

### **Corrigendum-II**

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for the procurement, rate contract and the supply of Medical equipment vide Tender No.-BMSICL/2022-23/ME-292. During and after Pre-bid meeting various suggestions were received from different prospective bidders regarding amendment in tender specification of equipment /clause which were discussed and deliberated on by the experts. On the basis of their recommendations certain clauses of tender document have been clarified. (**Annexed as Annexure-I of this corrigendum**), Specification of equipment (**Annexed as Annexure-II of this corrigendum**) and Schedule of Requirement (**Annexed as Annexure-III of this corrigendum**). Rest of the terms and conditions of bid document shall remain unchanged. In order to facilitate maximum participation of bidders tender schedule is being revised as following:-

Tender Reference No.	<b>BMSICL/2022-23/ME-292</b>
Date and time for downloading of bid document	<b>Up to 27<sup>th</sup> Sept. 2022 till 17:00 Hrs.</b>
Last date and time of submission of online bids	<b>28<sup>th</sup> September 2022 till 17:00 Hrs.</b>
Last date and time of submission of original documents of EMD, Tender Fee and Document.	<b>29<sup>th</sup> September 2022 till 14:00 Hrs.</b>
Date, Time and Place of opening of Technical Bid	<b>29<sup>th</sup> September 2022 (at 15:00 Hrs.) on the website of <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> in the office of BMSICL</b>
Date and time of opening of financial Bids	<b>To be announced later on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a></b>

**SD/-**

**CGM (Supply Chain)  
BMSICL**

**Annexure-1 (Clarification)**

<b>Tender Bid Clause</b>	<b>Clarification</b>
<b><u>Eligibility Criteria</u></b> <b>26. PRELIMINARY EVALUATION</b>	
<p>26.1 Purchaser shall evaluate the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are generally in order. Bids from representatives, without proper Authorization from the manufacturer as per Section VI, shall be treated as non-responsive</p>	<p>Purchaser shall evaluate the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are generally in order. Bids from representatives, without proper Authorization from the manufacturer as per Section VI, may be treated as non-responsive except in cases of those equipment for which the bidder gives undertaking to comply with the provisions of Clause 15.3 supra.</p>

**Annexure-II (Amendment in technical specification for Dental College equipment )**

<b><u>Tender Specification as per Tender</u></b>		<b><u>Qty</u></b>	<b><u>Proposed Amendment</u></b>
<b>DEPARTMENT OF PROSTHODONTICS AND CROWN AND BRIDGE</b>			<b>No Change</b>
<b>(Dental chair and unit) Item</b>			<b>No Change</b>
Dental chair and unit	<b>Dental chair mount unit</b>	34	<b>No Change</b>
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>
	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known brand (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		<b>No Change</b>
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray

			viwe should be a part of the instrument trolly.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	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.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change

	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Three (3) Chairs should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change

	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change
	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
	<b><u>Additional Point</u></b>		No Change

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
	• Heating upto 999 degree C		Heating upto 999 (+/- 10%) degree C
	• 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
Curing unit		2	
	UV polymerizing equipment for resin and photosensitive materials.		No change
	It's made in stainless steel and it includes:		No change
	• 1 sliding drawer that can contain 3 models.		No change
	• 4 bulbs 9 W each one.		No change
	• 1 timer 120-180 sec.		No change
	• 1 switch for endless time.		
Dental Induction casting Machine	Automatic tabletop dental casting unit with high frequency induction melting and centrifugal casting.	1	No change

	designed for casting of dental Co-Cr, Ni-Cr		No change
	and precious alloys tabletop design both		No change
	manual and automatic mode of melting		No change
	automatic maintenance of optimum power		No change
	automatic casting mode autonomic cooling		No change
	system Accessories: crucible tray ring		No change
	gripper crucible		No change
	silicon ring №2		No change
	silicon ring №3		No change
	silicon ring №4		No change
	graphite insert		No change
	Certification-US FDA/EU CE(Issued by notified body)/BIS approved		No change
Wax burn out furnace		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		No change



	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 +_10%		No change
	Chamber dimensions : 16x16x10 cm +_10%		No change
	Max. Temperature : 1100°C		No change
Pre Heating furnace		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.		No change

	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 final 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.		No change
	Certification-US FDA/EU CE(Issued by notified body)/BIS approved		No change
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	No change
Heavy duty Hand piece Lab	heavy duty micromotor with 2000 to 50,000 RPM.High performance brushless 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 autoclavable 40,000 RPM	4	No change
Autoclave	Hot and wet – class -B	2	No change
	Should have container for distilled water, and exhaust 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 +_10%		No change
	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 - not less than 3.0L		No change
	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
	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 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	Deleted
	<b>MILLING MACHINE:</b>		
	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 compatible 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 (MoSi <sub>2</sub> ) 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 voltage 220V / 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.		
	Suitable UPS with minimum 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		
<b>LAB</b>			No change
Plaster dispenser	One each for plaster and stone plaster	22	No change
	• High Frequency Dispenser.		
	• High quality rubber bucket for storing Plaster.		• High quality rubber bucket/Stainless steel for storing Plaster.
	• 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
	• 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
	• 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
	• 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
	• 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	Simple manual press for pressing large and manual flasks, sturdy metal body	4	No change
Deflasking unit	robust high performance chisel operated by compressed air for deflasking and universal use in the laboratory with high frequency chisel for deflask dentures	4	No change
Dewaxing unit	• Digital furnace for pre-heating and dewaxing.	3	No change
	• Heating upto 999 degree C		Heating upto 999 (+/- 10%) degree C
	• 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
	• 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
	• 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
Curing pressur Pot	• Robust stainless steel structure which makes the equipment extremely dependable	1	No change
	• 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	instrument steriliser , electric stainless steel, chamber size not less than 10 inch	2	No change
Geyser	25 L Storage Water Geyser, electrical, energy efficient, with over heat protection,	2	No change
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
	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
	LED Operating Light, with on and off and intensity control		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

