Bihar Medical Services & Infrastructure Corporation Limited, 4th floor, Bihar State Building Construction Corporation Limited. Hospital Road, Shastri Nagar, Patna 800023, Phone/Fax: +91612 2283287,+ 91612 2283288

Corrigendum-II

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for Supply, Installation & Commissioning of Dental Equipment on Turn-key basis for Government Dental College & Hospital, Rahui in Nalanda of Bihar was floated vide Notice Inviting Tender No.- BMSICL/2022-23/ME-280. During and after Pre-bid meeting various suggestions were received from different prospective bidders regarding amendment in technical specification of equipment which were discussed and deliberated on by the experts, who after due deliberation recommended certain amendments in the technical specification of the equipment, which are annexed as Annexure-I of this corrigendum. In order to facilitate maximum participation of bidders the tender schedule is being revised as follows:-

Tender Reference No.	**BMSICL/2022-23/ME-280**
Date and time for downloading of bid document	**Up to 08th June 2022 till 17:00 Hrs.**
Last date and time of submission of online bids	**09th June 2022 till 17:00 Hrs.**
Last date and time of submission of original documents of EMD, Tender Fee and Document	**10th June 2022 till 14:00 Hrs.**
Date, Time and Place of opening of Technical Bid	**10th June 2022 (at 15:00 Hrs.) on the website of www.eproc.bihar.gov.in in the office of BMSICL**
Date and time of opening of financial Bids	**To be announced later on www.eproc.bihar.gov.in**

Note:-

1. **Bidders are advised to refer to the Annexure-I of this corrigendum before submission of bid.**
2. **Those who have submitted their bids are requested to re-submit their bids in accordance with this corrigendum.**

Annexed:- As above

Sd/-
GM (Procurement)
BMSICL

Annexure-I

Tender No- BMSICL/2022-23/ME-280				
Amendment in specifications and quantity of equipment				
Name of Equipment	**Specifications**	**Qty (In tender)**	**SPECIFICATIONS (After Amendment)**	**Qty (After amendment)**
DEPARTMENT OF PROSTHODONTICS AND CROWN AND BRIDEGE				
Sl. No.	**(Dental chair and unit) Item**			
DEPARTMENT OF PROSTHODONTICS AND CROWN AND BRIDEGE				
Dental chair and unit	**Dental chair mount unit**	34		34
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position, with penumatic locking		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	One three way syringe and one light cure unit with light guide with shield. With variable modes of intensity. Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	

	Dentist element or trolley should have five point with Two airotor points, one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	

			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Extra oral and intra oral tracer		4	INTRA ORAL EXTRA ORAL TRACERS, INTRA ORAL EXTRA ORAL TRACERS, It is used to verify centric relation and to take protrusive records	4
Dewaxing unit	• Digital furnace for pre-heating and dewaxing.	2	No change	2
	• Heating upto 999 degree C		No change	
	• Double body furnace insulated with ceramic wool.		No change	
	• Faster heating and cooling cycle allows continuous usage.		No change	
	• Chamber and door fitted with high quality moulded ceramic.		No change	
	• Size: Width 130 mm, Height 100mm, Depth 250mm.		No change	

Semi adjustable articulator	With face bow,semi adjustable /acron type,fixed intercondylar aerage distance of 110 mm,condylar guide set at average 30 degree, bennet angle set at 15 degree.curved condylar guide , innovative central lock.	4	No change	4
Curing unit		2		2
			UV polymerizing equipment for resin and photosensitive materials.	
			It's made in stainless steel and it includes:	
			• 1 sliding drawer that can contain 3 models.	
			• 4 bulbs 9 W each one.	
			• 1 timer 120-180 sec.	
			• 1 switch for endless time.	
Dental Induction casting Machine		1	Automatic tabletop dental casting unit with high frequency induction melting and centrifugal casting.	1
			designed for casting of dental Co-Cr, Ni-Cr	
			and precious alloys tabletop design both	
			manual and automatic mode of melting	
			automatic maintenance of optimum power	
			automatic casting mode autonomic cooling	
			system Accessories: crucible tray ring	
			gripper crucible	
			silicon ring №2	
			silicon ring №3	
			silicon ring №4	
			graphite insert	
			Certification-US FDA/EU CE(Issued by notified body)/BIS approved	
Wax burn out furnace		1	No change	1

	Electronic control with microprocessor, the furnace manages 7 programmes with 4 phases per programme. The following can be set for each phase: temperature, raising speed and holding time. An ignition delay upto 100 hours can also be set. The furnace comes in 3 versions: small S, medium M and large L. The furnace ZEUS comes with a monobloc ceramic muffle with an external wrapped around resistance. This enables the temperature to be homogeneous in all its 4 sides: upper, lower and laterals. The fumes follow a natural circulation and come out from a rear chimney. To improve the exit of the fumes a chimney, which is supplied as an accessory, can be installed. Such installation is extremely simple and can be done by the operator.		No change	
	The oven features a safety micro-switch, which stops the resistance in case the chamber is opened. The oven is airtight with environmental materials in compliance with the requirements. Another useful accessory is the dewaxing plate which we also advise to buy, in fact it prevents the liquid wax from being absorbed by the muffle, keeping it free from abrasions and deteriorations which can damage it.		No change	
	TECHNICAL FEATURES:-		No change	
	Feeding : 220-240V		No change	
	Overall dimensions : 32x40x50 cm		Overall dimensions : 32x40x50 cm +_10%	
	Chamber dimensions : 16x16x10 cm		Chamber dimensions : 16x16x10 cm +_10%	
	Max. Temperature : 1100°C		No change	
	Weight : 28 Kg		Delete	
Pre Heating furnace			No change	1
			The oven can storing not less than 4 pre-heating cycles (or programs) which are kept in the memory until the operator decides to modify them.	

			Each program contains 4 phases and for each phase it is possible to set 3 variables: temperature, increase rate, holding time. It is also possible to set an Ignition delay and the fumes aspiration fan Off temperature (fume chimney). Furthermore it is possible to set a fi nal temperature holding time at the end of the cycle: this is to keep the cylinders at a certain temperature and allow some time for the operator to be ready with the next work.	
			Certification-US FDA/EU CE(Issued by notified body)/BIS approved	
Surveying Unit			It should ensure precision and high quality laboratory work. surveyor unit to be supplied with a table and a set of standard surveying tools. Handpiece support Made of aluminum.	1
Heavy duty Hand piece Lab	heavy duty micromotor with 2000 to 50,000 RPM.High performance brushles micromotor,portable with variable speed control and operational by both foot and hand.automatic overload protection,contra angle hand piece autoclavable 20,000 to 40,000 RPM and straight hand piece autoclable 40,000 RPM	4	No change	4
Autoclave	Hot and wet – class -B	2	No change	2
	Should have container for distilled water, and exaust condensed waste water		No change	
	The chamber should be of minimum 20 to 23 ltrs		No change	
	Technical Info :		No change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No change	
	Fuse tube - T15A		No change	
	The storage tank volume - 3.5L		The storage tank volume - not less than 3.0L	
	Ambient pressure - +5°~ +40°		No change	
	should have stainless steel containor to store the distal water and should be supplied with a distal water plan.		No change	
	Instrument tray - 3 Pcs		No change	
	Instrument rack -1PC		No change	
	Operation manual -1PC		No change	
	Handle tongs - 1PC		No change	
	1.5m water-outlet pipe -1PC		No change	
	Water outlet connector - 2PCS		No change	
	Measuring cup - 1PC		No change	

	Sealing ring - 1PC		No change	
	Power cable - PC		No change	
Needle Burner with Syringe cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	2	No change	2
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No change	
	Body Material : stainless steel or ms powder coated		No change	
	Power consumption of continuous rating, W in use : 100 W.		No change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No change	
	Burning Temperature, deg. C: 1600 C.		No change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No change	
	Safety features provided : Glass Cartilage Fuse.		No change	
	motorised syringe cutter: with wheel		No change	
CADCAM	A turn key project includes , IOS,Milling machine , model scanner , sintering machine,compressors , suction , 3 D printing,trainning and commissioning. (**OPTIONAL)**	1	A Complete System for Computer Aided Design /Computer Aided manufacturing of im lays ,on lays,crowns,bridges for Dental Restoration through fine milling process of ready Ceramic block.It should include supply ,installation ,training & commissioning of the complete system consisit of atleast the following components -	1
			MILLING MACHINE:	
			Functioning of milling should be fully automatic and should be with standardized precision.	
			Dry Milling machine should be suitable for all type of material which can be milled Dry.	
			The machine should have X, Y, Z, spindle rotation A & B Axis.	
			Should mill zirconium oxides, wax, PMMA, COMPOSITE etc, quickly, precisely and cleanly.	
			The milling machine should be able to mill all types of indications : inlays, onlays, crowns, bridges, framework, full mouth restorations etc.	
			Efficient and compact milling machine for quick and precise framework milling	

			Should mill perfectly with minimum error.	
			Should Mill up to 14 unit bridges and the burs should be changed automatically.	
			Tool holding fixture for automatic tool change based on automatic tool length measurement and broken tool detection.	
			Open interface for an open scanner	
			The milling machine should be STL open for import of other files scanning data.	
			High quality and high frequency spindle with 25000 or more speed.	
			Noise level should not be more than 75dbA	
			Suction & dust collector should be provided.	
			Tenderer or company should have supplied the similar quoted model machine to state/ central government or private hospitals or dental laboratory.	
			The milling machine should have the CAM software for automatic size detection of the restorations for positioning, height optimization in the disc for calculation.	
			Scanner, Milling unit, Dust extractor, software and frame work materials should be from the same Manufacturer.	
			Minimum 15 or more automatic tool changer fitted with tool measurement sensor.	
			Should be provide with branded suitbale desktop/ laptop.	
			LAB SCANNER	
			Fully automatic scanner with 5 axis scanning with high quality 3D image.	
			Should scan upto 14 unit bridges quickly and easily	
			Scanning accuracy should be less than 12micron	
			The scanner must have two high speed measuring cameras minimum 5mp.	
			Should have large measuring field and also facility to scan models in intermaxillary relationship	
			Should have intelligent scan strategy for even quicker scan times	
			The scanner should be able to scan the whole model jaw in less than 140 seconds using the large scanning field.	
			Should have multiple die holder for scanning up to 7 or more	
			The scan field should be identified and assessed automatically, which means that large spanned bridges frameworks can be quickly and efficiently documented.	

			The scanner should have ample space for placing articulators.	
			Should have facility to transfer articulated models	
			Bite registration, situation models, gingiva and wax-up scan should be possible for optimal framework fabrication	
			Should have Automatic user-guidance through the scan program for easy and safe operation	
			Scanner should be with an open interface, scans (stl-files) can also be downloaded into other CAD software	
			The software should have modern controls that incorporates the most up to date technologies, supports multi core CPUs and takes advantage of 64 bit operating system.	
			Should be a compact and table top unit.	
			Should be provide with branded suitable desktop/ laptop for scanning and designing purpose.	
			CAD SOFTWARE:	
			An intelligent designing Software for the framework fabrication to be provided free of cost	
			Software should have features of precise recognition of the prepared margin, automatic bridge and connector design, different tooth libraries, individual tooth part movements, compilation and the open system structure	
			Large indication spectrum should be available viz. i.Fully anatomical and anatomically reduced crowns and bridges, Inlays/onlays, Reducing, Virtual articulator.	
			The software must have a dental database.	
			Should have a virtual articulator with the same functionalities of adjustment of horizontal inclination of condylar guidance; Bennett‘s angle; retrusion; protrusion; immediate side shift etc. to calculate the fully anatomical construction dynamically and statically	
			This also should function to simulate the mandibular excursions and automatically construct a fully anatomical framework proposal, according to the dynamic occlusion, to reduce grindings the surfaces after milling	
			Spurious structures in the designing should be automatically removed and adapted during the movement of the virtual articulator	

			Synchronized accessories to be provided for transferring the models from the articulator into the Scanner to guarantee the precision at the functional interface between manual and digital technology	
			Model acquisition : it offers additional flexibility by allowing data to be imported from any 3D scanner by using an import module.	
			Model export : After completing the modelling prosthesis, there should be facility to export the models in STL open format for further processing with CAM software for milling and prototyping. The software should be integrated with third party solutions	
			Intra oral scan data should be imported directly into the design software record card and loaded for designing, also with virtual articulator functionality.	
			The software should be user friendly.	
			The software should comprise optionally of different sets of tooth libraries	
			The software also should comprise of a free interface module to upload STL data from other open scanners very easily.	
			The software should be capable of designing full contour bridges so that framework and matching veneering structure, can be designed in a single step	
			SINTERING FURNACE	
			The sintering furnace should have high process reliability due to constant temperature control, homogeneous temperature distribution in the firing chamber for final sintering of distortion-free zirconia frameworks.	
			The capacity of the furnace should BE with Minimum 1 bowl	
			The sintering furnace should have Maximum process reliability due to optimally coordinated, fully-automated sintering programs for different restoration sizes	
			The sintering furnace should have option for 9 sintering program locations; 6 of them individually programmable by the user	
			The sintering furnace should have minimum required space and installation time (supply required)	
			The furnace should perform sintering at the press of a button – very easy operation	
			The heating rate should be 1C-30C/min.	
			Automatic start time calculation by hours and weekdays.	

			The sintering furnace should have clear display of the sinter status	
			The sintering furnace should have compatable electrical connections: V/Hz 220- 240/50-60, Power: 1720 - 3500 W, Fuse (fast): 12.5 A, Temp Degree protection – IP20	
			All necessary accessories should be provided.	
			Heating elements made of molybdenum disilicide (MoSi2) offer a maximum furnace temperature of 1650°C	
			GLAZING FURNACE :	
			Microprocessor based programmable vacuum furnace for dental ceramics (Elevator model) should have	
			100 operating programs for all types of ceramics	
			Vacuum range from 60 to 100 mbar	
			Automatic parameter control	
			Operating voltage220V / 50 Hz	
			Power consumption with vacuum pump : 1700 W, Without vacuum pump : 1500 W	
			Vacuum pump data :	
			Suction capacity upto 22 L/min	
			Vacuum from 0.9-0.94 bar	
			Weight with vacuum pump : 35 kg	
			INTRA ORAL 3D SCANNER	
			1. It should be able to provide Precise, accurate HD 3D real color scanning. The image should be with vivid color and details that offer visually appealing images that improve and simplify case review, analysis and communication between doctors, referrals and labs.	
			2. Scanner should not require powder or liquid for scanning high reflecting surfaces.	
			3. The scanner should not weigh more than 400 Grams.	
			4. The scanner should be handheld 3D scanner with Ultrafast Optical Sectioning. It should maintain full scan speed during full arch scan.	
			5. The scanner should be capable of measuring shades of teeth and adding HD photos to the 3D model.	
			6. The model should have integration with practice management system.	
			7. The software should have instant scan preparation validation tools.	

			8. Unit should be able to capture patient's accurate and detailed intra-oral data in digital form critical for dental diagnosis, treatment planning, record keeping and model/appliance fabrication.	
			9. It should be able to measure the shade of the tooth accurately.	
			10. It should have accuracy up to 8 microns.	
			11. It should provide accurate data in open STL format for accurate model preparation using three dimensional printing or CAM.	
			12. Scan the operative and opposing quadrant or arch and take a bite scan with patient in any occlusion.	
			13. Unit should have anti-fogging heater that works actively without any interruption to scanning when working intra-orally.	
			14. It should have possibility of high-speed dual-arch scan in less than 5 minutes.	
			15. Scanner should have autoclavable non bulky tips to allow its use multiple times. One tip should be able to be used up to 200 times before disposing.	
			16. The user should have possibility to check or rotate the final scan model on display screen infinite times for heightened visibility of data captured before finalizing.	
			17. User should be able to jump to any position in the mouth at any point.	
			18. The scanning process to fill in uncaptured image, without a need to indicate an exact location to the system. Should be freely movable and user friendly.	
			19. Scanner should be capable of scanning implant cases with standard abutments as well as custom abutments with scanned bodies. Also should be compatible with open system implant planning and surgical guide software.	
			20. User should be able to identify margin lines, contact points, and undercuts before proceeding for sending files to CAD system.	
			21. The STL file can be accessed by lab for design and fabrication or can choose to design and mill chairside, restore implants or create orthodontic appliances through one of the broad array of trusted Connections. Or, export the STL files and share them with any open CAD/CAM system.	

