURACY: Controlled Variable @ N₂O flow > 1.0LPM, 50 to 55psi sources. Percent: O₂ ±5 Percentage points, +20,-10 Percentage points, Oxygen Flow Rate: From 1.0 to 9.9 LPM, ±0.5LPM. Nitrous Oxide Flow Rate: From 1.0 to 7.0LPM, ±0.5LPM, From 0.0 to 1.0 LPM, +0.5 , -0.9LPM. Pure Oxygen Flush 20 LPM nominal @ 50psi input. 20 LPM nominal @ 50 psi input. The measurable threshold of nitrous oxide flow for the digital MDM* mixer is 1 LPM. Below this point, the nitrous oxide flow delivered is a calculated flow. Scavenging system and breathing systems (disposable) for children.</p>
37	PORTABLE DENTAL UNIT (USA/ Europe/Japan/UK)	<p>All system components pack into the metal carrying case for easy transport. Case should have integrated combination lock for added security. Dual hand piece control (High and low speed) 3-way air-water syringe. Powerful saliva ejector suction. Internal, high-powered oil free air compressor provides over 32 psi to hand pieces 1 to 1.5 liter water reservoir and up to 2 liter waste container. All connections should have improved hand piece coolant control. Available with either four holes Midwest or 3 holes Borden style connections. Dual voltage switches (110V and 220V operate able with power generator). Weights: 10 to 15 kg. Opera-table with power generator. PORTABLE DENTAL CHAIR Lightweight but very Comfortable and safe for heavy patient. High strength steel construction. Back adjusts, with patient in chair, from full upright to supine position. Adjustable seat height from 8" to 22". Can be used as standard sit-up chair. Folded dimensions: 20" - 25" x 30" - 35" x 7" - 10".Weights 25 to 35 lbs. PORTABLE LED DENTAL LIGHT</p> <ul style="list-style-type: none"> • Adjustable LED sensor dental light. • Amber filter for working with composites • with carrying case
DEMAND OF PERIO (All items made in Japan, USA, UK, European Union)		
38	Ultrasonic Scalar Unit USA, UK, Germany, Japan, EU	<p>Classification: Class II with transformer, applied part type B, IP 40 unit, IP 20 Transformer, IP x 1 foot pedal. Mode: Continuous Operation. Power Supply: external Voltage: 100 – 120V AC, 220-240V AC. Unit: 20-25AC. Main frequency: 50/60Hz. Power consumption: 20 – 30 VA. Water supply: 1.0 to 5.0 bar (100 to 500 kPa). Maximum output: 8 watts. Frequency range: 25 – 32kHz. Weight: approx: 0.550 to 1 kg. Operating conditions: +10^oC to + 40^o C. 30% to 75 75 % relative humidity.</p>
39	Scalar hand piece (separate) for the selected ultrasonic scalar	USA, UK, Germany, Japan, EU
40	Scalar Tips matching to the selected scalar hand piece	Scalar tips for scaling purpose, Periodontal purpose, Endodontic purpose and Endo files
41	Electric pulp tester Bipolar & Digital	Same as for the Paeds and Operative Department specs
42	Centrifuge for separation of platelet rich fibrin. USA, UK, Germany, Japan, EU	1 new centrifuge DUO, 1 PRF box , 1 polysteribox, All PRF instruments, 100 A-PRF tubes 10ml, 24 I-PRF Tubes 10ml, blood collectors (24), 1 Tourniquet, 2 Angulation 70 Degree , RPM 1300-2500, 210-230 V. year warranty on centrifuge
43	Piezo Surgery Unit USA, UK, Germany, EU	Touch keyboard Sterile protection foils Feedback system. Working efficiency Unique hand piece system. APC (Automatic Protection Control). Power supply Voltage: 100-240 Vac 50/60 Hz Operating frequency: Automatic scan. From 20 KHz to 38 KHz