	<ul style="list-style-type: none"> <li>• Phantom head with mankin body &amp; 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.</li> </ul>		No change
	working stool for the operator moving on five wheels with pneumatic piston for height adjustment, seat and backrest thickly cushioned covered with rexine		No change
Pre clinical working table with gas connection & burner	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 illuminating light on the top of the table for sufficient light to each student. Qty-10	10	No change
	working stool: moving on five wheels pneumatic piston for up and down movement thickly cushioned seat and back rest		No change
	CERAMIC AND CAST PARTIAL LABORATORY		No change
Plaster Dispenser	One each for plaster and stone plaster	2	No change
	• High Frequency Dispenser.		No change
	• High quality rubber bucket for storing Plaster.		High quality rubber bucket/stainless steel for storing Plaster.
	• Dispenses plaster in total powder form.		No change
	• Bottom lever starts and stops flow of plaster instantly.		Bottom lever/switch starts and stops flow of plaster instantly.

Duplicator	it should be programmable brushless agitator motor which should offer durability and reliability. It should have temperature control for guaranteed 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	No change
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
	• 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
	• 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
	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 +_10%		No change
	Chamber dimensions : 16x16x10 cm +_10%		No change
	Max. Temperature : 1100°C		No change

	Weight : 28 Kg +_10%		No change
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
	• 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
	• 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
	• 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
	• 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
	• 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



Programmable Porcelian furnace with vacuum pump and instrument & material kit	Automatic programmable vacuum 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 diagnostic and auto calibration. an option for automatic continuation of program after power break down. an option for program transfer on USB. an option of remote analysis of damage.	1	No change
Spot welder with soldering attachment and cable	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No change
	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
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
	• 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
	• 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
	• 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
Curing Pressure Pot	• Robust stainless steel structure which makes the equipment extremely dependable	1	No change
	• 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	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	No change
	The arm's head is designed to adapt to most micromotor models available on the market		No change
	Certification-US FDA/EU CE(Issued by notified body)/BIS approved		No change
Heavy duty lathe with suction	• Heavy duty, continuous rating motor.	1	No change
	• 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	The oven can storing not less than 4 pre-heating cycles (or programs) which	1	No change
	are kept in the memory until the operator decides to modify them.		No change
	Each program contains 4 phases and for each phase it is possible to set		No change
	3 variables: temperature, increase rate, holding time. It is also possible		No change
	to set an Ignition delay and the fumes aspiration fan Off temperature		No change
	(fume chimney). Furthermore it is possible to set a final temperature		No change
	holding time at the end of the cycle: this is to keep the cylinders at a		No change
	certain temperature and allow some time for the operator to be ready		No change
	with the next work.		No change
	Certification-US FDA/EU CE(Issued by notified body)/BIS approved		No change
	The oven can storing not less than 4 pre-heating cycles (or programs) which		No change
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
	• 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
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
Micro surveyor	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	No change
Pre clinic prosthetics LABORATORY	work table complete S S top fitted with light,bunsen burner air blower ,work stool	60	No change
	micro motor lab with attached hand piece	20	No change
	PLASTER ROOM FOR PRE CLINICAL WORK		No change
Plaster dispenser	One each for plaster and stone plaster	2	No change
	• High Frequency Dispenser.		No change
	• High quality rubber bucket for storing Plaster.		High quality rubber bucket/stainless steel for storing Plaster.

	• 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
	• 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
	• 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
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
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
	<b>DEPARTMENT - CONSERVATIVE DENTISTRY &amp; ENDODONTICS</b>		

Dental chair and unit	Dental chair mount unit	34	
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		No Change
	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolley.
	It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle,		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable,

	Minimum 28,000 Lux or higher at 80 cm distance.		handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 ltrs/min and provision for disinfected air exhaust.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change



	Three (3) Chairs should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No Change
	The unit shall be capable of operating continuously in normal room temperature.		No Change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No Change
	Power supply		No Change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No Change

	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 % . The necessary protective shall be there with the machines.		No Change
	Standards, safety and training:		No Change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No Change
	Documentation:		No Change
	i. User manual in English.		No Change
	ii. Service manual in English.		No Change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No Change
	iv. Certificate of calibration and inspection from factory.		No Change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No Change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No Change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No Change
	<b><u>Additional Point</u></b>		No Change
Rubber Dam Kit	Rubber Dam Kit 11 clamps with sheet, Clamp holder, Rubber dam holder, Rubber dam hole puncture	6	No Change

Restorative Instrument Kit	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	No Change
RCT Instrument kit	RCT Instrument kit-Protaper SX,S1,S2,F1,F2.F3(SET OF 6), Protaper DI,D2(SET OF 6) ,2% files	10	No Change
Autoclaves	Hot and wet – class -B	3	No Change
	Should have container for distilled water, and exhaust 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 +_10%		No Change
	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 not less than 3.0 L		No Change
	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