			22. Unit should have facility to store patient data in hard disc/ computer and CD/DVD and also wirelessly upload patient data to cloud / any mail account to be accessed later on from any computer in the centre.	
			23. Complete operating manual and product literature to be supplied at the time of delivery of the equipment.	
			24. Availability of spares for– All time during warranty and AMC.	
			25. Manufacturer and Supplier should furnish a certificate stating that the equipment is original not a reconditioned one.	
			26. Training – On site during installation by an OEM trained instructor.	
			USFDA/EU CE(Issued by notified body)BIS approved model	
			3D Printer	
			1) Equipment should be able to perform following functions. Fabricate Dentures, Long Term temporary Crown and Bridges, Surgical Guides, Prosthetic Models, Orthodontic models, Denture Trials, Castable copings/bridges/RPDs, Ortho Indirect Bonding Trays, Splints, Night Guards, Customized Trays, Flexible Gingiva for Implant.	
			2) Equipment should have following features -	
			a) Resolution should be more than 1900 X 1000 pixels.	
			b) Wavelength of light in projector system should be more than 400 nm.	
			c) Pixel pitch should be lower than 75 microns.	
			3) The system should have compatible software to slice 3D files and to communicate with the 3D printer.	
			4) The software should be updated by the supplier from time to time for next 10 years.	
			5) The Software should be based on following features -	
			a) Windows Operating System 10 or compatible.	
			b) STL File input.	
			c) System is based on the CAM Features.	
			d) Software should come with compatible and customized material build style for different resins.	
			e) Software should have multiple safety features like verification of the file before printing.	

			f) Software should have the ability to automatically generate supports for the models.	
			6) 3D Printer should be able to fabricate the model with	
			a) Fine detail and smooth surface finishing with layer thickness of 50 microns.	
			b) Should be able to work with variety of 10 or more resins with variable rigidity, detail and color.	
			c) Should be able to paint and finish for presentation, demonstration and photo reproduction.	
			d) Functional parts produced within 60 minutes depending upon size and complexity of job.	
			7) System should have built styles with below details -	
			a) Normal build style in range of 0.03-0.05mm.	
			b) Quick Build style 0.05mm.	
			c) Precision build style 0.05mm.	
			8) There should be a system for automated mixing of resin before pouring to have optimum consistency for precise printing. Mixing unit should be able to mix 2 or more bottles at a time.	
			9) Tank capacity should be in range of 0.4 to 0.75 liters.	
			10) Build volume of tray should have measurements less than 130X 75X 200 mm.	
			11) Complete system should be able to function precisely with different materials without deviation and should not require calibration.	
			12) It should have alcohol ultrasonic bath in work flow for cleaning of printed parts.	
			13) Printer should have easy to change resin tank and print platform.	
			14) The system should have safety features such as automatic abort if print chamber is opened during printing to protect from harmful UV exposure.	
			15) System should work and fabricate models accurately, repeatedly with unmatched productivity with range of 10 or more resins.	
			16) There must be a dedicated system for uniform UV curing for the post-processing of printed parts. UV Curing System should have 10 or more UV bulbs (more than 12 Watts) for complete curing of models (6-8 nos). The system should have both UV-A and UV-B bulbs for proper surface and deep curing of the parts.	

			17) Materials which need to be used in the mouth must be certified biocompatible.	
			18) 3D Printer should have non-contact membrane based printing requiring no peel process.	
			19) 3D printer, software, resin mixing system and post UV curing system in the complete work flow should be from same OEM.	
			20) 20lt of biocompatible USFDA approved Resin and 20lt non-biocompatible USFDA approved Resin should be provided.	
			Compressor & UPS	
			Suitable medical grade compressor with radiator, cooling fan, dryer and silicone column filter should be supply.	
			Suitabe UPS with mimimum 30 minutes back up for all machines including Sintering Machine.	
			Consumables	
			5 set of DC tools	
			50 Zirconia blanks.	
			Certification	
			USFDA/EU CE(Issued by notified body)BIS approved model	
LAB			No Change	
Plaster dispenser	One each for plaster and stone plaster	22	No Change	22
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Model trimmer with Carborandum disc		2	No Change	2
	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.		No Change	
	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Model trimmer with Diamond disc	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	2	No Change	2
	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	

	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Acrylier	• Digital type programming	3	No Change	3
	• Digital control unit with 2 timers and temperature controls		No Change	
	• Programmable pre-heating Time & Temperature, curing time and temperature.		No Change	
	• Capacity – 8 flasks or as per requirement.		No Change	
Lathe	• Heavy duty, continuous rating motor.	2	No Change	2
	• Well balanced bearing for smooth work.		No Change	
	•to be Supplied with different attachments.		No Change	
	• 1,400/2,800 rpm		No Change	
Flask Press		4	Simple manual press for pressing large and manual flasks, sturdy metal body	4
Deflasking unit		4	robust high performance chisel operated by compresed air for deflasking and universal use in the laboratory with high frequency chisel for deflask dentures	4
Dewaxing unit	• Digital furnace for pre-heating and dewaxing.	3	No Change	3
	• Heating upto 999 degree C		No Change	
	• Double body furnace insulated with ceramic wool.		No Change	
	• Faster heating and cooling cycle allows continuous usage.		No Change	
	• Chamber and door fitted with high quality moulded ceramic.		No Change	
	• Size: Width 130 mm, Height 100mm, Depth 250mm.		No Change	
Hydraulic press	Hydraulic Press,	3	No Change	3
	• Hydraulic press for pressing flasks.		No Change	
	• should Allows up to 3 flasks at a time.		No Change	
	• High quality, continuous working results.		No Change	
	• 150,000 Kilos.		No Change	
Mechanical Press	• A simple manual press.	2	No Change	2
	• For pressing large and small flasks.		No Change	
	• Sturdy metal body.		No Change	

Vacuum mixing machine	Small and powerful. They should be suitable for mixing in AIR ABSENCE any kind of plaster, coating and silicone. They should be equipped with a low-noise motor reducer, a dry running vacuum pump and an electronic timer of proven reliability. voltage 220 Volt,	1	No Change	1
Curing pressur Pot	• Robust stainless steel structure which makes the equipment extremely dependable	1	No Change	1
	• Satisfies all technical requirements requested for resins treatment		No Change	
	• Durable and easy maintenance		No Change	
	• 4 discharge cycles (air/water) can be set and can be combined with 2 cooling cycles		No Change	
	• (slow/fast)		No Change	
	Characteristics		No Change	
	• Front panel display shows polymerizer temperature and time		No Change	
	• Up to 10 memorisable programs		No Change	
	• Setting of working time from 1 minute to 99 hours		No Change	
	• 100% stainless steel support structure		No Change	
	• Safety microswitch which detects opening of lid		No Change	
	• Internal machine safety valve		No Change	
	• Equipped with filter with air pressure regulator		No Change	
	• Self-locking lid closure		No Change	
	• Polimer are able to contain 2 self-standing medim size flask		No Change	
	• Maximum working pressure 6 bar		No Change	
	• Precise and flexible electronic controlo allow an optimal treatment of resins		No Change	
Hot water sterilier		2	instrument steriliser , electric stainless steel, chamber size not less than 10 inch	2
Geyser		2	25 L Storage Water Geyser, electrical, energy efficient, with over heat protection,	2
Phantom head	Phantom Table fitted with Phantom Head with light and Air rotor and micro motor, with contra angle Handpiece attachment, 3-way syringe with suction or drainage system, operator's stool	50	No Change	50
	PRE-CLINICAL UNIT		No Change	
	Phantom Head Table with Two working place.		No Change	

	Top complete Stainless Steel, inbuilt drawer to		No Change	
	keep the materials		No Change	
	Halogen Operating Light, with Multi surface Glass		LED Operating Light, with on and off and intensity control	
	Reflector having two Intensity .		No Change	
	Modular fitted with		No Change	
	· Airotor Control Box fitted with Transparent		No Change	
	Water Tank, Tubing with Nut Fittings for Airotor		No Change	
	with Tubing and Foot Control		No Change	
	Supreme Micromotor with 35,000 rpm 1 No ,		No Change	
	Three Way Syringe 1 No		No Change	
	• Phantom head with mankin body & pneumatic piston for tilting movement, phantom head with ball and socket , neck joint for all the movement of neck, TMJ movement, even provision to fix TMJ in open position. Heavy Duty –Phantom head with the excellent quality face mask , total closed oral cavity, drain nipple for drain of water.		No Change	
			working stool for the opertor moving on five wheels with pneumatic piston for height adjustment, seat and backrest thickly cushioned covered with rexine	
Pre clinical working table with gas connection & burner		100	it should be for two working students with single burner,each table for 10 students(5 burners) ,SS Top one set of drawers for each student, gas connection, air blower LED iluminatin light on the top of the table for sufficient light to each student. Qty-10	10
			working stool: moving on five wheels pneumatic piston for up and down movemnt thickly cushioned seat and back rest	
	CERAMIC AND CAST PARTIAL LABORATORY		No Change	
Plaster Dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	

Duplicator		1	it should be programmable brushless agitatot motor which should offer durability and reliabilty. It should have temperature control for gauranteed precision warmup and cool down cases. , melting cycles to be set separately. The time at which the gel is required can be easily pre programmed for optimum processing - electrical 220V/50HZ.02 nos of duplicating flasks,not less than 500ml	1
Pindex System	pindex system or Laser pinsetter has been designed for the most efficient and ergonomic approach to pin drilling, for easy die pin placement.	1	No Change	1
	• Combines "State of the art" laser light technology with an easy to use design.		No Change	
	• The carbide bur provides effective and smooth drilling.		No Change	
	• 15,000 rpm.		No Change	
Circular Saw	• This high speed circular saw is supplied with a diamond disc for precision slitting through models that can be held firmly on the electro magnetic model holder.	1	No Change	1
	• Provided with a funnel for aspiration and provision for attaching suction unit.		No Change	
	• High intensity illuminations for clear view of the working model.		No Change	
	• Dual control switch for safety while working.		No Change	
	• Diamond blade; 080mm and thickness 0.26 mm.		No Change	
Burn Out furnace	Electronic control with microprocessor, the furnace manages 7 programmes with 4 phases per programme. The following can be set for each phase: temperature, raising speed and holding time. An ignition delay upto 100 hours can also be set. The furnace comes in 3 versions: small S, medium M and large L. The furnace ZEUS comes with a monobloc ceramic muffle with an external wrapped around resistance. This enables the temperature to be homogeneous in all its 4 sides: upper, lower and laterals. The fumes follow a natural circulation and come out from a rear chimney. To improve the exit of the fumes a chimney, which is supplied as an accessory, can be installed. Such installation is extremely simple and can be done by the operator.	1	No Change	1

	The oven features a safety micro-switch, which stops the resistance in case the chamber is opened. The oven is airtight with environmental materials in compliance with the requirements. Another useful accessory is the dewaxing plate which we also advise to buy, in fact it prevents the liquid wax from being absorbed by the muffle, keeping it free from abrasions and deteriorations which can damage it.		No Change	
	TECHNICAL FEATURES:-		No Change	
	Feeding : 220-240V		No Change	
	Overall dimensions : 32x40x50 cm		Overall dimensions : 32x40x50 cm +_10%	
	Chamber dimensions : 16x16x10 cm		Chamber dimensions : 16x16x10 cm +_10%	
	Max. Temperature : 1100°C		No Change	
	Weight : 28 Kg		Weight : 28 Kg +_10%	
Sand blasting Machine	With two containers		No Change	
	• The double jar sand blaster offers excellent results which until was achieved only by very expensive devices .	1	No Change	1
	• USED for roughing and polishing of metals, ceramic and acrylic materials.		No Change	
	• Technical Characteristics;		No Change	
	• Excellent ergonomics		No Change	
	• Alluminium oxides from 50 microns to 250 microns can be used		No Change	
	• Inner air gun		No Change	
	• Highly durable, long lasting blasting tips of 2 sizes provides precision sand blasting.		No Change	
	• Chamber selection by directional mechanical valve		No Change	
	• Glass protection with interchangeable plastic film		No Change	
	• Electric Components according to international regulations		No Change	
	• Pneumatic foot control		No Change	
Electro Polisher	Electro polisher	1	No Change	1
	• 2 tanks for chemical provision for power variation with a rotary switch		No Change	
	• Special titanium electrode for long life total body construction non corrosion material		No Change	

Model trimmer with Carbodium disc	Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• carborandum Grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Model trimmer with Carborandum disc	Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	•Grinding wheel. Diamond disc		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Induction casting machine	Machine for centrifugal casting with inductive high frequency metal melting.	1	No Change	1
	• Design for Casting Co-Cr-Mo, Ni-Cr-Mo and precious alloys used in dentistry.		No Change	
	• An autonomous water cooling.		No Change	
	Technical data:		No Change	
	• Power Supply : 220V/ 50Hz		No Change	
	• Maximum power consumption : 3kW		No Change	
	• Minimum alloy quantity in the crucible : 7g		No Change	
	• Maximum alloy quantity in the crucible : 80g		No Change	
	• Crucible material : Ceramics		No Change	
	• Crucible material When casting precious alloys : Ceramics with graphic insertion		No Change	
	• Maximum time for full melting		No Change	
	of 30g alloy : 60s		No Change	
	• Cooling : Water autonomous		No Change	
	• HF Power rating adjustment when		No Change	
	Melting Ni-Cr-Co alloys or precious alloys : Manual		No Change	
	• Motor acceleration adjustment : Manual		No Change	
	• Casting : Manual.		No Change	
	• Dimensions L/B/H : 620/660/1060 mm		Remove	
	• Weight : 120 Kg		Remove	

Programmable Porcelian furnace with vacuum pump and instrument &material kit	Automatic programmablevacuum furnace for dental and ceramic,designed for all types of dental ceramics,completely processor controlled,14 programs, in every program name,idle temp,dry temp,pre drying temp,dry timing , firing timing,first cooling ,second cooling,vacuum controlled, with self diagnosticand auto caliberation.an option for automatic continuation of program after power break don.an option for program transferon USB.an option of remote analysis of damage.	1	No Change	1
Spot welder with soldering attachmelent and cable	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No Change	1
	LED base five different welding temperature settings.		No Change	
	Both welding and soldering operation in one unit.		No Change	
	All switches on front panel for easy operation.		No Change	
	Perfectly matching electrodes in 4 different shapes		No Change	
Vacuum mixing machine	Small and powerful. They should be suitable for mixing in AIR ABSENCE any kind of plaster, coating and silicone. They should be equipped with a low-noise motor reducer, a dry running vacuum pump and an electronic timer of proven reliability. voltage 220 Volt,	1	No Change	1
Steam Cleaner	• Steam generator built in compliance with international safety regulations.		No Change	
	• A simple easy to operate steam cleaner with safety valve and high volume water holding tank with water level indicator.	1	No Change	1
	• 3 – 4 bar constant pressure.		No Change	
	• Convenient foot control.		No Change	
	• Handy gun with flexible hose.		No Change	
Spindle grinder 24,000 RPM and Vacuum pump	This should be a Compact Alloy Grinder Offering high speed grinding and dependable trouble free operation.		No Change	
	• Equipped with fully automatic spindle.	1	No Change	1
	• Provided with suction, foot control and high intensity illumination.		No Change	
	• Safety glass for glare elimination and visual protection.		No Change	