DEMAND OF PROSTHODONTICS		
44	Duplicating and hardening Machine Germany/France/USA/EU	Four zone heating system. Three temperature sensors control and monitor the temperature in the duplicating, material container, chamber dimension: Height = 365mm, width = 310mm, 355mm, capacity 3-6kg. Three micro compressor temperature control levels with tow tubs of 6kg capacity each. Two duplicating flasks.
45	Casting Machine Germany/France/USA/Japan/EU	Casting system using vaccum and argon gas pressure. Capacity of casting wide range of alloys (silver alloy, chrome cobalt alloy, etc). Ability to perform wide variety of casting like crown and bridges and dentures. Fast and safe. Dimension width: 400 mm, depth= 550mm, Height =490mm clear view of ally fusion process, touch button control panel. Time end cycle shutdown of the cooling pump, vibration free, auto standby function when idle. With all accessories like different sizes of crucibles for different purposes.
46	Face bows Germany/France/USA/Japan/EU	Light and resistant to corrosion. Opening and closing system permits adaptation to each patient. Removable and autoclavable ear pieces bite fork and orbital pointer. Graduated condylar rods, anatomic nose support.
47	Electro polishing bath Germany/France/USA/Japan/EU	A complete 3-station electro polishing system. Corrosion resistant parts with a mid volume output. Push-button operation and a built in digital timer. Total maximum polishing output of 24 volt DC at 10-25 amps. Stainless steel cabinets which should b corrosion resistant. Three years warranty on all parts with free labor. A cooling fan built into the unit. Digital temperature control for greater precision. A digital timer. Cabinet dimensions: 12-15Wx17-25Lx18-30H.Tank volume 1-3 gallons. Current capacity: 25-100amps. Construction all stainless steel. RFI/EMI filtered. UL listed. Electrical 120volt. Auxiliary tank- (optional)
48	Vacuum mixer Germany/France/USA/EU	For mixing investment material plaster and duplicating material. Optimal vacuum capacity of approx 100 mbar. Maintenance free diaphragm pump. Coupling for mixing bowl 250-300ml, 550-600ml, 835-600ml with pre and post evacuation options.
49	Sand blasting machine Germany/USA/France/EU	Three interchangeable nozzles for different size of blasting materials. Illumated chamber with dust protected tubular lamp with long service life. Quadruple filter system for high extraction. High collection capacity of pre filters 1.5-5kg. Option for connection to the central suction extraction system, filters, gasket, rubber plug, paper filters (10), fuses, spare extra nozzles, spare windows, 250 corundum blasting material 20kg, 110 size corundum blasting material 20 kg.
50	Electric wax knife Germany, USA, France/EU	Easy to use Excellent heat conductivity Long service life Easy to use and visible control buttons. Accurate temperature maintenance with reset function. Built in digital CPU circuit accurately maintains desired temperature Digitally displays temperature in either Celsius or Fahrenheit Previous working temperature is kept in memory, even if the unit has been turned off Usable with AC 100-240 V without additional adjustment Light handle Translucent compartment in rear of unit for easy storage of carving tips 2 waxing tips Exchangeable tips
51	Porcelain furnace France, Germany, USA/EU	Multiple free program, Pre Heat temperature 0-600 C, Preheat 0-30 minutes in 6 steps Fast internal pre heat time, Start vaccum 0-1000 C, Vaccum levels 0-99%. Release vaccum 0-1200 C. Final temperature 0-1200 C. Timed final temperature 0-30mins. Internal cooling time 0-10min. External cooling time 0-60 min in 6 steps. Automatic standby 0-60 min. Dimensions: H*W*D=520-600*300-350*420-550mm Vaccum pump for ceramic. Type of pump: Oil tank hermetically sealed Outflow 35 litres.
52	Dental Surveyor Germany, USA, Japan/EU	1 swivel arm, two articulated joints, Model holder, 1 wax chisel, Scanning needle probe, 3 undercut gauges, 1 carbon marker, holder.
53	Steamers Germany/France/USA/EU	Boiler in stainless steel 4-5 litres Heat protection with high insulating materials Pipe fitting in stainless steel and copper Electric power cut out in case of water failure Minimum level sensor switch Work pressure 4 bar Safety valve Emission of dry steam. Refilling 3-5 litres water. Fast reaching working temperature (10 min) Gun with hot water dropping protection Hose design for hot temperature and pressure