	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
	Main Input Supply (V, Hz, A) : $230 \pm 10\%$ , $50 \pm 3\%$ 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	The amalgam mixer is used for mixing and accurate portioning of mercury & silver tin powder until they have bonded, the time of mixing should be adjusted from 1 to 60 seconds, the unit should supply with capsule operating device.	3	No Change
Pulp tester	DIGITAL PULP TESTER high frequency tip detachable, digital display	4	No Change
Apex locator	High-precision root canal measurement generated by using Smart Logic	2	No Change
	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
	• 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
	• High Frequency Dispenser.		No Change
	• High quality rubber bucket for storing Plaster.		High quality rubber bucket/stainless steel for storing Plaster.
	• 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
	• 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	1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KVa) with option for wall mount.	1	No Change
	2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.		No Change
	3. Power input to be 220-240VAC, 50Hz fitted with Indian plug		No Change
	4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.		No Change
	5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.		No Change

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		No Change
RVG	chip type APS CMOS	1	No Change
	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		No Change
EndoMotor with Torque	Endo Micromotor with Torque Control And Auto Reverse	3	No Change
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	chair side bleaching unit with led with required blue light frequency, with time control	1	No Change
Magnifying loop	Should be type 2.5, and 3x magnification with light and battery backup	2	No Change
Injectable gutta purcha	Cord less obturator which should have both cutter and filling instruments with battery operated	3	No Change
CADCAM	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 consist of atleast the following components -	1	Deleted
	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 compatible 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 (MoSi <sub>2</sub> ) 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 voltage 220V / 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.		
	Suitable UPS with minimum 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
	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
	<ul style="list-style-type: none"> <li>Phantom head with mankin body &amp; 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.</li> </ul>		No Change
	working stool for the operator moving on five wheels with pneumatic piston for height adjustment, seat and backrest thickly cushioned covered with rexine		No Change
	CLINICAL LABORATORY		No Change

Plaster dispenser	One each for plaster and stone plaster	2	No Change
	• High Frequency Dispenser.		No Change
	• High quality rubber bucket for storing Plaster.		High quality rubber bucket/stainless steel for storing Plaster.
	• 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
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
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
	• 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
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

	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
	• 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
	• 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
	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 +_10%		No Change
	Chamber dimensions : 16x16x10 cm+_10%		No Change
	Max. Temperature : 1100°C		No Change



	Weight : 28 Kg+_10%		No Change
Porcelain furnace	Automatic programmable vacuum 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 diagnostic and auto calibration. an option for automatic continuation of program after power break down. an option for program transfer on USB. an option of remote analysis of damage.	1	No Change
sand blasting machine	With two containers	1	No Change
	• 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
	• Aluminium 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	Lab Airotor with NSK/W&H/KAVO St Handpiece • Sleek and weightless NSK/W&H/KAVO straight handpiece (collect 01.6 mm)	1	No Change
	• must for precision carving of metals and ceramic.		No Change
	• High quality compressed air control.		No Change
	• Filter, lubricator regulator unit built in circuit.		No Change
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
	• 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
	• 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	1	No Change
	support.		No Change
Pneumatic chisel	PNEUMATIC CHISEL WITH CONTROL	1	No Change
	<ul style="list-style-type: none"> <li>• 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.</li> </ul>		No Change
Casting machine (induction)	Induction Casting Machine –	1	No Change
	Machine for centrifugal casting with inductive high frequency metal melting.		No Change
	<ul style="list-style-type: none"> <li>• Design for Casting Co-Cr-Mo, Ni-Cr-Mo and precious alloys used in dentistry.</li> </ul>		No Change
	<ul style="list-style-type: none"> <li>• An autonomous water cooling.</li> </ul>		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 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	<b>Automatic programmable vacuum 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 diagnostic and auto calibration. an option for automatic continuation of program after power break down. an option for program transfer on USB. an option of remote analysis of damage.</b>	1	No Change
	<b>DEPARTMENT OF ORAL PATHOLOGY AND ORAL MICROBIOLOGY</b>		
Dental chair and unit	Dental chair mount unit	2	
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>

	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		Deleted
	head rest should be articulated with height variation and with twin joint to adjust for required patient position,with penumatic locking		Deleted
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		Deleted
	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.		Deleted

	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of 1200 mw/cm <sup>2</sup>		Deleted
	Dentist element or trolley should have five point with Two airtor 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		Deleted
	foot control should be supplied to operate up and down and backrest to and fro movement. Switch for operating microtor and scaler and airtor.		Deleted
	Should supply with one airtor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		Deleted
	ceramic replacable bowl /glass should be easy to remove and rotate		Deleted
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		Deleted
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolly.