	• 20,000 rpm.to 24000 rpm		No Change	
Wax Heater	• Electronic controlled wax pot.	1	No Change	1
	• Four individual square containers.		No Change	
	• Uniform temperature maintenance.		No Change	
	• Physical characteristics of wax unaltered.		No Change	
	• 30 degree C – 110 degree C		No Change	
Wax Carver	Oracraft / API/Jaypee	1	No Change	1
Curing Pressure Pot	• Robust stainless steel structure which makes the equipment extremely dependable	1	No Change	1
	• Satisfies all technical requirements requested for resins treatment		No Change	
	• Durable and easy maintenance		No Change	
	• 4 discharge cycles (air/water) can be set and can be combined with 2 cooling cycles		No Change	
	• (slow/fast)		No Change	
	Characteristics		No Change	
	• Front panel display shows polymerizer temperature and time		No Change	
	• Up to 10 memorisable programs		No Change	
	• Setting of working time from 1 minute to 99 hours		No Change	
	• 100% stainless steel support structure		No Change	
	• Safety microswitch which detects opening of lid		No Change	
	• Internal machine safety valve		No Change	
	• Equipped with filter with air pressure regulator		No Change	
	• Self-locking lid closure		No Change	
	• Polimer are able to contain 2 self-standing medim size flask		No Change	
	• Maximum working pressure 6 bar		No Change	
	• Precise and flexible electronic controlo allow an optimal treatment of resins		No Change	
Milling Machine		1	DENTAL MILLING milling machine ensures high precision work on fixed and removable protheses and fittings. The articulated and/or fixed arm is equipped with a micromotor, providing a high precision vertical movement. It is supplied with fixed and/or mobile table, a standard set of gauge tips and a rod with a mandrel for wax outlining and milling. The column height is adjustable and the milling machine is robust, made of hard aluminum, with an imposing yet compact design that ensures long durability	1

			The arm´s head is designed to adapt to most micromotor models available on the market	
			Certification-US FDA/EU CE(Issued by notified body)/BIS approved	
Heavy duty lathe with suction	• Heavy duty, continuous rating motor.	1	No Change	1
	• Well balanced bearing for smooth work.		No Change	
	• Supplied with different attachments.		No Change	
	• 1,400/2,800 rpm		No Change	
	• Universal suction Unit for laboratories Polishing Lathes.		No Change	
	• Necessary for polishing and buffing works.		No Change	
	• Essential and compact design, is equipped with a new suction System for the best performances.		No Change	
	• The lighting is supplied with a neon lamp of the power of 18 watt.		No Change	
Pre Heating furnace		1	No Change	1
			The oven can storing not less than 4 pre-heating cycles (or programs) which	
			are kept in the memory until the operator decides to modify them.	
			Each program contains 4 phases and for each phase it is possible to set	
			3 variables: temperature, increase rate, holding time. It is also possible	
			to set an Ignition delay and the fumes aspiration fan Off temperature	
			(fume chimney). Furthermore it is possible to set a fi nal temperature	
			holding time at the end of the cycle: this is to keep the cylinders at a	
			certain temperature and allow some time for the operator to be ready	
			with the next work.	
			Certification-US FDA/EU CE(Issued by notified body)/BIS approved	
Palatal trimmer	• This is a single bur unit for simple, precise, safe and dustless operation for trimming palatal/lingual surface of models.	1	No Change	1
	• High speed, most efficient cylindrical bur, provides fine trimming without applying the slightest pressure on the model.		No Change	
	• Provision to attach dust suction unit.		No Change	
	• 2,800 rpm.		No Change	
Ultra sonic cleaner	5 liters capacity	1	No Change	1
5 Lit capacity	High frequency and high intensity sound waves , less than 80 dB		No Change	
	• Versatile and timer controlled		No Change	

	• Portable		No Change	
	• Suitable for continuous operation		No Change	
	• Automatic initialization and easy to set by touch buttons		No Change	
	• Capacity of the tank : 4 to 6 Ltr		No Change	
	• Digital LCD display		No Change	
	• 220-240 volts and frequency 30-60 HZ		No Change	
Composite curing unit	UV polymerizing equipment for resin and photosensitive materials. It's should made in stainless steel and it includes: • 1 sliding drawer that can contain 3 models. • 4 bulbs 9 W each one. • 1 Timer 120-180 sec. • 1 switch for endless time.	1	No Change	1
Micro surveyor		1	It should ensure precision and high quality laboratory work. surveyor unit to be supplied with a table and a set of standard surveying tools. Handpiece support Made of aluminum.	1
Pre clinic prosthetics LABORATORY	work table complete S S top fitted with light,bunsen burner air blower ,work stool	60	No Change	60
	micro motor lab with attached hand piece	20	No Change	20
	PLASTER ROOM FOR PRE CLINICAL WORK			
Plaster dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Vibrator	• Works effectively for pouring bubble free models.	2	No Change	2
	• 3 Steps of Vibration- Low, Medium and High.		No Change	
	• Non sticky superior rubber, easy to remove and clean.		No Change	
	• Ideal for Institutions, Dental Laboratories and clinics.		No Change	
Lathe	• Heavy duty, continuous rating, vibration-free, low noise lathe used for polishing and trimming.	2	No Change	2
	• Dual working sides.		No Change	
	• Supplied with drill chuck, buffing cone and grinding stone.		No Change	
	• Dust proof motor.		No Change	
	• 2800 rpm.		No Change	

Model Trimmer with	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
carboradium disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Model trimmer with	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
diamond disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
	DEPARTMENT - CONSERVATIVE DENTISTRY & ENDODONTICS			
Dental chair and unit	Dental chair mount unit	34		34
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	

	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with **Two airotor points ,one micromotor with digital display** of speed, **one piezotronic scaler with 5 scaling tips**. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	

			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Rubber Dam Kit	Oracraft / API Jaypee	6	Rubber Dam Kit 11 clamps with sheet,Clamp holder,Rubber dam holder,Ruber dam hole puncture	6
Restorative Instrument Kit	Oracraft / API Jaypee	10	restorative, amalgam carrier, amalgam plugger, ball burnisher, cement carrier, cement pluggere trimmer, spoon excavator, small mediam and large, gingival marginal, sectional matrix Specifications-Made of SS,Rust free,autocable ,sharp working end	10
RCT Instrument kit	Mani Japan(Rotary fileswith hand files)	10	RCT Instrument kit-Protaper SX,S1,S2,F1,F2.F3(SET OF 6), Protaper DI,D2(SET OF 6) ,2% files	10
Autoclaves	Hot and wet – class -B	3	No Change	3

	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume not less than 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Ultrasonic cleaner	13 litres	2	No Change	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	
Needle burner with syringe cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	4	No Change	4
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	
	Burning Temperature, deg. C: 1600 C.		No Change	

	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	
Amalgamator		3	The amaglam mixer is used fo rmxing and accurate portioning of mercury & silver tin powder until they have bonded, the time of mixing should be adjused from 1 to 60 seconds, the unit should supply with capsule operating device.	3
Pulp tester		4	DIGITAL PULP TESTER high frequency tip detachable, digital display	4
Apex locator	High-precision root canal measurement generated by using Smart Logic	2	No Change	2
	Auto-detects the apex accurately in any conditions, dry or wet		No Change	
	A stylish and compact body consuming very small space		No Change	
	Three different alert sounds depending on the location of the file tip, ensuring precise procedures		No Change	
	A three-colour LCD panel with very low reflectivity, allowing clinicians to accurately and instantly monitor procedure progress		No Change	
	Energy saving and low operation cost		No Change	
	Control unit		No Change	
	Probe (1.8m)		No Change	
	File Clip (3 pcs.)		No Change	
	Lip Hook (3 pcs)		No Change	
	AAA Manganese Dry Batteries (3 pcs.)		No Change	
	Tester		No Change	
Glass bead sterilier	• Variable from 150 - 250 deg C, and temperature within 25 to 30 minutes and maintain uniformly as long as it is on.	6	No Change	6
	• Instruments may be kept only for 10 to 30 seconds and will be ready for use.		No Change	
	• With High quality glass for retaining the temperature.		No Change	
	• Minimum Unit power consumption for day long work.		No Change	

	• On reaching required temperature indicator light should be on and the Unit should be ready.		No Change	
Plaster dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Viberator	• Works effectively for pouring bubble free models.	2	No Change	2
	• 3 Steps of Vibration- Low, Medium and High.		No Change	
	• Non sticky superior rubber, easy to remove and clean.		No Change	
	• Ideal for Institutions, Dental Laboratories and clinics.		No Change	
Intra Oral X Ray Unit ,AERB Certified	Dental X-Ray Unit 70 KV – DC X Ray	1	No Change	1
	Light and compact, all function are integrated in the mono bloc, The monobloc with constant potential reduces significantly the quantity compared to normal radiographic. Low energy noxious radiations are almost completely to be elimated, should get high definition images, both in traditional mode and digital and phosphorous system, protecting patient health.		1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KVa) with option for wall mount.	
	TECHNICAL DATA		2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.	
	Rated electrical power : 0,800KW		3. Power input to be 220-240VAC, 50Hz fitted with Indian plug	
	High frequency technology : 100 KHZ		4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.	
	Absorption : 6A		5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.	
	Focal spot : 0.7mm IEC 336		Deleted	
	Dia of long cone at end of space : 6cm		Deleted	
	Total filtration : 2mmAl		Deleted	
	Selectrabvle anodic current : 4-7mA		Deleted	
	Selectable voltage to X-Ray tube : 60-70 KVP		Deleted	

	Dispersed radiation : < 0.25mGy/h a 1 meter from focus 1		Deleted	
	Exposure time : 0.020 – 1.000mS Scala R10		Deleted	
	Power supply : 190-240V 50Hz		Deleted	
	Intermitttent operation : 1/30 1s exposure 30S reset max		Deleted	
	Distance : FF.20 CM		Deleted	
	Fuse : F6,3 At		Deleted	
Automatic Developer			Automatic x ray Developer : to be used for intra oral and perriapical films it should be suitable for all the intra orals films, temperature controlled heating. It should develop upto 8 films per five minutes	1
RVG	chip type APS CMOS	1	No Change	1
	pixcel size 20Um		No Change	
	active area 20x30 mm		No Change	
	signal out put USB		No Change	
	Theoritical resolution 25lp/mm		No Change	
	imaging time 3-4 s		No Change	
	true line pair resolution as 14 lp/mm		No Change	
			With computer & printer at Trolly	
EndoMotor with Torque	Endo Micromotor with Torque Control And Auto Reverse	3	No Change	3
control handpiece	Smart enough to memorise exact speed and torque settings for up to 9 Ni-Ti files. Its auto-reverse features 3 working modes – auto-reverse on, auto-stop, auto-reverse off. The motor reacts when load reaches the preset level of torque. With on-off switch, it offers flexibility of pedal-free operation (optional foot control unit available), while providing convenience of full portability with two-way power supply, either AC or battery driven. (NSK/J Morita/Kavo/w&h/densply)		No Change	
	Operative with AC Adapter		No Change	
	Auto Reverse Function, 9 programs		No Change	
	With Rechargeable Battery Back-up		No Change	
	Control unit		No Change	
	Adaptor - 1 no		No Change	
	Motor Cord & MP Handpiece		No Change	
	Motor stand		No Change	
	Spray nozzle - 1no		No Change	
Bleaching Unit		1	chair side bleaching unit with led with required blue light frequecy, with time control	1

Magnifying loop		2	Should be type 2.5, and 3x magnificatin with light and battery backup	2
Injectable gutta purcha		3	Cord less obturator which should have both cutter and filling instruments with battery operated	3
CADCAM	A turn key project includes , IOS,Milling machine , model scanner , sintering machine,compressors , suction , 3 D printing,trainning and commissioning.	1	A Complete System for Computer Aided Design /Computer Aided manufacturing of im lays ,on lays,crowns,bridges for Dental Restoration through fine milling process of ready Ceramic block.It should include supply ,installation ,training & commissioning of the complete system consisit of atleast the following components -	1
			MILLING MACHINE:	
			Functioning of milling should be fully automatic and should be with standardized precision.	
			Dry Milling machine should be suitable for all type of material which can be milled Dry.	
			The machine should have X, Y, Z, spindle rotation A & B Axis.	
			Should mill zirconium oxides, wax, PMMA, COMPOSITE etc, quickly, precisely and cleanly.	
			The milling machine should be able to mill all types of indications : inlays, onlays, crowns, bridges, framework, full mouth restorations etc.	
			Efficient and compact milling machine for quick and precise framework milling	
			Should mill perfectly with minimum error.	
			Should Mill up to 14 unit bridges and the burs should be changed automatically.	
			Tool holding fixture for automatic tool change based on automatic tool length measurement and broken tool detection.	
			Open interface for an open scanner	
			The milling machine should be STL open for import of other files scanning data.	
			High quality and high frequency spindle with 25000 or more speed.	
			Noise level should not be more than 75dbA	
			Suction & dust collector should be provided.	
			Tenderor or company should have supplied the similar quoted model machine to state/ central government or private hospitals or dental laboratory.	

			The milling machine should have the CAM software for automatic size detection of the restorations for positioning, height optimization in the disc for calculation.	
			Scanner, Milling unit, Dust extractor, software and frame work materials should be from the same Manufacturer.	
			Minimum 15 or more automatic tool changer fitted with tool measurement sensor.	
			Should be provide with branded suitbale desktop/ laptop.	
			LAB SCANNER	
			Fully automatic scanner with 5 axis scanning with high quality 3D image.	
			Should scan upto 14 unit bridges quickly and easily	
			Scanning accuracy should be less than 12micron	
			The scanner must have two high speed measuring cameras minimum 5mp.	
			Should have large measuring field and also facility to scan models in intermaxillary relationship	
			Should have intelligent scan strategy for even quicker scan times	
			The scanner should be able to scan the whole model jaw in less than 140 seconds using the large scanning field.	
			Should have multiple die holder for scanning up to 7 or more	
			The scan field should be identified and assessed automatically, which means that large spanned bridges frameworks can be quickly and efficiently documented.	
			The scanner should have ample space for placing articulators.	
			Should have facility to transfer articulated models	
			Bite registration, situation models, gingiva and wax-up scan should be possible for optimal framework fabrication	
			Should have Automatic user-guidance through the scan program for easy and safe operation	
			Scanner should be with an open interface, scans (stl-files) can also be downloaded into other CAD software	
			The software should have modern controls that incorporates the most up to date technologies, supports multi core CPUs and takes advantage of 64 bit operating system.	

			Should be a compact and table top unit.	
			Should be provide with branded suitable desktop/ laptop for scanning and designing purpose.	
			CAD SOFTWARE:	
			An intelligent designing Software for the framework fabrication to be provided free of cost	
			Software should have features of precise recognition of the prepared margin, automatic bridge and connector design, different tooth libraries, individual tooth part movements, compilation and the open system structure	
			Large indication spectrum should be available viz. i. Fully anatomical and anatomically reduced crowns and bridges, Inlays/onlays, Reducing, Virtual articulator.	
			The software must have a dental database.	
			Should have a virtual articulator with the same functionalities of adjustment of horizontal inclination of condylar guidance; Bennett‘s angle; retrusion; protrusion; immediate side shift etc. to calculate the fully anatomical construction dynamically and statically	
			This also should function to simulate the mandibular excursions and automatically construct a fully anatomical framework proposal, according to the dynamic occlusion, to reduce grindings the surfaces after milling	
			Spurious structures in the designing should be automatically removed and adapted during the movement of the virtual articulator	
			Synchronized accessories to be provided for transferring the models from the articulator into the Scanner to guarantee the precision at the functional interface between manual and digital technology	
			Model acquisition : it offers additional flexibility by allowing data to be imported from any 3D scanner by using an import module.	
			Model export : After completing the modelling prosthesis, there should be facility to export the models in STL open format for further processing with CAM software for milling and prototyping. The software should be integrated with third party solutions	
			Intra oral scan data should be imported directly into the design software record card and loaded for designing, also with virtual articulator functionality.	
			The software should be user friendly.	