54	Preheating furnace for crown and bridge and partial denture (C.C Plates) Germany/France/USA/EU	Microprocessor controlled temperature regulation with digital display Preheating temperature at least up to 1100 C Maximum capacity of the mould chamber 100 MP Option of multiple individual program to be set Multiple temperature holding levels can be entered Programmable heating rate, linear heating rate of 1-9 C/min Clock time for desired casting readiness can be specified, optical and acoustic signal for end program. Corrosion resistant casting of stainless steel Connection piece and timer for regular suction extraction, switch off temperature can be set in every stored program
55	Portable suction unit/ Saliva ejector Imported	Vacuum adjustment: 80-550 mm of Hg, free flow= 27L/min Adjustable flow regulator Compact design – weight upto 6.3 lbs Power: Rechargeable battery pack along with facility of wall outlet Padded carrying case 800 cc waste canister Dimensions: 9*7*8 inches
56	Dental dewaxing bath Germany/France/USA/EU	Double walled, outside and inside body made of stainless steel Temperature controlled with digital display and controller cum digital timer. Alarm at end of operation time Drain valve for dewaxing Work on 220-230 volts AC Inner side 300-350*250-300*350-400 mm Temperature controlled with hydraulic thermostat from 5 C above ambient to 100 C with a sensitivity of 5 C Timer can be set from half hour to 2 hours
57	Composite curing light Imported	Wavelength: 430-480 nm, light intensity: 1470 mW/cm ² (-10%/+20%). Power supply: lithium-ion battery. Approx. 120min. battery runtime (-720 10 sec. cures) with constant light output regardless of battery charge. Operation intuitive two-button and single – mode operation. Pre-set sure times: 5,10,15 and 20 sec, continuous mode (120 sec) and tack cure mode power input: 100V-240 V 50/60 Hz chargeable cordless
61	Thermostatically controlled water bath Germany/France/USA/EU	Capacity 3-5 Litres Temp range: 0-180 C Benchtop Temp control: heating Bath shape in accordance to flask geometry 1350 Watts
62	Ultrasonic debridement bath Germany/France/USA/EU	Low noise Typical generator peak output: 240 Watts Power consumption: 120 watts Operating frequency: 50 Khz Timer: 0-15 mins Volume: 2-2.75 L
63	Dental loupes with head bands Imported	Magnification power: 2.5x upto 4x Working length: 340mm-420mm Option for attached head bands Adjustable to operator Focal length suitable for endodontic work magnification DL-DM-HB
64	Vaccum former Imported	Easy-to-use system Uses 5"x5" resin sheets Available in 110 Volt and 220 Volt Machine weight: 20-30 lbs. Machine size: 14 -15" x 8 -10" x 10-12" Symmetrical heating system Lightweight, rust-free aluminum frame

65	DSLR camera with ring flash, orthodontic mirrors and cheek retractors Germany/France/USA/Japan	Camera format: SLR Sensor type: CMOS Effective megapixel: 24.2 Sensor size: 366.6mm ² Pixel pitch: 3.92microns Focal length multiplier: 1.5x Image resolution: 6000*4000 (24.0 MP, 3:2), 4496*3000 (13.5 MP, 3:2), 2992*2000 (6.0 MP, 3:2) Image format: JPEG, RAW Focal length(35 mm equivalent): 27-83mm Focal length actual: 18-55 mm Zoom ratio 3.05x Macro lens 105 mm or 90 mm Ring flash
DEMAND OF ORAL BIOLOGY		
66	Microscope with Digital Camera and led screen Germany/Japan/USA/EU	Microscope frame with Trinocular tube, a pair of eye piece. Quadruple revolving nose piece, able condenser plan achromatic objective 4x, 10x, 40x100x(oil), as blue filter, 30 W illuminator, 6V 30W halogen bulb Microscope digital camera: digital camera with 2 mega pixel CCD with adaptor, connection cable between desktop and digital camera. Cellsens standard-V1.7 DVD, dongal, instruction manual, software for image capturing. 36 to 41 inches LED screen
67	Binocular microscope	Germany/Japan/USA/EU
68	Microtome cutting machine	
DEMAND OF PREVENTIVE AND COMMUNITY DENTISTRY		
69	DMFT MODEL Imported	Clear Model Depicting Caries and other Basic Oral Lesions Study Model " DMFT " Sillicom Soft Material Model Decay, Missing, Filling, Teeth. Features:- The left quadrant shows pre-treatment condition. The right quadrant show post-treatment condition with restoration. Demonstrates prosthesis case on the upper jaw and filling on the lower jaw. Purpose:- For explaining various treatment methods depending on different caries condition. For demonstration of cleaning missing teeth, brushing and flossing.
70	Perio Model Imported	Study Model " PERIO " Material Of Acrylic / Plastic And Mask Is Soft Sillicon Material Designed For Comprehensive Perodontal Surgery Training, But Also Allows SRP And Other Peridontal Treatment Practice Model Represents Severe Periodontal Disease Condition Fitted With Furcated Anatomical Teeth With Calculus, Having Excessive Wear Representing An Aged Person.
71	Dental X-Ray Unit (Peri apical) USA, UK, Germany, Japan, EU	X-Ray DC generator High Frequency (upto 300KHz) Focus spot upto 0.6 Tube Voltage (50 to 70 KV) Tube current (3 to 8 mA) Exposure times: upto 3.5sec Mounting option (Wall, Ceiling, mobile & Floor) Arm length (Standard size) 2 types timer (Portable or separate) Timer setting :Pre set timers(Kv, mA, Adult/child, upper and lower jaw program, bitewing and occlusal function, film sensitivity) Options and accessories (Synchronization link with any other RVG system, collimators, long cone)

Note: Manufacturer authorization certificate must be embassy attested from embassy of Pakistan in the manufacturer country.

DEAN
Khyber College of Dentistry
Peshawar