	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	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.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Suitable Oil Free Air Compressor (Medical grade). Tank and dryer. Also built in Thermo cut for excess of heat, Auto head release		No Change

	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		No Change
	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.		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Additional Points		
			Standards, safety and training:
			i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO



			13485 from NABCB approved CBs.
			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	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.	150	Model should be USFDA/CE (Issued by Notified body)/BIS Approved/ISO 13485
slides boxes	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.	4	No change
Microscopes	Binocular type	50	No change
Mictotome	Microtome-Mannual type,Including all accessories for dental students.	1	No change
Wax Bath	Service manual in English.	1	No change
water Bath	Rust free,stainless steel,min size 18X18X10 inches(LXWXH) minimum	1	No change
Knife sharpner	Certificate of calibration and inspection from factory.	1	Made of special alloy SS,supplied with handle & honing guide in wooden box,.Blade size-120 mm

Hot plate	Electrcal, V-220+-20 V, AC, size 18X18X10 inches(LXWXH) minimum	1	No change
Spencer Knife	The job description of the hospital technician and company service engineer should be clearly spelt out.	1	Made of special alloy SS, supplied with handle & honing guide in wooden box,.Blade size-120 mm
Adequate slides projecting system	Slides projecting system for Dental students, Certification-US FDA/EU CE/BIS	1	No Change
	<b>Department of oral &amp; Maxillofacial surgery</b>		
Dental chair and unit	Fully Electrical Dental chair unit -Adult	25	No Change
	Dental chair mount unit		No Change
	Body contoured electrically operated pantographic dental chair		Deleted
	seat, back rest and head rest are thickly cushioned and covered with seamless rexine.		Deleted
	Dental operating light with Led should give 30000 lux , on, off, and intensity control by non touch sensor		Deleted
	Ceromic or glass spittoon with auto water connection for spittoon and tumbler by switch, the spittoon should be moveable towards patient to be used during gorgle position		Deleted
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		Deleted
	head rest should be articulated with height variation and with twin joint to adjust for required patient position, with penumatic locking		Deleted
	Chair should achive the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		Deleted

	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.		Deleted
	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of 1200 mw/cm <sup>2</sup>		Deleted
	Dentist element or trolley should have five point with Two airtor 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		Deleted
	foot control should be supplied to operate up and down and backrest to and fro movement. Switch for operating microtor and scaler and airtor.		Deleted
	Should supply with one airtor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		Deleted
	ceramic replacable bowl /glass should be easy to remove and rotate		Deleted
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		Deleted
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>

	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray view should be a part of the instrument trolley.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change

	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.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Three (3) Chairs should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facilit		No Change

	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	<b><u>Additional Points</u></b>		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. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.

			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		4	No Change
	Power supply		Deleted
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		Deleted
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		Deleted
	Standards, safety and training:		Deleted
	Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%		Deleted
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		Deleted
	Documentation:		Deleted
	i. User manual in English.		Deleted

	ii. The storage tank volume -not less than 3.0 L		Deleted
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		Deleted
	iv. Certificate of calibration and inspection from factory.		Deleted
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		Deleted
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		Deleted
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		Deleted
Autoclaves	Additional Points		Hot and wet – class -B
			Should have container for distilled water, and exhaust condensed waste water
			The chamber should be of minimum 20 to 23 ltrs
			Technical Info :
			Sterilizer chamber (diameter x depth) - 245mmx465mm +_10%
			Power Supply - 220V/AC/50Hz
			Sterilization temperature/Pressure : 121/1.0~1.3Bar / 134/2.1~2.3Ba
			Fuse tube - T15A
			The storage tank volume - not less than 3.0L
			Ambient pressure - +5°~ +40°
			should have stainless steel container to store the distal



			water and should be supplied with a distal water plan.
			Instrument tray - 3 Pcs
			Instrument rack -1PC
			Operation manual -1PC
	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
	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
	Main Input Supply (V, Hz, A) : 230 $\pm$ 10%, 50 $\pm$ 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		No Change

	and needle it can destroy): SS Grade is SS 316 L.		
	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	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	No Change
Dental elevators	Root elevator set - pouch:Flohr, flohr right, flohr left, cryer right,cryer left london hospital, coupland, winter cryer right, winter cryer left	10	No Change
Minor Oral surgery kit	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	No Change
Emergency drug tray	emergency drug tray with partitions(not less than 10) to keep the drugs	2	No Change
X ray viewers	LED type,single vei w	2	No Change
Pulse oxymeter	battery operated to give pulse and oxygen level,hand hold ,finger tip	2	No Change
BP Aparatus	Digital,movable,trolly	2	No Change
Stethoscope	NC	2	No Change
Thermometer	Digital type	2	No Change
Glucometer	with 100 stips	1	No Change

Oxygen cylinder	B type,trolley mounted,ready to use(Regulator,Humidifier bottle etc)	2	No Change
Oxygen mask adult		2	No Change
Oxygen mask pedo		2	No Change
Impaction kit	Impaction Kit S/22 PCS with Pouch	3	No Change
Lab micro motor with hand piece	Brushless Lab Micromotor With Hand Piece 50,000 RPM	3	No Change
	Contents: - Control Unit, heavy dutyMicromotor Handpiece, Foot Control And Handpiece Stand		No Change
Trauma kit	<ul style="list-style-type: none"> <li>• 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</li> </ul>	1	No Change
High volume Suction	High volume Suction-not less than 250 lit/min	2	No Change
surgical straight handpiece	Brushless micromotor ,not less than 30000 RPM	4	No Change
	<b>MINOR SURGERY</b>		
Dental chairs and unit		5	
	Dental chair mount unit		
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>

	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolly.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	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.		No Change

	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		Chair should have up and down, backward and forward movement hand and foot control operated with 2 controls keyboard, main dentist element and foot control for the movement
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		The dental instrument trolley should have a LED based X-ray viewer built in
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	One (1) Chair should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change

	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		Model should be USFDA or European CE with notified body or BIS or ISO 13485 approved
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change