			The software should comprise optionally of different sets of tooth libraries	
			The software also should comprise of a free interface module to upload STL data from other open scanners very easily.	
			The software should be capable of designing full contour bridges so that framework and matching veneering structure, can be designed in a single step	
			SINTERING FURNACE	
			The sintering furnace should have high process reliability due to constant temperature control, homogeneous temperature distribution in the firing chamber for final sintering of distortion-free zirconia frameworks.	
			The capacity of the furnace should BE with Minimum 1 bowl	
			The sintering furnace should have Maximum process reliability due to optimally coordinated, fully-automated sintering programs for different restoration sizes	
			The sintering furnace should have option for 9 sintering program locations; 6 of them individually programmable by the user	
			The sintering furnace should have minimum required space and installation time (supply required)	
			The furnace should perform sintering at the press of a button – very easy operation	
			The heating rate should be 1C-30C/min.	
			Automatic start time calculation by hours and weekdays.	
			The sintering furnace should have clear display of the sinter status	
			The sintering furnace should have compatable electrical connections: V/Hz 220- 240/50-60, Power: 1720 - 3500 W, Fuse (fast): 12.5 A, Temp Degree protection – IP20	
			All necessary accessories should be provided.	
			Heating elements made of molybdenum disilicide (MoSi2) offer a maximum furnace temperature of 1650°C	
			GLAZING FURNACE :	
			Microprocessor based programmable vacuum furnace for dental ceramics (Elevator model) should have	
			100 operating programs for all types of ceramics	

			Vacuum range from 60 to 100 mbar	
			Automatic parameter control	
			Operating voltage220V / 50 Hz	
			Power consumption with vacuum pump : 1700 W, Without vacuum pump : 1500 W	
			Vacuum pump data :	
			Suction capacity upto 22 L/min	
			Vacuum from 0.9-0.94 bar	
			Weight with vacuum pump : 35 kg	
			INTRA ORAL 3D SCANNER	
			1. It should be able to provide Precise, accurate HD 3D real color scanning. The image should be with vivid color and details that offer visually appealing images that improve and simplify case review, analysis and communication between doctors, referrals and labs.	
			2. Scanner should not require powder or liquid for scanning high reflecting surfaces.	
			3. The scanner should not weigh more than 400 Grams.	
			4. The scanner should be handheld 3D scanner with Ultrafast Optical Sectioning. It should maintain full scan speed during full arch scan.	
			5. The scanner should be capable of measuring shades of teeth and adding HD photos to the 3D model.	
			6. The model should have integration with practice management system.	
			7. The software should have instant scan preparation validation tools.	
			8. Unit should be able to capture patient's accurate and detailed intra-oral data in digital form critical for dental diagnosis, treatment planning, record keeping and model/appliance fabrication.	
			9. It should be able to measure the shade of the tooth accurately.	
			10. It should have accuracy up to 8 microns.	
			11. It should provide accurate data in open STL format for accurate model preparation using three dimensional printing or CAM.	
			12. Scan the operative and opposing quadrant or arch and take a bite scan with patient in any occlusion.	

			13. Unit should have anti-fogging heater that works actively without any interruption to scanning when working intra-orally.	
			14. It should have possibility of high-speed dual-arch scan in less than 5 minutes.	
			15. Scanner should have autoclavable non bulky tips to allow its use multiple times. One tip should be able to be used up to 200 times before disposing.	
			16. The user should have possibility to check or rotate the final scan model on display screen infinite times for heightened visibility of data captured before finalizing.	
			17. User should be able to jump to any position in the mouth at any point.	
			18. The scanning process to fill in uncaptured image, without a need to indicate an exact location to the system. Should be freely movable and user friendly.	
			19. Scanner should be capable of scanning implant cases with standard abutments as well as custom abutments with scanned bodies. Also should be compatible with open system implant planning and surgical guide software.	
			20. User should be able to identify margin lines, contact points, and undercuts before proceeding for sending files to CAD system.	
			21. The STL file can be accessed by lab for design and fabrication or can choose to design and mill chairside, restore implants or create orthodontic appliances through one of the broad array of trusted Connections. Or, export the STL files and share them with any open CAD/CAM system.	
			22. Unit should have facility to store patient data in hard disc/ computer and CD/DVD and also wirelessly upload patient data to cloud / any mail account to be accessed later on from any computer in the centre.	
			23. Complete operating manual and product literature to be supplied at the time of delivery of the equipment.	
			24. Availability of spares for– All time during warranty and AMC.	
			25. Manufacturer and Supplier should furnish a certificate stating that the equipment is original not a reconditioned one.	
			26. Training – On site during installation by an OEM trained instructor.	

			USFDA/EU CE(Issued by notified body)BIS approved model	
			3D Printer	
			1) Equipment should be able to perform following functions. Fabricate Dentures, Long Term temporary Crown and Bridges, Surgical Guides, Prosthetic Models, Orthodontic models, Denture Trials, Castable copings/bridges/RPDs, Ortho Indirect Bonding Trays, Splints, Night Guards, Customized Trays, Flexible Gingiva for Implant.	
			2) Equipment should have following features -	
			a) Resolution should be more than 1900 X 1000 pixels.	
			b) Wavelength of light in projector system should be more than 400 nm.	
			c) Pixel pitch should be lower than 75 microns.	
			3) The system should have compatible software to slice 3D files and to communicate with the 3D printer.	
			4) The software should be updated by the supplier from time to time for next 10 years.	
			5) The Software should be based on following features -	
			a) Windows Operating System 10 or compatible.	
			b) STL File input.	
			c) System is based on the CAM Features.	
			d) Software should come with compatible and customized material build style for different resins.	
			e) Software should have multiple safety features like verification of the file before printing.	
			f) Software should have the ability to automatically generate supports for the models.	
			6) 3D Printer should be able to fabricate the model with	
			a) Fine detail and smooth surface finishing with layer thickness of 50 microns.	
			b) Should be able to work with variety of 10 or more resins with variable rigidity, detail and color.	
			c) Should be able to paint and finish for presentation, demonstration and photo reproduction.	
			d) Functional parts produced within 60 minutes depending upon size and complexity of job.	

			7) System should have built styles with below details -	
			a) Normal build style in range of 0.03-0.05mm.	
			b) Quick Build style 0.05mm.	
			c) Precision build style 0.05mm.	
			8) There should be a system for automated mixing of resin before pouring to have optimum consistency for precise printing. Mixing unit should be able to mix 2 or more bottles at a time.	
			9) Tank capacity should be in range of 0.4 to 0.75 liters.	
			10) Build volume of tray should have measurements less than 130X 75X 200 mm.	
			11) Complete system should be able to function precisely with different materials without deviation and should not require calibration.	
			12) It should have alcohol ultrasonic bath in work flow for cleaning of printed parts.	
			13) Printer should have easy to change resin tank and print platform.	
			14) The system should have safety features such as automatic abort if print chamber is opened during printing to protect from harmful UV exposure.	
			15) System should work and fabricate models accurately, repeatedly with unmatched productivity with range of 10 or more resins.	
			16) There must be a dedicated system for uniform UV curing for the post-processing of printed parts. UV Curing System should have 10 or more UV bulbs (more than 12 Watts) for complete curing of models (6-8 nos). The system should have both UV-A and UV-B bulbs for proper surface and deep curing of the parts.	
			17) Materials which need to be used in the mouth must be certified biocompatible.	
			18) 3D Printer should have non-contact membrane based printing requiring no peel process.	
			19) 3D printer, software, resin mixing system and post UV curing system in the complete work flow should be from same OEM.	
			20) 20lt of biocompatible USFDA approved Resin and 20lt non-biocompatible USFDA approved Resin should be provided.	
			Compressor & UPS	

			Suitable medical grade compressor with radiator, cooling fan, dryer and silicone column filter should be supply.	
			Suitabe UPS with mimimum 30 minutes back up for all machines including Sintering Machine.	
			Consumables	
			5 set of DC tools	
			50 Zirconia blanks.	
			Certification	
			USFDA/EU CE(Issued by notified body)BIS approved model	
Phantom Lab Unit	Phantom Table fitted with Phantom Head with light and Air rotor and micro motor, with contra angle Handpiece attachment, 3-way syringe with suction or drainage system, operator's stool	60	No Change	60
	PRE-CLINICAL UNIT		No Change	
	Phantom Head Table with Two working place.		No Change	
	Top complete Stainless Steel, inbuilt drawer to		No Change	
	keep the materials		No Change	
	Halogen Operating Light, with Multi surface Glass		No Change	
	Reflector having two Intensity .		No Change	
	Modular fitted with		No Change	
	· Airotor Control Box fitted with Transparent		No Change	
	Water Tank, Tubing with Nut Fittings for Airotor		No Change	
	with Tubing and Foot Control		No Change	
	Supreme Micromotor with 35,000 rpm 1 No ,		No Change	
	Three Way Syringe 1 No		No Change	
	• Phantom head with mankin body & pneumatic piston for tilting movement, phantom head with ball and socket , neck joint for all the movement of neck, TMJ movement, even provision to fix TMJ in open position. Heavy Duty –Phantom head with the excellent quality face mask , total closed oral cavity, drain nipple for drain of water.		No Change	
			working stool for the opertor moving on five wheels with pneumatic piston for height adjustment, seat and backrest thickly cushioned covered with rexine	
	CLINICAL LABORATORY			
Plaster dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	

	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Model trimmer Carbodium	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Model trimmer Diamond	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Lathe heavy duty	• Heavy duty, continuous rating, vibration-free, low noise lathe used for polishing and trimming.	2	No Change	2
	• Dual working sides.		No Change	
	• Supplied with drill chuck, buffing cone and grinding stone.		No Change	
	• Dust proof motor.		No Change	
	• 2800 rpm.		No Change	
Lab micromotor with heavy	Brushless Lab Micromotor With Hand Piece 50,000 RPM	3	No Change	3
duty hand piece	Contents: - Control Unit, heavy dutyMicromotor Handpiece, Foot Control And Handpiece Stand		No Change	
Ultrasonic cleaner 5 ltr	5 liters capacity	1	No Change	1
	High frequency and high intensity sound waves , less than 80 dB		No Change	
	• Versatile and timer controlled		No Change	
	• Portable		No Change	
	• Suitable for continuous operation		No Change	
	• Automatic initialization and easy to set by touch buttons		No Change	
	• Capacity of the tank : 4 to 6 Ltr		No Change	
Spindle grinder	This should be a Compact Alloy Grinder Offering high speed grinding and dependable trouble free operation.	1	No Change	1
	• Equipped with fully automatic spindle.		No Change	
	• Provided with suction, foot control and high intensity illumination.		No Change	

	• Safety glass for glare elimination and visual protection.		No Change	
	• 20,000 rpm.to 24000 rpm		No Change	
vibrator	• Works effectively for pouring bubble free models.	2	No Change	2
	• 3 Steps of Vibration- Low, Medium and High.		No Change	
	• Non sticky superior rubber, easy to remove and clean.		No Change	
	• Ideal for Institutions, Dental Laboratories and clinics.		No Change	
Burn out furnace	Electronic control with microprocessor, the furnace manages 7 programmes with 4 phases per programme. The following can be set for each phase: temperature, raising speed and holding time. An ignition delay upto 100 hours can also be set. The furnace comes in 3 versions: small S, medium M and large L. The furnace ZEUS comes with a monobloc ceramic muffle with an external wrapped around resistance. This enables the temperature to be homogeneous in all its 4 sides: upper, lower and laterals. The fumes follow a natural circulation and come out from a rear chimney. To improve the exit of the fumes a chimney, which is supplied as an accessory, can be installed. Such installation is extremely simple and can be done by the operator.	1	No Change	1
	The oven features a safety micro-switch, which stops the resistance in case the chamber is opened. The oven is airtight with environmental materials in compliance with the requirements. Another useful accessory is the dewaxing plate which we also advise to buy, in fact it prevents the liquid wax from being absorbed by the muffle, keeping it free from abrasions and deteriorations which can damage it.		No Change	
	TECHNICAL FEATURES:-		No Change	
	Feeding : 220-240V		No Change	
	Overall dimensions : 32x40x50 cm		Overall dimensions : 32x40x50 cm +_10%	
	Chamber dimensions : 16x16x10 cm		Chamber dimensions : 16x16x10 cm+_10%	
	Max. Temperature : 1100°C		No Change	
	Weight : 28 Kg		Weight : 28 Kg+_10%	

Porcelean furnace	Automatic programmablevacuum furnace for dental and ceramic,designed for all types of dental ceramics,completely processor controlled,14 programs, in every program name,idle temp,dry temp,pre drying temp,dry timing , firing timing,first cooling ,second cooling,vacuum controlled, with self diagnosticand auto caliberation.an option for automatic continuation of program after power break don.an option for program transferon USB.an option of remote analysis of damage.	1	No Change	1
sand blasting machine	With two containers	1	No Change	1
	• The double jar sand blaster offers excellent results which until was achieved only by very expensive devices.		No Change	
	• USED for roughing and polishing of metals, ceramic and acrylic materials.		No Change	
	• Technical Characteristics;		No Change	
	• Excellent ergonomics		No Change	
	• Alluminium oxides from 50 microns to 250 microns can be used		No Change	
	• Inner air gun		No Change	
	• Highly durable, long lasting blasting tips of 2 sizes provides precision sand blasting.		No Change	
	• Chamber selection by directional mechanical valve		No Change	
	• Glass protection with interchangeable plastic film		No Change	
	• Electric Components according to international regulations		No Change	
	• Pneumatic foot control		No Change	
Lab airotors		1	Lab Airotor with NSK/W&H/KAVO St Handpiece • Sleek and weightless NSK/W&H/KAVO straight handpiece (collect 01.6 mm) • must for precision carving of metals and ceramic. • High quality compressed air control. • Filter, lubricator regulator unit built in circuit.	1
Pindex system	pindex system or Laser pinsetter has been designed for the most efficient and ergonomic approach to pin drilling, for easy die pin placement.	1	No Change	1
	• Combines “State of the art” laser light technology with an easy to use design.		No Change	

	• The carbide bur provides effective and smooth drilling.		No Change	
	• 15,000 rpm.		No Change	
Circular saw	• This high speed circular saw is supplied with a diamond disc for precision slitting through models that can be held firmly on the electro magnetic model holder.	1	No Change	1
	• Provided with a funnel for aspiration and provision for attaching suction unit.		No Change	
	• High intensity illuminations for clear view of the working model.		No Change	
	• Dual control switch for safety while working.		No Change	
	• Diamond blade; 080mm and thickness 0.26 mm.		No Change	
Vacuum mixer	Small and powerful. They should be suitable for mixing in AIR ABSENCE any kind of plaster, coating and silicone. They should be equipped with a low-noise motor reducer, a dry running vacuum pump and an electronic timer of proven reliability. voltage 220 Volt, 400 rpm/0,8 bar equipped with a 500 cc cup and table support.	1	No Change	1
Pneumatic chisel		1	PNEUMATIC CHISEL WITH CONTROL	1
			• Robust, high performance chisel operated by compressed air for universal use in the laboratory. High frequency chisel to deflask dentures and disinvest casting. Avoid, micro cracks formed by unconventional methods of plaster removal. High quality compressed air control. Filter, lubricator regulator unit built in circuit. Chisel tips – 3 Nos.	
Casting machine (induction)	Induction Casting Machine –	1	No Change	1
	Machine for centrifugal casting with inductive high frequency metal melting.		No Change	
	• Design for Casting Co-Cr-Mo, Ni-Cr-Mo and precious alloys used in dentistry.		No Change	
	• An autonomous water cooling.		No Change	
	Technical data:		No Change	
	• Power Supply : 220V/ 50Hz		No Change	
	• Maximum power consumption : 3kW		No Change	
	• Minimum alloy quantity in the crucible : 7g		No Change	
	• Maximum alloy quantity in the crucible : 80g		No Change	

	• Crucible material : Ceramics		No Change	
	• Crucible material When casting precious alloys : Ceramics with graphic insertion		No Change	
	• Maximum time for full melting		No Change	
	of 30g alloy : 60s		No Change	
	• Cooling : Water autonomous		No Change	
	• HF Power rating adjustment when		No Change	
	Melting Ni-Cr-Co alloys or precious alloys : Manual		No Change	
	• Motor acceleration adjustment : Manual		No Change	
	• Casting : Manual.		No Change	
	• Dimensions L/B/H : 620/660/1060 mm		No Change	
	• Weight : 120 Kg		No Change	
Ceramic unit	Automatic programmablevacuum furnace for dental and ceramic,designed for all types of dental ceramics,completely processor controlled,14 programs, in every program name,idle temp,dry temp,pre drying temp,dry timing , firing timing,first cooling ,second cooling,vacuum controlled, with self diagnosticand auto caliberation.an option for automatic continuation of program after power break don.an option for program transferon USB.an option of remote analysis of damage.	1	No Change	1
	DEPARTMENTOF ORAL PATHOLOGOLOGY AND ORAL MICROBIOLOGY			
Dental chair and unit	Dental chair mount unit	2		2
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable,	

	to adjust for required patient position,with penumatic locking		handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with Two airotor points ,one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	

			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
slides		100		150

slides boxes		4	No Change	4
Microscopes		50	Binocular type	50
Mictotome		1	Microtome-Mannual type,Including all accessories for dental students.	1
Wax Bath		1	No Change	1
water Bath		1	Rust free,stainless steel,min size 18X18X10 inches(LXWXH) minimum	1
Knife sharpner		1	No Change	1
Hot plate		1	Electrcal,V-220+-20 V,AC,size 18X18X10 inches(LXWXH) minimum	1
Spencer Knife		1	No Change	1
Adequate slides projecting system		1	Slides projecting system for Dental students,Certification-US FDA/EU CE/BIS	1
	Department of oral & Maxillofacial surgery			
Dental chair and unit	Fully Electrical Dental chair unit - Adult	25	No Change	25
	Dental chair mount unit		No Change	
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,with penumatic locking		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	

	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with Two airotor points ,one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	

			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Autoclaves	Hot and wet – class -B	4	No Change	4
	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	

	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume -not less than 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
			No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Ultrasonic cleaner	13 litres	2	No Change	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	
Needle burner and syringe cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	8	No Change	8
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	
	Burning Temperature, deg. C: 1600 C.		No Change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	

Extraction forceps set	Oracraft/API/Jaypee	20	Extraction forcep set : upper anteriors, upper premolars, upper molar right, upper molars left, upper roots, upper third molar ,upper molar right (cowhorn),upper molar left (cowhorn)lower premolars, lower molars, lower roots lower molar (cowhorn extraction forcep for pedo set of 6	20
Dental elevators	Oracraft/API/Jaypee	10	Root elevator set - pouch:Flohr, flohr right, flohr left, cryer right,cryer left london hospital, coupland, winter cryer right, winter cryer left	10
Minor Oral surgery kit	Oracraft/API/Jaypee	6	Minor Oral Surgery Instruments Set (Adson forcep,needle holder,Curved Scissor (small),Suture cutting Scissor,Artery forcep(small & medium),Sinus Forcep(medium)-Allis Forcep(medium) With Cassette	6
Emergency drug tray		2	emergency drug tray with partitions(not less than 10) to keep the drugs	2
X ray viewers		2	LED type,single veiw	2
Pulse oxymeter		2	battery operated to give pulse and oxygen level,hand hold ,finger tip	2
BP Aparatus		2	Digital,movable,trolly	2
Stethescope		2	NC	2
Thermometer	hand held	2	Digital type	2
Glucometer		1	with 100 stips	1
Oxygen cylinder		2	B type,trolly mounted,ready to use(Regulator,Humidufier bottle etc)	2
Oxygen mask adult		2	No Change	2
Oxygen mask pedo		2	No Change	2
Impaction kit	Oracraft/API/Jaypee	3	Impaction Kit S/22 PCS with Pouch	3
Lab micro motor ith hand piece	Brushless Lab Micromotor With Hand Piece 50,000 RPM	3	No Change	3
	Contents: - Control Unit, heavy dutyMicromotor Handpiece, Foot Control And Handpiece Stand		No Change	
Trauma kit		1	• Trauma Kit includes -1. MODELLING LEVER 2. PLIER ,3. BONE CUTTING FORCEP SINGLE ACTION 4. ZYGOMATIC BONE AWL, 5. ORDINARY SCREW DRIVER 1.5 mm, 6. ORDINARY SCREW DRIVER 2.0 mm, 7. ORDINARY SCREW DRIVER 2.5 mm, 8. SELF HOLDING SCREW DRIVER 1.5 mm, 9. SELF HOLDING SCREW DRIVER 2.0 mm, 10. SELF HOLDING SCREW DRIVER 2.5 mm 11. WIRE TWISTER , 12. BONE HOLDING FORCEP POINTED # BHP # 1PC	1
High volume Suction		2	High volume Suction-not less than 250 lit/min	2

surgical straight handpiece	NSK/Supreme	4	Brushlees micromotor ,not less than 30000 RPM	4
	MINOR SURGERY			
Dental chairs and unit		5		5
	Dental chair mount unit		Dental chair mount unit	
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with Two airotor points one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	

	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, WNH)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
			Base should solid metal with heavy casting.	
			It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	

			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
	DEPARTMENT OF PERIODONTOLOGY			
Dental chair and unit	Dental chair mount unit	34	Dental chair mount unit(25% should be air polisher)	34
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	

	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with Two airotor points ,one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	

			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
surgical instruments set	Oracraft / API/Jaypee	6	Perio Surgical Instruments S/12 With Cassette.Should have sharp cutting edge.Certifications-USFDA/EU CE(isuued by notified body) approved.	6
Autoclave	Hot and wet – class -B	3	No Change	3

	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume - not less than 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Ultrasonic cleaner	13 litres	2	No Change	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	
Electro surgical cauatry	Radio frequency cautery unit generating high frequencyalternating AC output.	1	No Change	1
	AC input power 225 W,Power consumption 150 W,HF out put power 200 W,Rated out put frequency3-4 M cycle		No Change	
	Intensity control - 6 settings,Unit wattage - 225 W,output wave form-alternating HF Sine wave.		No Change	
Needle burner with syringe cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	4	No Change	4
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	

	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	
	Burning Temperature, deg. C: 1600 C.		No Change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	
Laser	LASER (SOFT TISSUE)	1	LASER (SOFT TISSUE)	1
	Specifcation:		Specifcation: Poratable type,Air cooling,battery back upNot less than 10 Watt,Hand piece : Surgical, Bleaching arch tip, Bio-stimulation (TMJ treatment),Certifications-US FDA/EU CE(issued by notifed body) approved	
	General		No Change	
	*Dimensions : 5.7 in (W) x 4.4 in (H) x 6.5 in (L)		No Change	
	*Weight : 2kg or lesser		No Change	
	* Must be portable & password protected		No Change	
	* Must have a battery backup (Li-ion)		No Change	
	* Air cooling system for diode		No Change	
	* colour LCD display of minimum 3inch & micro touch panel Electrical		No Change	
	*Operating Voltage : 100V+-10% and 230V +-10%~ at 2A *Frequency : 50-60 Hz		No Change	
	*External Fuses : None		No Change	
	*Main Control : Power Switch		No Change	
	*On/Off Controls : Control Button,Emergency Stop		No Change	
	*Remote Interruption : Remote Interlock		No Change	
	* Saftey compliance : CE 0197 Laser		No Change	
	*Laser Classification : IV(4)		No Change	
	*Operating System : Microprocessor based Software		No Change	
	*Medium : InGaAsP *wavelength : 940+-10nm / 980+-10nm *Max Output Power : 10 Watts		No Change	
	*Power Accuracy : +-20% *Power Modes : Continues, single & Repeated pulse Modulation		No Change	

	*Hand piece : Surgical, Bleaching arch tip, Bio-stimulation (TMJ treatment)		No Change	
	*Pulse Duration : 0.01 ms -10 sec		No Change	
	*Pulse Interval : 0.01 ms - 10 sec		No Change	
	*Pulse Repetition rate : Up to 20KHz(fro reference)		No Change	
	*Fibre Tips Diameter : 200,300,400um		Fiber Tip-200,300,400	
	* Fiber connector: SMA 905		Fiber connector	
	*Spot Size : Surgical Handpiece : Maximum 400um Deep Tissue handpiece : 30 mm diameter=7.1 cm sq area Whitening Handpiece : Rectangular 35mm x 8 mm =2.8 cm (Arch type)		Eye protection gogles-03 no	
	*NOHD : 4.77 meters		No Change	
	*Beam Divergence : 8-22 degree per side angle *Standard Fiber Cable Length : 5 feet (1.524 meters)		No Change	
	*Feed-Through Fiber Cable Length : 8 feet (2.438 meters) Other Light Source		No Change	
	*Aiming Beam : Laser Diode, max 4mW, 650 nm+-10nm, Adjustable brightness		No Change	
Physio dispenser with Implant kit	Designed specially for oral surgery and Implant work,generating 210 watt power and 50 Ncm torque,speed range of 2000-40,000 range per minute.should be foot operated conforming to IPX8 standardsand should be certified for OT use.	1	No Change	1
	contrangle should be supplied with hand piece 20 :1 , irrigation tubc.		No Change	
X ray viewer (Extra Oral)		2	LED type,single	2
Hand scaler supra gingival	Oracraft/API/Jaypee	10	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	10
Set of Curettes	Oracraft/API/Jaypee	2	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	2
Periodontal surgery kit	Oracraft/API/Jaypee	3	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	3
Electro cautary		1	Delete	1
	DEPARTMENT OF ORTHODONTICS			
Dental chair and unit	Dental chair mount unit	18		18
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	

	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with Two airotor points ,one micromotor with digital display of speed, one piezotronic scaler with 5 scaling tips. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	

	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	

			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Unit mount scaler	Main unit ith detachable hand piece ,Power out put 3W to 20 W , Frequency 28 KHz, Water supply pressure 0.01.Mpato 0.05MPa	5	No Change	5
Autoclave	Hot and wet – class -B	2	No Change	2
	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume - not less tha 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	

Ultrasonic cleaner	13 litres	2	No Change	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	
	I Lab		No Change	
Plaster dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Viberator	• Works effectively for pouring bubble free models.	2	No Change	2
	• 3 Steps of Vibration- Low, Medium and High.		No Change	
	• Non sticky superior rubber, easy to remove and clean.		No Change	
	• Ideal for Institutions, Dental Laboratories and clinics.		No Change	
Model trimmer	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	2	No Change	2
	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Micromotor Lab	Brushless Lab Micromotor With Hand Piece 50,000 RPM	4	No Change	4
			No Change	
Lathe	• Heavy duty, continuous rating, vibration-free, low noise lathe used for polishing and trimming.	2	No Change	2
	• Dual working sides.		No Change	
	• Supplied with drill chuck, buffing cone and grinding stone.		No Change	
	• Dust proof motor.		No Change	
	• 2800 rpm.		No Change	
X Ray viewer		2	LED,Duoble View	2
Welders	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	4	No Change	4
	LED base five different welding temperature settings.		No Change	
	Both welding and soldering operation in one unit.		No Change	

	All switches on front panel for easy operation.		No Change	
	Perfectly matching electrodes in 4 different shapes		No Change	
Blue torch		1	Blow Torch	1
Base Formers		4	Lab Base Former Kit to be used to make diagnostic casts and it very easily separated from the stone models.	4
Typhodont	Nissin type	4	typodont with 32 teeth	4
Set of Plyers	Oracraft /API Jaypee	10	NC	10
			Boon's Gauge, Band Pusher, Band Seater, Boley,10 each	
			Gauge, Height Gauge Wire Twister (15cm) (TC)-10 each	
			Wire Twister -10 nos	
Welder with soldering	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No Change	1
attachments	LED base five different welding temperature settings.		No Change	
	Both welding and soldering operation in one unit.		No Change	
	All switches on front panel for easy operation.		No Change	
	Perfectly matching electrodes in 4 different shapes		No Change	
Hydro solder		1	Hydro Solder for dental soldering operations.	1
			Fine pointed blue flame.	
			Built-in non-return valve and flashback arrestor.	
			Seamless pressure tank.	
			Auto cutoff prevents excess gas generation.	
			Generates gas when needed minimum stored gas.	
			Flame size can be adjusted from the regulator on the torch.	
			Gas generation can be regulated by a power knob.	
			Easily available hypodermic needles can be used as tips for flame size adjustment.	
			Flashback arrestor and nonreturn value.	
			Flame size can e regulated from the torch gas regulator.	
			it should be Easy to maintain and use. Should supply the liquids required	
Typhodont articulator		4	Robust structure, assuring greater stability. Design that provides greater visibility	4
			Semi-adjustable / Arcon Type	

			Fixed Intercondylar distance at the average 110 mm	
			Condylar Guide set at the average of 30°	
			Bennet angle set at the average of 15°	
			Curved Condylar Guide	
			Built-in Magnetic Stabilization System for the Condylar Guide Movement	
			Pin to support the Upper Frame at the open position	
			Innovative Central Lock	
			1 Set :	
			Articulator - 1 no	
			Allen Screw - 1 no	
			Support Pin upper Frame - 1 no	
			Mounting Plate Knob - 1 no	
Pressure moulding machine		1	thermo forming machine with plates	1
soldering torch		1	soldering torch hand held	1
spot welder		1	• Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1
	Department of Paediatrics and Preventive Dentistry			
Dental chair and unit	Dental chair mount unit	20	Dental chair mount unit(40% are Paediatric Chairs out of 20 units_	20
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	

	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with **Two airotor points ,one micromotor with digital display** of speed, **one piezotronic scaler with 5 scaling tips**. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate ,		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation	

			and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Autoclaves	Hot and wet – class -B	2	No Change	2

	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm(23L) +_ 10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume - 3.5L+_10%	
	Ambient pressure - +5°~ +40°		No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Ultra sonic cleaner	13 litres	2	13 litres minimum	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	
Needle burner with syringe cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	3	No Change	3
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	

	Burning Temperature, deg. C: 1600 C.		No Change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	
Amalgammotor		1	The amaglam mixer is used for mxing and accurate portioning of mercury & silver tin powder until they have bonded, the time of mixing should be adjused from 1 to 60 seconds, the unit should supply with capsule operating device.	1
Pulp tester digital		1	DIGITAL PULP TESTER high frequency tip detachable, digital display	1
Rubber Dam Kit for Pedo	Oracraft / API / Jaypee	5	Dental Dam Kit ,Pedatric	5
Apex locator	High-precision root canal measurement generated by using Smart Logic	1	No Change	1
	Auto-detects the apex accurately in any conditions, dry or wet		No Change	
	A stylish and compact body consuming very small space		No Change	
	Three different alert sounds depending on the location of the file tip, ensuring precise procedures		No Change	
	A three-colour LCD panel with very low reflectivity, allowing clinicians to accurately and instantly monitor procedure progress		No Change	
	Energy saving and low operation cost		No Change	
	Control unit		No Change	
	Probe (1.8m)		No Change	
	File Clip (3 pcs.)		No Change	
	Lip Hook (3 pcs)		No Change	
	AAA Manganese Dry Batteries (3 pcs.)		No Change	
	Tester		No Change	
Endo Motor	Endo Micromotor with Torque Control And Auto Reverse	1	No Change	1