	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
	<b><u>Additional Point</u></b>		Spittoon Movable ceramic/glass should have an electrical on and off switch which can be programmed based on the tumbler you are using.
	<b>DEPARTMENT OF PERIODONTOLOGY</b>		
Dental chair and unit	Dental chair mount unit(25% should be air polisher)	34	No Change
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>
	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument

	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolly.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	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.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change



	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Three (3) Chairs should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	All the outlet and inlet for the services to chair should be concealed in a box at foot area or		No change

	within the unit for infection control purpose.		
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change
	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change

	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
	Additional Points		Spittoon Movable ceramic/glass should have an electrical on and off switch which can be programmed based on the tumbler you are using.
surgical instruments set	Perio Surgical Instruments S/12 With Cassette.Should have sharp cutting edge.Certifications- USFDA/EU CE(issued by notified body) approved.	6	No change
Autoclave	Hot and wet – class -B	3	No change
	Should have container for distilled water, and exhaust 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 +_10%		No change
	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 - not less than 3.0 L		No change
	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
	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 cautery	Radio frequency cautery unit generating high frequency alternating AC output.	1	No change
	AC input power 225 W,Power consumption 150 W,HF out put power 200 W,Rated out put frequency 3-4 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 debris collector	4	No change
	Main Input Supply (V, Hz, A) : $230 \pm 10\%$ , $50 \pm 3\%$ 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 – Nickel 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	
	Specification: 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 notified body) approved		No change
	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
	* Safety 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
	Fiber Tip-200,300,400		No Change
	Fiber connector		No Change
	Eye protection goggles-03 no		No Change
	*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
	contrangle should be supplied with hand piece 20 :1 , irrigation tubc.		No Change
X ray viewer (Extra Oral)	LED type,single	2	No Change
Hand scaler supra gingival	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	10	No Change

Set of Curettes	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	2	No Change
Periodontal surgery kit	Should have sharp edges,Certification-US FDA/EU CE(issued by notified body) approved	3	No Change
	<b>DEPARTMENT OF ORTHODONTICS</b>		
Dental chair and unit	It should have two 3 way syringes (tip autoclave), with 3 spare tips.	18	No Change
	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaleing tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanganging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolly.

	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 ltrs/min and provision for disinfected air exhaust.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
			No Change



	1. Two (2) Chairs should have-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.		No Change
	2. In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change

	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change
	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
			Spittoon Movable ceramic/glass should have an electrical on and off switch which can be programmed based on the tumbler you are using.

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
Autoclave	Hot and wet – class -B	2	No change
	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 +_10%		No change
	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 - not less tha 3.0 L		No change
	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
	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		Deleted
Plaster dispenser	One each for plaster and stone plaster	2	No change
	• 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
	• 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
	• 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
			No change
Lathe	• Heavy duty, continuous rating, vibration-free, low noise lathe used for polishing and trimming.	2	No change
	• 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	LED,Duoble View	2	No change
Welders	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	4	No change
	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	Blow Torch	1	No change
Base Formers	Lab Base Former Kit to be used to make diagnostic casts and it very easily separated from the stone models.	4	No change
Typhodont	typodont with 32 teeth	4	No change
Set of Pliers	NC	10	No change
	Boon's Gauge, Band Pusher, Band Seater, Boley,10 each		No change
	Gauge, Height Gauge Wire Twister (15cm) (TC)-10 each		No change
	Wire Twister -10 nos		No change
	Boon's Gauge, Band Pusher, Band Seater, Boley,10 each		No change
Welder with soldering	Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No change
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	Hydro Solder for dental soldering operations.	1	No change
	Fine pointed blue flame.		No change
	Built-in non-return valve and flashback arrestor.		No change
	Seamless pressure tank.		No change
	Auto cutoff prevents excess gas generation.		No change
	Generates gas when needed minimum stored gas.		No change
	Flame size can be adjusted from the regulator on the torch.		No change
	Gas generation can be regulated by a power knob.		No change
	Easily available hypodermic needles can be used as tips for flame size adjustment.		No change

	Flashback arrestor and nonreturn value.		No change
	Flame size can e regulated from the torch gas regulator.		No change
	it should be Easy to maintain and use. Should supply the liquids required		No change
Typhodont articulator	Robust structure, assuring greater stability. Design that provides greater visibility	4	No change
	Semi-adjustable / Arcon Type		No change
	Fixed Intercondylar distance at the average 110 mm		No change
	Condylar Guide set at the average of 30°		No change
	Bennet angle set at the average of 15°		No change
	Curved Condylar Guide		No change
	Built-in Magnetic Stabilization System for the Condylar Guide Movement		No change
	Pin to support the Upper Frame at the open position		No change
	Innovative Central Lock		No change
	1 Set :		No change
	Articulator - 1 no		No change
	Allen Screw - 1 no		No change
	Support Pin upper Frame - 1 no		No change
	Mounting Plate Knob - 1 no		No change
Pressure moulding machine	thermo forming machine with plates	1	No change
soldering torch	soldering torch hand held	1	No change
spot welder	• Pulse Welder with Digital Timer Accuracy 0.01 to 1.0 Sec	1	No change
	<b>Department of Paediatrics and Preventive Dentistry</b>		
Dental chair and unit	Dental chair mount unit(40% are Paediatric Chairs out of 20 units_	20	No change
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>

	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolley.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.

	It should have light cure unit.		No Change
	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.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Two (2) Chairs should have-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.		No Change



	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change

	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change
	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
			Spittoon Movable ceramic/glass should have an electrical on and off switch which can be programmed based on the tumbler you are using.
Autoclaves	Hot and wet – class -B	2	No change
	Should have container for distilled water, and exhaust 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) +_ 10%		No change
	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+_10%		No change
	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 minimum	2	No change
	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
	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	The amalgam mixer is used for mixing and accurate portioning of mercury & silver tin powder until they have bonded, the time of mixing should be adjusted from 1 to 60 seconds, the unit should supply with capsule operating device.	1	No change
Pulp tester digital	DIGITAL PULP TESTER high frequency tip detachable, digital display	1	No change
Rubber Dam Kit for Pedo	Oracraft / API / Jaypee	5	No change
Apex locator	High-precision root canal measurement generated by using Smart Logic	1	No change
	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		No change

	clinicians to accurately and instantly monitor procedure progress		
	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
	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	Cord less obturator which Should have both cutter and filling instruments with battery operated	1	No change
RVG	chip type APS CMOS	1	No change
	pixel size 20Um		No change

	active area 20x30 mm		No change
	signal out put USB		No change
	Theoretical 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 Trolley		No change
Intra Oral camera	sony 1/4* CCD Providing high resolution 811X508 , auto focus operation 5mm to infinity,mini monitor on hand piece to diagnose	1	No change
	and freez image,hand piece having storage of 60 images		No change
Scaling instruments	Complete scaling instrument kit(approx 10-12 instruments)	10	No change
Restorative Instruments	Complete scaling instrument kit(approx 12-15) instruments)	10	No change
Extraction forceps pedo	Set of Extraction forceps pedo different size (7-10 nos)	10	No change
Intra oral x ray	Dental X-Ray Unit 70 KV – DC X Ray	1	No change
	1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KV) with option for wall mount.		No change
	2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.		No change
	3. Power input to be 220-240VAC, 50Hz fitted with Indian plug		No change
	4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.		No change
	5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.		No change
RCT Instrument kits	RCT Instrument kit-Protaper SX,S1,S2,F1,F2.F3(SET OF 6), Protaper DI,D2(SET OF 6) ,2% files	5	No change

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	No change
	Pedo Lab		Deleted
Plaster dispenser	One each for plaster and stone plaster	2	No change
	• 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
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
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
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
Vibrator	• Works effectively for pouring bubble free models.	2	No change
	• 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
Dental Lathe	• Heavy duty, continuous rating motor.	1	No change
	• 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
	• 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	thermo forming machine with plates	1	No change
	<b>Department of oral Medicine and Radiology</b>		
Dental chair and unit	Dental chair mount unit	12	No Change
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		No Change



	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		No Change
	should have the pu moulded / cushioned handle and right arm moveable for easy access for the patient		Deleted
	head rest should be articulated with height variation and with twin joint to adjust for required patient position, <b>with pneumatic locking</b>		Deleted
	Chair should achieve the lowest and maximum height required for the patient ingress and dentists operation by Electrically operated actuators		Deleted
	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.		Deleted

	one three way syringe and one light cure unit with light guide with shield. With variable modes of intensity . Should have intensity of 1200 mw/cm <sup>2</sup>		Deleted
	Dentist element or trolley should have five point with <b>Two airtor points ,one micromotor with digital display</b> of speed, <b>one piezotronic scaler with 5 scaling tips</b> . 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 gauge, water volume regulator, air regulator. micromotor controller		Deleted
	foot control should be supplied to operate up and down and backrest to and fro movement. Switch for operating microtor and scaler and airtor.		Deleted
	Should supply with one airtor handpiece, one micromotor contrangle handpiece, and one straight handpiece of branded(kavo, NSK, Bien air, W & H)		Deleted
	ceramic replacable bowl /glass should be easy to remove and rotate ,		Deleted
	should be supplied with all the floor box and its fittings so that we can connect the chari to all the central connections.		Deleted
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolley.
	It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle,		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable,

	Minimum 28,000 Lux or higher at 80 cm distance.		handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		No Change
	It should have high and low vacuum motorized suction with auto drain and auto flush motorized suction should have minimum volume of 250 ltrs/min and provision for disinfected air exhaust.		No Change
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	One (1) Chair should have-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.		No Change

	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change
	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change

	Additional Points		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
			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.
			No Change
Panoramic X Ray with Cephalometry AERB certified		1	No Change
	OPG X-Ray Machine should be AERB (Atomic Energy Regulatory Board) Certified		No Change
	Should available as floor standing with wall anchoring		No Change
	Should centralized control system		No Change