	Smart enough to memorise exact speed and torque settings for up to 9 Ni-Ti files. Its auto-reverse features 3 working modes – auto-reverse on, auto-stop, auto-reverse off. The motor reacts when load reaches the preset level of torque. With on-off switch, it offers flexibility of pedal-free operation (optional foot control unit available), while providing convenience of full portability with two-way power supply, either AC or battery driven.		No Change	
	Operative with AC Adapter		No Change	
	Auto Reverse Function, 9 programs		No Change	
	With Rechargeable Battery Back-up		No Change	
	Control unit		No Change	
	Adaptor - 1 no		No Change	
	Motor Cord & MP Handpiece		No Change	
	Motor stand		No Change	
	Spray nozzle - 1no		No Change	
Injectable Guttapurcha with condensation		1	Cord less obturator which Should have both cutter and filling instruments with battery operated	1
RVG	chip type APS CMOS	1	No Change	1
	pixcel size 20Um		No Change	
	active area 20x30 mm		No Change	
	signal out put USB		No Change	
	Theoritical resolution 25lp/mm		No Change	
	imaging time 3-4 s		No Change	
	true line pair resolution as 14 lp/mm		No Change	
			With Computer,printer placed at Trolly	
Intra Oral camera	sony 1/4* CCD Providing high resolution 811X508 , auto focus operation 5mm to infinity,mini monitor on hand pieceto diagnoise	1	No Change	1
	and freez image,hand piece having storage of 60 images		No Change	
Scaling instruments	Oracraft / API / Jaypee	10	Complete scaling instrument kit(approx 10-12 insturments)	10
Restorative Instruments	Oracraft / API / Jaypee	10	Complete scaling instrument kit(approx 12-15) insturments)	10
Extraction forceps pedo	Oracraft / API / Jaypee	10	Set of Extraction forceps pedo different size (7-10 nos)	10
Intra oral x ray	Dental X-Ray Unit 70 KV – DC X Ray	1		1

	Light and compact, all function are integrated in the mono bloc, The monobloc with constant potential reduces significantly the quantity compared to normal radiographic. Low energy noxious radiations are almost completely to be elimated, should get high definition images, both in traditional mode and digital and phosphorous system, protecting patient health.		1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KVa) with option for wall mount.	
			2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.	
	TECHNICAL DATA		3. Power input to be 220-240VAC, 50Hz fitted with Indian plug	
	Rated electrical power : 0,800KW		4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.	
	High frequency technology : 100 KHZ		5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.	
	Absorption : 6A		Deleted	
	Focal spot : 0.7mm IEC 336		Deleted	
	Dia of long cone at end of space : 6cm		Deleted	
	Total filtration : 2mmAl		Deleted	
	Selectrabvle anodic current : 4-7mA		Deleted	
	Selectable voltage to X-Ray tube : 60-70 KVP		Deleted	
	Dispersed radiation : < 0.25mGy/h a 1 meter from focus 1		Deleted	
	Exposure time : 0.020 – 1.000mS Scala R10		Deleted	
	Power supply : 190-240V 50Hz		Deleted	
	Intermitttent operation : 1/30 1s exposure 30S reset max		Deleted	
	Distance : FF.20 CM		Deleted	
	Fuse : F6,3 At		Deleted	
RCT Instrument kits	Mani japan Instruments	5	RCT Instrument kit-Protaper SX,S1,S2,F1,F2.F3(SET OF 6), Protaper DI,D2(SET OF 6) ,2% files	5
Automatic developer		1	Automatic x ray Developer : to be used for intra oral and perriapical films it should be suitable for all the intra orals films, temperature controlled heating. It should develop upto 8 films per five minutes	1
	Pedo Lab		No Change	

Plaster dispenser	One each for plaster and stone plaster	2	No Change	2
	• High Frequency Dispenser.		No Change	
	• High quality rubber bucket for storing Plaster.		No Change	
	• Dispenses plaster in total powder form.		No Change	
	• Bottom lever starts and stops flow of plaster instantly.		No Change	
Model trimmer with	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
Diamond disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Model disc with	• Ergonomically designed most powerful, low noise, smooth running motor, 2,800 rpm.	1	No Change	1
Carbadoium disc	• Precision water flow control valve.		No Change	
	• Aluminum, non-rusting body.		No Change	
	• Imported grinding wheel.		No Change	
	• Adjustable work table for accurate trimming.		No Change	
Welder with soldering	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No Change	1
attachmetn	LED base five different welding temperature settings.		No Change	
	Both welding and soldering operation in one unit.		No Change	
	All switches on front panel for easy operation.		No Change	
	Perfectly matching electrodes in 4 different shapes		No Change	
Viberator	• Works effectively for pouring bubble free models.	2	No Change	2
	• 3 Steps of Vibration- Low, Medium and High.		No Change	
	• Non sticky superior rubber, easy to remove and clean.		No Change	
	• Ideal for Institutions, Dental Laboratories and clinics.		No Change	
Lab micromotor heavy duty with hand piece	Brushless Lab Micromotor With Hand Piece 50,000 RPM	3	No Change	3
Dental Lathe	• Heavy duty, continuous rating motor.	1	No Change	1
	• Well balanced bearing for smooth work.		No Change	
	•to be Supplied with different attachments.		No Change	
	• 1,400/2,800 rpm		No Change	

Steam Cleaner	• Steam generator built in compliance with international safety regulations.	1	No Change	1
	• A simple easy to operate steam cleaner with safety valve and high volume water holding tank with water level indicator.		No Change	
	• 3 – 4 bar constant pressure.		No Change	
	• Convenient foot control.		No Change	
	• Handy gun with flexible hose.		No Change	
Pressure moulding Machine		1	thermo forming machine with plates	1
	Department of oral Medicine and Radiology			
Dental chair and unit	Dental chair mount unit	12		12
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	

	Dentist element or trolley should have five point with **Two airotor points ,one micromotor with digital display** of speed, **one piezotronic scaler with 5 scaling tips**. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	
	ceramic replacable bowl /glass should be easy to remove and rotate ,		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	

			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	
			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Panoramic X Ray with Cephalometry AERB certified	orthopantomogram with cephalogram should be	1		1
	TECHNICAL SPECIFICATIONS:		OPG X-Ray Machine should be AERB (Atomic Energy Regulatory Board) Certified	
	IMAGES 2D		Should available as floor standing with wall anchoring	
	Type Complete or partial adult and child panoramic*,		Should centralized control system	
	Orthogonal Panoramic, SPEED PAN, MultiLevel PAN,		Should be easy and fast patient positioning with three positioning laser light	

	Dentition, Bitewing* Frontal and Lateral (right and		Should have DEC Dynamic Digital Exposure	
	left) maxillary sinuses, Temporomandibular Joint(2x		Should constant potential micro-processor controlled resonance made X-Ray generator	
	Lateral + 2 x Frontal) open and closed mouth.		Should have very high operating frequency	
	Teleradiography: Skull AP-PA, LL Short/Long,		Should have exposures parameters range optimized for digital imaging 2-7 mA/60-80 KV	
	Standard/Quick; Carpal teleradiography		Should automatic cooling control	
	(Maximum) theoretical resolution 2D: 5-7 lp/mm (pixel 100-73 µm)		Should have using user friendly graphical user interface on a computer and from the console on the machine itself	
	on the patient plane CEPH: 6 lp/mm (Pixel 89 µm)		The software must be user friendly. All the parameters like KV, mA should be selectable	
	Maximum image data dimensions PAN: 7.5 MB (single image) & CEPH: 14 MB		Exposure time should be in between around 2 to 14 secs. Depending upon the patient's	
	Magnification PAN 1.2 - 1.3 & CEPH 1.13		type and programmer selection	
	Scan time PAN: 13.8 s (ORTHO), 12.3 s (STD.), 6.8 s (Speed)		Should have various positioning accessories like standard bite block edentulous hie blocks. Panoramic chin rest. TMJ Nose rest sinos chin rest	
	CEPH: 9.9 s (STD) - 3.7 s (Speed)		Should have DICOM compatible unit	
	Estimate of typical effective dose (ICRP 103) PAN: 5 - 9 µSv		Should have Universal power input including power factor corrector, mains voltage fluctuations automatically compensated, Should have automatic primary collimator. Should have optimized image geometry and constant magnification	
	Minimum image display times RealTime		Sensor should have high resolution CMOS sensors with protective optical fibre layer for protection and longevity of the sensor and have small and adjustable panel size, Ethernet connection to computer sensor should have low radiation dose & also attached cephelomarty and extra oral radiograph	
	Advanced filters iES (Image Enhancement System) PAN autoFocus		Radiology examination to be possible as-	
	2D VERSION - X-RAY GENERATOR:		-Full Panoramic Adult and child.	
	Generator type Constant potential (DC)		-Segmented panoramic.	
	Anode voltage 2D: 60-85 kV continuous emission		-Lateral TMJ -2 views	
	2D 70 kV: 60-70 kV continuous emission		-Lateral TMJ-4 views	

	Anode current 4 mA - 15mA		-Maxillary sinus.	
	Focal spot 0.5 mm (IEC 60336)		Desirable Features:	
	Exposure Control Automatic. X-Safe Technology		Should have advanced programme like orthogonal panoramic, double laeral PATMJ, Lateral 3 angles TMJ, Left & right, Lateral Sinus programmer	
	Maximum continuous anode		Should have wide range of image processing and enhancement tools	
	input power 42W (1:20 at 85kV/10mA)		Should have fast data link of image transfer	
	Inherent filtration > 2.5 mm Al eq. (at 85 kV)		Physical space requirement:	
	DETECTOR 2D PAN & CEPH:		Width: Atleast between 50-60 in (around 1500 mm) Depth: Atleast between 50-70 in (around 1950 mm) Height: Atleast between 70-95 in (around 2500 mm)	
	Detector type CMOS (CSI)		Technical Specification:	
	Dynamic range 14 bit (16384 grey levels)		Generator From 40 Khz to l00KHz or above.	
	Height PAN: 148 mm		Focal spot size: 0.5 mm as per IEC standards.	
	CEPH: 223 mm		Anode Voltage: 60-90 *KV* in 1-2 *KV* steps	
			Anode current: 2-15mA	
			Exposure compensation: Automatic Exposure control	
			Total filtration min: Equivalent to 2.5mm A/1 or more	
			Magnification of panoramic exposure: 1.22 - 1.29	
			Duty Cycle: 1:2 at full power operation	
			Exposure time: 2-14 sec.	
			Weight: Light weight upto 115kg.	
			Active Area CMOS sensor; 145-lS0x 5-7mm (Standard	
			PAN)	
			US FDA / European CE /BIS Approved model should be offered	
			Suitable online UPS with commensurate capacity for Enter unit (OPG, Computer & Laser printer) with maintenance free batteries for minimum one-hour back-up should be supplied	
			PC Requirement:	

			Computer be intel dual or core 2 due processor with 1 TB Hard Disk. Graphic card 8GB RAM with operating system of Window XP or Window 7 multimedia with drives or DVD ROM +writer	
			UPS requirement for supporting above system should have 3 KVA online	
			Printer: DICOM/ Dipro printer should be provided	
Intra Oral x ray unit AERB certified	Dental X-Ray Unit 70 KV – DC X Ray	3		3
	Light and compact, all function are integrated in the mono bloc, The monobloc with constant potential reduces significantly the quantity compared to normal radiographic. Low energy noxious radiations are almost completely to be elimated, should get high definition images, both in traditional mode and digital and phosphorous system, protecting patient health.		1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KVa) with option for wall mount.	
			2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.	
	TECHNICAL DATA		3. Power input to be 220-240VAC, 50Hz fitted with Indian plug	
	Rated electrical power : 0,800KW		4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.	
	High frequency technology : 100 KHZ		5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.	
	Absorption : 6A		Deleted	
	Focal spot : 0.7mm IEC 336		Deleted	
	Dia of long cone at end of space : 6cm		Deleted	
	Total filtration : 2mmAl		Deleted	
	Selectrabvle anodic current : 4-7mA		Deleted	
	Selectable voltage to X-Ray tube : 60-70 KVP		Deleted	
	Dispersed radiation : < 0.25mGy/h a 1 meter from focus 1		Deleted	
	Exposure time : 0.020 – 1.000mS Scala R10		Deleted	
	Power supply : 190-240V 50Hz		Deleted	
	Intermitttent operation : 1/30 1s exposure 30S reset max		Deleted	
	Distance : FF.20 CM		Deleted	
	Fuse : F6,3 At		Deleted	

Pulp tester digital		3	DIGITAL PULP TESTER high frequency tip detachable, Battary operated,digital display,multiple tooth attachment minimum 03 nos.,	3
Auto matic periapical		1	Automatic x ray Developer : to be used for intra oral and perriapical films it should be suitable for all the intra orals films(size no 0,1,2,3, & 4) temperature controlled heating. It should develop upto 8 films per five minutes	1
x ray developer			Mannual developing-All sizes tank(not less 8.0 lit) including master tank with chemicals 1 time use.	
X Ray viewer for pan / Ceph		2	LED type ,single film	2
RVG	chip type APS CMOS	1	No change	1
	pixcel size 20Um		No change	
	active area 20x30 mm		No change	
	signal out put USB		No change	
	Theoritical resolution 25lp/mm		No change	
	imaging time 3-4 s		No change	
	true line pair resolution as 14 lp/mm		No change	
			with computer,printer on trolly.	
Intera oral camera	sony 1/4* CCD Providing high resolution 811X508 , auto focus operation 5mm to infinity,mini monitor on hand pieceto diagnoise	1	No change	1
	and freez image,hand piece having storage of 60 images		No change	
Gen X Ray Unit	Dental X-Ray Unit 70 KV – DC X Ray		General X Ray Unit(Floor mounted)	
	Light and compact, all function are integrated in the mono bloc, The monobloc with constant potential reduces significantly the quantity compared to normal radiographic. Low energy noxious radiations are almost completely to be elimated, should get high definition images, both in traditional mode and digital and phosphorous system, protecting patient health.AERB approved	1	X-Ray Generator:	1
			A. High frequency X-Ray generator	
			B. Inverter frequency – 20 KHz or more	
			C. Output power 30KW or more.	
			D. KV Range – 40 to 125KVp	
			E. mA range- upto 300 mA or more	
			F. 3300mA @ 80 KV or better	
			G. mAs range – 2 to 200 mAs or more	
			X-Ray tube:	
			A. Rotating anode	

			B. Focal spot :- small - 1.2 x 1.2 mm & Large - 2 x 2 mm	
			C. One pair of High tension cable (at least 8 meters)	
			D. collimator with full field illumination and angle indicator	
			Table:	
			A. The table should be horizontal floating type.	
			B. Bucky table with floating table top with immense flexibility and ease in positioning.	
			C. Table top positioning with release of electromagnetic brakes controlled with a foot operated lever.	
			D. Table Height – 75 cm (±5%)	
			E. Table top – 218 x 80 cm (±10%)	
			F. Table top should be made up of low radiation absorption, water proof material, stain free	
			G. Longitudinal Travel: ± 40 cm (±2%)	
			H. Transverse Travel : ± 12.5 cm (±2%)	
			I. Electromagnetic locking of the table movement	
			Motorized Bucky:	
			A. Grid 10:1, 60 lines / cm, focused at 115 cm	
			B. 65 cm travel; movement arrested by electromagnetic brakes	
			C. Suitable for cassettes in cm and inch formats and should be capable to accommodate 14”x17”	
			X-Ray Ceiling column	
			A. Travel range: 195 cm (±10%); movement arrested with electromagnetic brakes	
			B. Vertical travel: 135 cm (±10%); movement arrested with electromagnetic brakes	
			C. Column rotation: 360°; from + 180° to -180° in 90° increments	
			D. X-ray tube rotation: ± 180°; locks at 0° / +90° / -90°	
			STANDARD ACCESSORIES	
			A. Three-fold X-ray protection barrier – 1no.	
			B. Lead apron 0.5mm lead equivalence with thyroid guard – 2 no.	