	Should be easy and fast patient positioning with three positioning laser light		No Change
	Should have DEC Dynamic Digital Exposure		No Change
	Should constant potential micro-processor controlled resonance made X-Ray generator		No Change
	Should have very high operating frequency		No Change
	Should have exposures parameters range optimized for digital imaging 2-7 mA/60-80 KV		No Change
	Should automatic cooling control		No Change
	Should have using user friendly graphical user interface on a computer and from the console on the machine itself		No Change
	The software must be user friendly. All the parameters like KV, mA should be selectable		No Change
	Exposure time should be in between around 2 to 14 secs. Depending upon the patient's		No Change
	type and programmer selection		No Change
	Should have various positioning accessories like standard bite block edentulous hie blocks. Panoramic chin rest. TMJ Nose rest sinos chin rest		No Change
	Should have DICOM compatible unit		No Change
	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		No Change
	Sensor should have high resolution CMOS sensors with protective optical fibre layer for protection and longevity of the		No Change

	sensor and have small and adjustable panel size, Ethernet connection to computer sensor should have low radiation dose & also attached cephalometry and extra oral radiograph		
	Radiology examination to be possible as-		No Change
	-Full Panoramic Adult and child.		No Change
	-Segmented panoramic.		No Change
	-Lateral TMJ -2 views		No Change
	-Lateral TMJ-4 views		No Change
	-Maxillary sinus.		No Change
	Desirable Features:		No Change
	Should have advanced programme like orthogonal panoramic, double lateral PATMJ, Lateral 3 angles TMJ, Left & right, Lateral Sinus programmer		No Change
	Should have wide range of image processing and enhancement tools		No Change
	Should have fast data link of image transfer		No Change
	Physical space requirement:		No Change
	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)		No Change
	Technical Specification:		No Change
	Generator From 40 Khz to 100KHz or above.		No Change
	Focal spot size: 0.5 mm as per IEC standards.		No Change
	Anode Voltage: 60-90 KV in 1-2 KV steps		No Change
	Anode current: 2-15mA		No Change
	Exposure compensation: Automatic Exposure control		No Change
	Total filtration min: Equivalent to 2.5mm Al or more		No Change

	Magnification of panoramic exposure: 1.22 - 1.29		No Change
	Duty Cycle: 1:2 at full power operation		No Change
	Exposure time: 2-14 sec.		No Change
	Weight: Light weight upto 115kg.		No Change
	Active Area CMOS sensor; 145-IS0x 5-7mm (Standard		No Change
	PAN)		No Change
	US FDA / European CE /BIS Approved model should be offered		No Change
	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		No Change
	PC Requirement:		No Change
	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		No Change
	UPS requirement for supporting above system should have 3 KVA online		No Change
	Printer: DICOM/ Dipro printer should be provided		No Change
Intra Oral x ray unit AERB certified		3	
	1. Intra oral X-ray unit should be DC based. (7-10mA/65-70 KVa) with option for wall mount.		No Change
	2. X-ray unit should be supplied with lead apron-01nos., thyroid collar-01nos.		No Change
	3. Power input to be 220-240VAC, 50Hz fitted with Indian plug		No Change



	4 Servo Voltage stabilizer of appropriate ratings for X-ray machine.		No Change
	5. Dental X ray should be - USFDA (510 K)/ European CE (Issued by notified body) & AERB approved model should be offered.		No Change
Pulp tester digital	DIGITAL PULP TESTER high frequency tip detachable, Battery operated,digital display,multiple tooth attachment minimum 03 nos.,	3	No Change
Auto matic periapical	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	No Change
x ray developer	Mannual developing-All sizes tank(not less 8.0 lit) including master tank with chemicals 1 time use.		No Change
X Ray viewer for pan / Ceph	LED type ,single film	2	No Change
RVG	chip type APS CMOS	1	No Change
	pixel size 20Um		No Change
	active area 20x30 mm		No Change
	signal out put USB		No Change
	Theoretical 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.		No Change
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
	and freez image,hand piece having storage of 60 images		No Change
Gen X Ray Unit	General X Ray Unit(Floor mounted)		No Change

	X-Ray Generator:	1	No Change
	A. High frequency X-Ray generator		No Change
	B. Inverter frequency – 20 KHz or more		No Change
	C. Output power 30KW or more.		No Change
	D. KV Range – 40 to 125KVp		No Change
	E. mA range- upto 300 mA or more		No Change
	F. 3300mA @ 80 KV or better		No Change
	G. mAs range – 2 to 200 mAs or more		No Change
	X-Ray tube:		No Change
	A. Rotating anode		No Change
	B. Focal spot :- small - 1.2 x 1.2 mm & Large - 2 x 2 mm		No Change
	C. One pair of High tension cable (at least 8 meters)		No Change
	D. collimator with full field illumination and angle indicator		No Change
	Table:		No Change
	A. The table should be horizontal floating type.		No Change
	B. Bucky table with floating table top with immense flexibility and ease in positioning.		No Change
	C. Table top positioning with release of electromagnetic brakes controlled with a foot operated lever.		No Change
	D. Table Height – 75 cm ( $\pm 5\%$ )		No Change
	E. Table top – 218 x 80 cm ( $\pm 10\%$ )		No Change
	F. Table top should be made up of low radiation absorption, water proof material, stain free		No Change
	G. Longitudinal Travel: $\pm 40$ cm ( $\pm 2\%$ )		No Change
	H. Transverse Travel : $\pm 12.5$ cm ( $\pm 2\%$ )		No Change
	I. Electromagnetic locking of the table movement		No Change
	Motorized Bucky:		No Change