			C. Radiography cassettes with high speed screen (reputed make)-pl mention make, seprate for each cassette to be mentioned ,14 x 17 – 3 nos, 12x10 – 3 nos, 10x8 – 3 nos.	
			D. Should be supplied with chest stand and cone for skull x-rays.	
			POWER SUPPLY REQUIREMENTS	
			A. 380 to 440Vac, Three phase, 50/60 Hz.	
			SPECIFICATION OF LEAD APRON.	
			A. Should be AERB approved.	
			B. Should be light weight 0.5mm lead equivalent.	
			C. Should be hook and loop type (Velcro).	
			D. Should be supplied along with thyroid guard.	
			SPECIFICATION FOR THREE-FOLD LEAD PROTECTIVE BARRIER.	
			A. Should be a threefold mobile lead protective barrier.	
			B. Should be a mounted on heavy duty casters.	
			C. Should have a viewing window of 1.5 mm thick lead equivalence.	
			D. The centre part should have 3 feet width and 6 feet height. The sides should be 1.5 feet width and 6 feet height	
			US FDA / European CE /BIS & AERB Approved model should be offered.	
			Supplier is responsible to comply AERB guideline for installation. Lead of Patient entry door, Exposure Lamp & Radiation sinage is responsibility of supplier	
			QA test of the machine as per AERB guidelines will be responsibility of supplier during warranty & during CMC, cost is added in CMC cost of the machine.	
Auto matic Developer		1	Automatic x ray Developer : to be used for extra oral(Skul)films(8X10,10X12,5X7 & 6X12 inches), temperature controlled heating. Cassettes to be provided-one piece (each) for sizes-8X10 Inch,10X12 Inch,5X7 inch & 6X12 inch with films of 1 packet each.	1
Lead Apron	Kiran	2	X Ray Lead Apron 0.5 mm Lead Equivalency	2
Lead Gloves	Kiran	2	X Ray Lead Gloves, Lead Equivalency 0.35mm,	2
Lead Collor	Kiran	2	Thyroid Shield (Pb Equivalency 0.35mm)	2

X Hanger	Kiran	6		6
Diagnostic Kit	Oracraft/API/ Jaypee(mouth mirror,dental probe ,college tweaers)	65	Diagnostic Kit-40 nos,High quality stainless steel-mounth mirror,mouth mirror probe,curve tweezer,explorer,kidney tray	65
Lead screen	Kiran/confident	1	moving on four wheel, lead screen with leaded glass window-not less than 10x10 inch, 3feet x 6 feet, lead shield should be sandwitched all over the sheild not less than 1.5 mm lead equilance	1
Biopsy kit		3	Stainless steel 3mm,5mm,10 mm punch biopsy,BP Handle,Scissor Straight,Scissor Curve,small needle holder,artery forcep,tooth head forcep	3
Autoclave	Hot and wet – class -B	2	Autoclave -01 no.	2
	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume - not less than 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
			No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Needle burner with	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	2	No Change	2
syringe cutter	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	

	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	
	Burning Temperature, deg. C: 1600 C.		No Change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	
CBCT AERB Approved	Optional	1		1
			Name Of Equipment: Cone Beam CT	
			Expected function of the Equipment: Cone-beam computed tomography is required for acquiring high-definition 3D volumetric imaging in axial, sagittal and coronal planes along with 2D imaging as an aid in diagnosis and treatment planning with life size images, precision and accuracy.	
			General Specifications	
			The CBCT machine should have cone beam technology.	
			It should have Laser guide user inter face for operation controls on machine or on monitor.	
			High System reliability and conveniences for maintenance.	
			Should allow for obtaining image while standing, sitting and wheelchair accessible patient position.	
			Noise free vertical movement — up/down movement, smooth and easy height adjustment, minimum vibration and noise.	
			Unit Should have facility for automatic and manual selection of radiological exposure parameters as per patient requirement and should have emergency stop button.	
			Meet all rules and regulations notified from time to time from AERB.	
			Should have option to select multiple FOVs and type of resolution required as per the examination.	

			Console along with exposure switch should be mounted outside CBCT room.	
			It should have amorphous silicon Flat panel/CMOS detector for 3D capture	
			Should have operator interactive interface on monitor for selection of different capture modes like dedicated 2D imaging (OPG, Lateral and PA Cephalogram, TMJ, sinus, bitewing and hand-wrist) and 3D Imaging.	
			Should have minimum 03 laser position guides: Frankfurt plane, Mid Sagittal and Canine Plane for quick and accurate positioning.	
			TECHINAL SPECIFICATIONS:	
			a. Focal Spot - 0.5 mm or less	
			b.Voxel Size	
			(i) For minimum FOV (Size range 5X6 cm +_ 1cm) it should be in the range of 75 to 80 micron.	
			(ii) For Max FOV 16X14cm +_1 cm it should be in the range 150 to 200 micron	
			Automatic selection of multiple voxel size as per the resolution of scan.	
			c.CBCT Scan Time-Less than 30 seconds, Fast scan should not be more than 10 sec	
			d.Panoramic capture mode-Adult/child mode.	
			Ceph Capture mode-Water's ,Carpus, SMV, AP,PA ,Lateral View.	
			Rotating angle-Rotation 360 degree	
			Gray Scale-14-16 bit.	
			Collimation-Automatic	
			Image Format-It should have DICOM compatible format open to 3rd party software for import and export of image data.	
			Should have facility to convert image data from DICOM into STL format.	
			Input Voltage-220-240 V AC, 50 Hz frequency.	
			Generator-High Frequency	
			Tube Voltage-60-90 KvP +_2 KV	
			Tube Current-3-14 mA +_2 mA	
			Server Specifications:	
			Hardware Specifications: For 01 x console and 01x workstation separate	
			Intel Core i7 processor	
			1 TB SSD.	
			PCI-Express bus for GPU	

			Minimum 8 GB RAM.	
			Windows 10 OS original.	
			DVD ROM + Writer.	
			Gigabit Ethernet.	
			High—end Graphic card Radeon RX580 pulse 4GB GDDRS/Radeon RX 560 4GB GDDRS/Radeon PX570 4GB GDDRS Nitro or equivalent.	
			Minimum 24" LED monitor with full HD resolution allowing display of image at its native resolution.	
			Software Specification:	
			Should be from same OEM / vendor of licensed perpetually to OEM/ vendor. The responsibility of maintenance /repair/upgradation of Software during Guarantee/Warranty period/AMC and CAMC period rests with the Vendor/OEM	
			Should allow easy 2D and 3D examination, reporting and generate viewer CD	
			Annotations created on image such as linear and angular measurements, notes and signs should be printable.	
			Should have implant planning, simulation module, nerve tracing facility alongwith in-built implant library and customizable implant size selection	
			Should have Zoom reconstruction	
			Should have Multiple 3D filters.	
			Should have Panoramic reconstructions of multiple thickness from 3D volume	
			Should have Advanced image filters.	
			Should have Workstation software.	
			Should have Basic image manipulation for brightness. contrast & sharpness.	
			Should have Patient and image database.	
			Should have 3D slice view	
			Should have 3D surface rendering and 3D volume rendering.	
			Should have Surgical stent and prosthetic planning/simulation module.	
			Should have DICOM connectivity open to 3^{r1} party software	
			Should have MAR (Metal Artefact Reduction) module.	
			Should include scout/preview imaging before final 3D CT Scan which enables to ensure correct patient positioning	
			Should have Display at DAP (Dose Area Product) DAP value after every exposure.	

			Should have Display of MPR (Multi Planar Reformation) with 3 orthogonal planes —axial, sagittal and coronal which will allow navigation	
			Should have Ability to perform oblique and curved reformatting	
			Should have Display of grayscale value /Hounsfield unit	
			UPS-	
			Should have 5KVA Online with 30 minutes backup	
			Day Light Printer:	
			Should have DICOM printer	
			Should have Double Tray online with multiple film size loading options.	
			Should have Print Resolution Min. 500 dpi.	
			Should have 8 x10 inch, 10 x 12 inch, 14 x 17 Inch	
			Contrast resolution : 12 Bit.	
			Day light imaging loading system.	
			DICOM sheet printing Software.	
			Certifications-	
			USFDA/EU CE /BIS certified.	
			Should have AERB approval certificate prior to installation.	
Sailography equipment and kit	Kiran	1	Added-Intra Oral hangers-06 hangers---12 pieces Polyethylene tubing with a special blunt end metalic tip cannula with side hole for parotid gland & end terminal hole for submandibular gland,laccrimal dilator ,contrast media,sialagoue ,X ray Cassatte(5X7 inch)-01 no	1
			Added-Extra Oral hangers---1.12 Clamp-02 pieces hanger,2.4 Clamp-02 pieces hanger,3.2 Clamp-02 pieces hanger. Made of Stainless steel,Acid prof	6
			Added-Intra Oral hangers-Hanger for OPG film(6X12 inch)-02 2.Hanger for Cephalometry film(8X10 inch)-02, 3.Hanger for Cephalometry film(10X12 inch)-02 4.Hanger for film(5X7 Inch)-02	8
	DEPARTMENT OF PUBLIC HEALTH		9.DEPARTMENT OF PUBLIC HEALTH	
Dental chair and unit	Dental chair mount unit	16		16
	Body contoured electrically operated pantographic dental chair		It should have two 3 way syringes (tip autoclave), with 3 spare tips.	
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.	

	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.	
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patientto be used during gorgle position		It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.	
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).	
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,**with penumatic locking**		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, Minimum 28,000 Lux or higher at 80 cm distance.	
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		It should have light cure unit.	
	Assistant side control should have high vacuum and saliva ejector connected to motorised suction. With individual filter and with a minimum of 300 ltrs of aerosol displacement.		It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 Itrs/min and provision for disinfected air exhaust.	
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of1200 mwcm2		It should have auto zero, gargle, P1 and P2(erasable programme) positions.	
	Dentist element or trolley should have five point with **Two airotor points ,one micromotor with digital display** of speed, **one piezotronic scaler with 5 scaling tips**. With torque wrench to remove tip. One three way syringe. And modular should be of hanging cords, and should be supplied with iopa x ray viewer, on stainless steel tray. and control should have the pressure guage, water volume regulator, air regulator. micromotor controller		Chair should have up and down, backward and forward movement hand and foot control operated.	
	foot control should be supplied to operate up and down and backrest to and frow movement. Switch for operating microtor and scaler and airtor.		Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement	
	Should supply with one airotor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.	

	ceramic replacable bowl /glass should be easy to remove and rotate ,		Base should solid metal with heavy casting.	
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		It should have LED based X-ray viewer.	
			It should be provided with rotatable right arm rest (90 degree).	
			It should be provided with one doctor's stool with back rest and one assistant's stool without back rest with foot ring for foot rest. The base should be of stable metal moving on five wheels with pneumatic movement with level	
			Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release valve, automatic cut off, safety release valve, & drain valve gauge.	
			Electrical point, water inlet and outlet facility will be provided by hospitals but All consumables required for installation and standardization of system to be given free of cost.	
			(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves	
			All the outlet and inlet for the services to chair should be concealed in a box at foot area or within the unit for infection control purpose.	
			The unit shall be capable of operating continuously in normal room temperature.	
			Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.	
			Power supply	
			i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.	
			ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.	
			Standards, safety and training:	
			i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	
			ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	
			Documentation:	
			i. User manual in English.	

			ii. Service manual in English.	
			iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.	
			iv. Certificate of calibration and inspection from factory.	
			v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.	
			vi. The job description of the hospital technician and company service engineer should be clearly spelt out.	
			vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.	
Autoclave	Hot and wet – class -B	2	No Change	2
	Should have container for distilled water, and exaust condensed waste water		No Change	
	The chamber should be of minimum 20 to 23 ltrs		No Change	
	Technical Info :		No Change	
	Sterilizer chamber (diameter x depth) - 245mmx465mm(23L)		Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%	
	Power Supply - 220V/AC/50Hz		No Change	
	Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba		No Change	
	Fuse tube - T15A		No Change	
	The storage tank volume - 3.5L		The storage tank volume - not less than 3.0 L	
	Ambient pressure - +5°~ +40°		No Change	
	Instrument tray - 3 Pcs		No Change	
	Instrument rack -1PC		No Change	
	Operation manual -1PC		No Change	
	Handle tongs - 1PC		No Change	
	1.5m water-outlet pipe -1PC		No Change	
	Water outlet connector - 2PCS		No Change	
	Measuring cup - 1PC		No Change	
	Sealing ring - 1PC		No Change	
	Power cable - PC		No Change	
Ultra sonic cleaner	13 litres	2	No Change	2
	Ultrasonic Cleaner , Premium quality cleaner for cleaning surgical instruments before autoclaving should have lid and cage to keep the instruments, on.off switch and should have the capacity of minimum 13 ltrs		No Change	

Needle burner and syringe Cutter	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	4	No Change	4
	Main Input Supply (V, Hz, A) : 230 ± 10%, 50 ± 3% Hz, AC/5 A fuse.		No Change	
	Body Material : stainless steel or ms powder coated		No Change	
	Power consumption of continuous rating, W in use : 100 W.		No Change	
	Type of Electrodes used : Copper Electrode – Nicket plated.		No Change	
	Destruction Rate, Seconds / Needle : 25 Second / Needle.		No Change	
	Thickness & Length of Needle : Recommended : MAX . 1.6 mm Dia, 80 mm Length.		No Change	
	Burning Temperature, deg. C: 1600 C.		No Change	
	Grade of Steel & Guaranteed Life of Cutting Blade (Approximate No. of Syringes and needle it can destroy): SS Grade is SS 316 L.		No Change	
	Tray capacity No. of Syringes & Needles: 100 pcs.		No Change	
	Safety features provided : Glass Cartilage Fuse.		No Change	
	motorised syringe cutter: with wheel		No Change	
			Added-Mobile Dental van with 02 units of Dental chairs with all attachemnts & adequate sitting space for 15-20 people	
			. VEHICLE BODY	
			· Body for special purpose of mobile dental vehicle on the bus chassis	
			· **Exterior dimensions**:	
			o As per the approved dimensions of Central Motor Vehicle Rules Act, 1989, as amended from time to time, on bus chassis with a wheelbase of 5545 mm	
			o Complying with the norms of the Regional Transport Office, Department of Transport, Government of Bihar.	
			· **External body frames**:	
			o Of standard quality Galvanized Iron (GI pipes) square pipes	
			o Of adequate thickness (i.e. Class) to support the various rails and pillars	
			o Anti-corrosive treatment of good quality and standards of all fittings and welding	
			o All anti-corrosive treatment should be of Zinc Phosphate epoxy primer paint or of similar nature and of standard quality.	

			o All fixtures and welding should comply with Metal Inert Gas/Tungsten Inert Gas (MIG/TIG) technology	
			External and internal sheathings:	
			o External sheathing of GI sheets of 18-20G	
			o Interior sheathing with at least 2mm thick FRP (Fibre Reinforce Plastic) over a GI sheet of adequate thickness	
			o All internal sheathings/surfaces should be of medical grade material.	
			o Colour of interior ABS be as per approved scheme	
			o Riveting of the components	
			Insulation:	
			o Polyurethane Foam (PUF) of minimum 50 mm between external and internal sheathings including the roof and floor	
			· **Exterior Roof:**	
			o Panelling of 18G Aluminium sheets	
			o Standard roof design with a gradient for water runoff	
			o External guttering for draining rain water	
			o A detachable roof ladder to be provided	
			Flooring:	
			o Should be done with seamless industrial grade, durable, non-slip waterproof vinyl mat of adequate thickness, of standard quality	
			O Colour of vinyl flooring to be as per the approved scheme	
			o Chequered board Aluminium sheet (wherever required) of adequate thickness to withstand functional load with a low VOC adhesive	
			o The floor shall be fitted with fire retardant marine board of adequate thickness (minimum 19 mm) and conforming to BIS standards	
			O Exterior aspect of flooring be coated for water proofing and adequate impervious under-coating protection be provided	
			Doors:	
			o 1 driver side door	
			o Two ergonomically placed doors	
			o Location of doors will be as per final design approved	
			o One door should be wide enough for entry of standard wheel chair with ramp	

			o 1 emergency exit as per the standard norms	
			o The doors should be securely lockable (from inside & outside) and latches provided	
			o Be properly sealed to avoid leakage of air	
			o The steps should be of anti-skid material of standard quality	
			Windows:	
			o Toughened glass	
			o UV tinted (except one window for LCD) within permissible limits of the transport norms.	
			o Windows in the passenger and dental clinic cabins should be sealed with proper gasket.	
			o Windows in the driver cabin should provide sufficient ventilation.	
			o **The location, size and number of the doors and windows would be finalized as per the design approved**.	
			Wind screen:	
			o UV tinted and conforming to the standards prescribed by the transport department of NCT of Delhi.	
			o Wipers of standard quality with provision for water spray be provided for front windshield area.	
			Rear view mirrors	
			o Good quality rear view mirrors on both sides of driver cabin, of adequate size & repute make	
			·**Reverse sensors** of repute make should be provided at the rear of the body.	
			Exterior Lighting:	
			o Ambulance siren and flasher of repute make to be placed as per Government rules.	
			o Other external lighting, signalling and indication system of the bus should be as per Central Motor Vehicle Rules, 1989, as amended from time to time.	
			Exterior body colour:	
			o Body be painted with graphics approved by user and confirming to Central Motor Vehicle Rules	
			o Of durable exterior polyurethane based paint with lamination.	
			· **Roof top:** Provision should be made for placement of AC condenser unit	
			· **Undercarriage**: Provision should be made for placement of:	
			o Generator Compressor	
			o Clean water tank o Waste water tank	

			o **Storage area for Portable dental chair, foldable table (chair & table not to be provided by vendor)**	
			o Additional storage area for storing stores & general items	
			o Provide proper access to maintain the undercarriage fixtures.	
			ELECTRICAL	
			· **Generator**:	
			To run 2 dental chairs, one air conditioner, compressor, autoclave, LCD TV, DVD player, public address system, refrigerator, fans and lights while vehicle is stationary reputed make, Petrol, Water Cooled, vibration free & silent.	
			o Housed in vibration free enclosed space with acoustic deadeners	
			o Have proper exhaust	
			o Facility of auto start is desirable	
			o Grouted and provision for sufficient shock absorption o Be from BIS/ISI/BES/Standard approved company	
			o Exact location to be decided as per final design approved	
			o Extra fuel jerrycan–20 litres for storing fuel for generator	
			· **Roof mounted air conditioner** for air cooling and heating with ducting in seating area and should be engine driven	
			o Be of repute make confirming with BIS/ISI/BES standards	
			· **One split type air conditioning system** of minimum 1.5 ton and of reputed company which can run on generator or external power supply should be provided in dental clinic area	
			· **Total capacity of both ACs should be of at least 22,000 British Thermal Units (BTU)**	
			· **Electrical systems:**	
			o **Stabilizers and voltmeters**: of specifications matching the equipment on the mobile dental clinic along with earth leakage circuit breakers	
			o **Proper safeguards** be taken with respect to electrical connections including but not limited to insulated wiring, earthing, voltmeters, circuit breakers, colour coded wires, approved jointers and wiring chart	
			o Provision for External Power Source (Shore Power/Generator) Alternating Current Supply (AC) including alternate supply for air conditioning and dental equipment's	

			o **UPS** of sufficient capacity to run dental chairs, Compressor , lighting and fans in the clinic area & battery backup 1 hour.	
			o **Electrical cables**	
			§ Internally concealed and located such that no part can make contact with any fuel line or exhaust system	
			§ All cables used shall be BIS/ISI marked	
			§ Of approved thickness to withstand maximal estimated electrical flow.	
			§ Copper conductors with fire retardant PVC insulation, to withstand up to 70^{o}C temperature	
			§ Cables ducted and secured at suitable places in such a manner that during normal use of vehicle the cables are not subjected to any tension, stretching, cutting, abrasion or chaffing.	
			§ No loose wire to wire connections shall be permitted.	
			o Special insulation to be provided where such electrical circuits are necessary. Non-conductive insulated backing for all switch boards.	
			o **Plug points and switches**: 10 plug points of adequate intensity along with equivalent number switches of standard quality (BIS) to run compressor, autoclave, air conditioner, 2 dental chairs, 2 curing light, LCD TV, DVD player, public address system and laptop and 5 additional plug points. Switches corresponding to lights and fans to be provided. **Location to be**	
			finalized as per approved design.	
			o **Shore power socket** at bus panel i.e. from outside to aid in attaching external power source.	
			o **Interior lighting**: The design and number of lamps, their position, type and wattage used shall be of type approved. Each compartment would have specified number of LED lights and switches for each group.	
			o **Fans**: Total 8 walls mount fans in driver, passenger, registration area and dental clinic cabin, with variable speed control and swing movement and of	
			standard quality.	
			o Adequate lighting and air circulation be available with and without the generator running, with the bus stationary and during commuting.	

			o **Distribution Panels**- Separate AC and DC distribution panel to be placed near main entrance with individual breakers (of adequate type and approved quality) for each equipment item. Ground fault circuit interrupter (of adequate type and standard quality) at sink. Change over switch from external power	
			source (shore power) or Generator.	
			o All panelling and equipment should be of standard BIS quality and should have display units.	
			o Wiring should be harness coloured, numbered & function coded	
			WATER SYSTEM	
			· **Water purifier capacity 20 litre per hour.**	
			· **Clean water tank**	
			o Capacity : 200 litres	
			o With booster pump	
			o High quality stainless steel, leak proof material and with external covering	
			o With locking sealed cap	
			o With sensor indicating status of water level	
			o To be placed in the undercarriage	
			· **Waste water tank**	
			o Drainage system from the dental chairs, washing areas should be identified	
			o Capacity : At least 100 litres	
			o To be placed in the undercarriage preferably on the passenger entry side o Of high quality stainless steel and leak proof material	
			o Provision for draining waste water should be easily accessible and operable o With sensor indicating status of water level	
			Location of the tanks & water purifier shall be as per the final design approved	
			INTERIORS	
			Driver Cabin	
			o Ergonomically designed	
			o Driver seat should comply with standard safety and quality and be provided with a retractable seat belt.	
			o The placement of instrument panel shall be such that the primary instruments and controls are visible unobstructed from the driver seat.	
			o Display of reverse sensor device to be included.	

			o The driver door should be of approved height and width with sliding windows and required lockings. The driver door aperture shall have minimum one hand hold.	
			o Provision of standard quality locks for all doors.	
			Internal Partition walls	
			o Of steel of approved thickness and should be powder coated.	
			o The partitions separating the passenger seating area, clinic area and registration area should have a hinge door.	
			Passenger sitting area	
			o Provision for seating 10 persons or more, as per the space availability of Adequate aisle space to be provided	
			o Passenger seats should have back rests and preferably head rests. **The seat design**	
			would be as per the final design approved.	
			O Front seats should have a horizontal bar in front to hold on for safety purposes.	
			O **Overhead storage space to be provided as per the final design approved.**	
			oDust free blinds or curtains	
			o Two foldable benches can be provided(if space permits) to increase seating capacity	
			Registration area:	
			· should have a registration counter	
			· location of area shall be as per final design approved	
			Dental clinic area	
			Dental equipment	
			1. **Two electrically operated dental chairs:** The chair should be electrically operated and have	
			o Thick seamless upholstery to prevent adherence of dust and thus cross-contamination, with lamination.	
			o Double articulated head rest for patient comfort	
			o 3 programmable working positions and auto return to zero.	
			o Independent up and down movement and backrest movement of the chair.	
			o Delivery unit with pneumatic locking arm, control panel, one 3-way syringe, instrument tray for placing instruments	
			o Inbuilt micro motor and piezo ultrasonic scaler.	

			o Included Accessories: Air Rotor Hand Piece Standard Head, Ceramic bearings with push button (NSK/similar), Micromotor with Straight & Contra Handpieces (NSK/similar) with Piezoelectric Ultrasonic Scaler (with minimum 3 Tips and Torque Wrench) detachable autoclavable hand piece and at least 5 Watt LED based, Cordless light cure unit with pulse, ramp and normal mode settings.	
			o Water unit: Ceramic spittoon with fixed cannulas for spittoon and cup water, 1litre water bottle, switch to control working of water unit, 1 point for low vac suction	
			O White and cold 3 LED sensor light (at least 20,000 LUX) o One x-ray viewer	
			o Multifunctional foot control	
			o Doctor's stool with adjustable backrest tilt & height adjustable foot ring.	
			o Provision for harnessing the doctor's stools when not in use.	
			o The company manufacturing the dental chair should be ISO, and products accredited with CE Mark.	
			o Provision for separate clamping of dental chair light to the roof of the bus and harnessing of the instrument tray arm.	
			o US FDA / European CE /BIS Approved model should be offered.	
			2. **One Autoclave** having wet and dry cycle, which can achieve 135°C, with minimum capacity of 20 litres, front loading. Should be:	
			o B-Type front loading fully automatic autoclave with vacuum & dry cycle o Micro-processor controlled	
			o Wrapped/unwrapped, porous, solid instrument including cotton swabs can be sterilized	
			o Bow and Dick test qualified	
			o Have digital display of pressure and temperature	
			o Have double safety lock on the door, silicon gasket to prevent any leakage of air and diagnostic automatic alarm for any malfunctioning	
			· Can be used at 121^0C/134^0C during sterilization.	
			· Grouted to prevent movement during transport	
			3. **One compressor**: minimum 1.0 HP, 20 litres tank, oil-free	
			o To provide medical grade air for dental use o With anti-rust-coating tank.	

			o To be placed in the undercarriage with encased tubings connecting to the dental chairs.	
			Dental X-Ray (DC-portable)	
			(1) Dental X-Ray (DC-portable) -for taking Intra Oral periapical and Occlusal X Ray	
			(2) 2) Certification EU CE (with 4 digits notified number)	
			(3) AERB approval Required for Dental X-Ray	
			(4) Electrical safety standards IEC-60601/ IS 13450	
			Performance Parameters	
			Tube voltage in KV-70 KV	
			Availability of selection option for Bisecting angle technique & Parallel Technique -YES	
			Tube current in mA- 7-10mA	
			Focal spot in mm – (0.8)	
			Should have Total filtration and Inherent Filtration- Yes	
			Total filtration in mm Al - 2	
			Inherent filtration in mm Al – 0.5	
			Minimum range of exposure time in sec – 0.2	
			Power supply - 220-240 V , 50 Hz single phase	
			Based on DC Current- YES	
			RVG / X ray Film compatible - YES	
			Machine should have a stable base with sturdy locking wheel mechanism- YES	
			Machine shall be wall mountable - YES	
			Should have digital control equipped with an easy ready display indicating with precision - YES	
			Stool for the patient provided - YES	
			Soft positioning arms for accurate tube positions - YES	
			Light and flexible movements -YES	
			Internally lead coated head tube and cone to avoid scattered radiations - YES	
			Exclusive angular indicating system for head positioning in various radiography techniques- YES	
			High efficiency and greater sharpness of the radiography -YES	
			Additional Parameters	
			Should have high voltage generator with high efficiency in the emission of the X rays - YES	
			Should have free swivel head, which allows easy positioning of head – YES	

			Number of light weight lead equivalent aprons (AERB Approved) - 2 (with lead thickness 0.5 mm)	
			To be supplied with Thyroid shield -Yes	
			User manuals to be supplied - Yes	
			Reports	
			Manufacturer should have ISO certification -YES	
			Copies of all certifications and reports to be provided to buyer on demand at time of supplies - YES	
			RVG (Radio Visio graph) Technical Specifications	
			1. RVG is used for digital dental X-rays which can be instantly viewed and evaluated with minimal radiation exposure	
			2. High resolution RVG based on CMOS technology with optical fibre.	
			3. Maximum reduction in patient radiation as compared to X-ray film.	
			4. Should have easy positioning of sensor inside the mouth	
			5. Should supply sensor with minimum active area 600mm².	
			6. Should have a Pixel size: 20 µm x 20 µm +/-2	
			7. Size of the sensor in mm x mm:- 39mm x29mm with tolerance +/- 3	
			8. Sensor cable length (meters):- 2m to 3m.	
			9. Thickness of the sensor should be Upto 5 mm.	
			10. Spatial resolution approx. 25–35-line pairs/mm.	
			11. Sensor (including joint and part of cable length) is water and dust resistant as per IP Code (IP68, IP67) (Authentic test reports from NABL/ILAC/REPUTED GOVT LABS to support resolution claim are available and will be provided to buyer on demand)	
			12. Ability to Synchronize with Laptop/ Windows Software.	
			13. Software has facility to acquire images from intraoral camera which may be of a different manufacturer.	
			14. Laptop with LCD/LED color monitor not less than 14-inch screen, minimum I-5 processor, Windows 10, HDD 1TB, 8 GBRAM & Laser Printer.	
			15. Should have positioning devices a. Bitewing b. Periapical c. Endodontic.	

			16. For Radio Visio Graph - USFDA (510 K)/ European CE (Issued by notified body)/BIS certified model should be offered.	
			Thyroid Collar- 2 and lead Apron-2	
			Accessories in dental clinic area	
			· **Fire detection and fighting system** as per the Govt. norms, of repute make, including but not limited to adequate number of fire extinguishers in all the cabins, fire alarms, smoke alarm. All fire extinguishers should be secured and easily accessible.	
			· **LCD TV** of a repute make, with remote control, 32 inches, Full HD, USB compatible, mounted, with proper metal casing and padding, with metal shutter for protection	
			· **DVD player** of repute make, with remote control: High definition, USB compatible, with HDMI cord, to be grouted behind LCD casing	
			· **One Refrigerator** of 40-50 ltrs capacity of repute make, single door, semi-autodefrost, should run with and without the generator running, with the bus stationary and during commuting	
			·**Public Address system** of repute make:	
			o 2 wireless microphones (with a range of at least 10m away from the vehicle)	
			o Amplifier of adequate power with two audio in (auxiliary so as to enable it to play audio from TV/ DVD, one for Microphone),	
			o 4 internal ceiling speakers of appropriate power	
			o 4 external weather-proof speakers of appropriate power or external speakers positioned in external body adequately protected by moisture and injury. External speaker should be adequate enough to address a gathering of 100 people in an open environment.	
			o The volume of internal and external speakers should be independently modifiable.	
			· **One Oxygen cylinder and mobile stand,** secured tightly to the vehicle body with removable clamps, along with regulator and delivery mask.	
			· **Cabinets:**	
			o The cabinets need to be fixed onto the body of the vehicle.	
			o The counter top should be of Seamless Galvanized medical grade stainless steel countertops of thickness so as to withstand weight of medical instruments and machines placed over it.	

			o Should be of at least an area of 6ft X 2 ft. in order to place the autoclave and sterilized instruments.	
			o Drawers should be made of powder coated stainless steel with silicone rollers. The cabinet hardware hinges should be fully adjustable high quality type. The latches should be easy to grip with magnetic locking.	
			o All drawers and cabinets need to be lockable and should be locked/ unlocked with a single key.	
			o On the external surface of the cabinet, provision should be provided for inserting a label.	
			o **The design and colour of the cabinets and drawers will be as per the final design approved.**	
			o Cabinets should allow some shock absorption so as to prevent damage to stored items.	
			· **One Metal Cabinet with stainless steel wash basin and tap**: The sink should be corrosion proof with filter traps.	
			· **Biomedical waste color-coded bins:** The colour coding should be as per the Biomedical Waste (Management and Handling) Rules, 1998. The bins should have foot pedal and should be secured and concealed in the dental clinic area.	
			· **Retractable/ Foldable prescription writing table**	
			· **Towel holders, apron hangers and attachments for placing soap dispensers and anti- microbial hand rubs.**	
			· **Dust free blinds or curtains** on the windows	
			· **Equipment mounting**, tie downs, padding and bracing for operational transport of various equipment's such as the dental chairs.	
			· **Locking provision** for battery and other external equipment's and an anti-theft alarm system with door sensors for the vehicle.	

In case of a rate contract for any above mentioned equipment exists with BMSICL at the time of Award of Contract such equipment may be deleted from the scope of work in the Award of Contract.