	A. Grid 10:1, 60 lines / cm, focused at 115 cm		No Change
	B. 65 cm travel; movement arrested by electromagnetic brakes		No Change
	C. Suitable for cassettes in cm and inch formats and should be capable to accommodate 14"x17"		No Change
	X-Ray Ceiling column		No Change
	A. Travel range: 195 cm ( $\pm 10\%$ ); movement arrested with electromagnetic brakes		No Change
	B. Vertical travel: 135 cm ( $\pm 10\%$ ); movement arrested with electromagnetic brakes		No Change
	C. Column rotation: $360^\circ$ ; from $+180^\circ$ to $-180^\circ$ in $90^\circ$ increments		No Change
	D. X-ray tube rotation: $\pm 180^\circ$ ; locks at $0^\circ$ / $+90^\circ$ / $-90^\circ$		No Change
	STANDARD ACCESSORIES		No Change
	A. Three-fold X-ray protection barrier – 1 no.		No Change
	B. Lead apron 0.5mm lead equivalence with thyroid guard – 2 no.		No Change
	C. Radiography cassettes with high speed screen (reputed make)-pl mention make, separate for each cassette to be mentioned, 14 x 17 – 3 nos, 12x10 – 3 nos, 10x8 – 3 nos.		No Change
	D. Should be supplied with chest stand and cone for skull x-rays.		No Change
	POWER SUPPLY REQUIREMENTS		No Change
	A. 380 to 440Vac, Three phase, 50/60 Hz.		No Change
	SPECIFICATION OF LEAD APRON.		No Change
	A. Should be AERB approved.		No Change
	B. Should be light weight 0.5mm lead equivalent.		No Change

	C. Should be hook and loop type (Velcro).		No Change
	D. Should be supplied along with thyroid guard.		No Change
	SPECIFICATION FOR THREE-FOLD LEAD PROTECTIVE BARRIER.		No Change
	A. Should be a threefold mobile lead protective barrier.		No Change
	B. Should be a mounted on heavy duty casters.		No Change
	C. Should have a viewing window of 1.5 mm thick lead equivalence.		No Change
	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		No Change
	US FDA / European CE /BIS & AERB Approved model should be offered.		No Change
	Supplier is responsible to comply AERB guideline for installation. Lead of Patient entry door, Exposure Lamp & Radiation sinage is responsibility of supplier		No Change
	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.		No Change
Auto matic Developer	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	No Change
Lead Apron	X Ray Lead Apron 0.5 mm Lead Equivalency	2	No Change

Lead Gloves	X Ray Lead Gloves, Lead Equivalency 0.35mm,	2	No Change
Lead Collor	Thyroid Shield (Pb Equivalency 0.35mm)	2	No Change
X Hanger		6	No Change
Diagnostic Kit	Diagnostic Kit-40 nos,High quality stainless steel-mounth mirror,mouth mirror probe,curve tweezer,explorer,kidney tray	65	No Change
Lead screen	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	No Change
Biopsy kit	Stainless steel 3mm,5mm,10 mm punch biopsy,BP Handle,Scissor Straight,Scissor Curve,small needle holder,artery forcep,tooth head forcep	3	No Change
Autoclave	Hot and wet – class -B	2	No Change
	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 +_10%		No Change
	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 - not less than 3.0 L		No Change
	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
Needle burner with	Needle destroyer should have needle burner and motorised syringe cutter with debri collector	2	No Change
syringe cutter	Main Input Supply (V, Hz, A) : $230 \pm 10\%$ , $50 \pm 3\%$ 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	Deleted
	Name Of Equipment: Cone Beam CT		No Change

	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.		No Change
	General Specifications		No Change
	The CBCT machine should have cone beam technology.		No Change
	It should have Laser guide user inter face for operation controls on machine or on monitor.		No Change
	High System reliability and conveniences for maintenance.		No Change
	Should allow for obtaining image while standing, sitting and wheelchair accessible patient position.		No Change
	Noise free vertical movement — up/down movement, smooth and easy height adjustment, minimum vibration and noise.		No Change
	Unit Should have facility for automatic and manual selection of radiological exposure parameters as per patient requirement and should have emergency stop button.		No Change
	Meet all rules and regulations notified from time to time from AERB.		No Change
	Should have option to select multiple FOVs and type of resolution required as per the examination.		No Change
	Console along with exposure switch should be mounted outside CBCT room.		No Change

	It should have amorphous silicon Flat panel/CMOS detector for 3D capture		No Change
	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.		No Change
	Should have minimum 03 laser position guides: Frankfurt plane, Mid Sagittal and Canine Plane for quick and accurate positioning.		No Change
	TECHINICAL SPECIFICATIONS:		No Change
	a. Focal Spot - 0.5 mm or less		No Change
	b.Voxel Size		No Change
	(i) For minimum FOV (Size range 5X6 cm +_ 1cm) it should be in the range of 75 to 80 micron.		No Change
	(ii) For Max FOV 16X14cm +_1 cm it should be in the range 150 to 200 micron		For Max FOV 16X14cm +_2 cm it should be in the range 150 to 200 micron
	Automatic selection of multiple voxel size as per the resolution of scan.		No Change
	c.CBCT Scan Time-Less than 30 seconds, Fast scan should not be more than 10 sec		No Change
	d.Panoramic capture mode-Adult/child mode.		No Change
	Ceph Capture mode-Water's ,Carpus, SMV, AP,PA ,Lateral View.		No Change
	Rotating angle-Rotation 360 degree		No Change
	Gray Scale-14-16 bit.		No Change
	Collimation-Automatic		No Change
	Image Format-It should have DICOM compatible format open to 3rd party software for import and export of image data.		No Change



	Should have facility to convert image data from DICOM into STL format.		No Change
	Input Voltage-220-240 V AC, 50 Hz frequency.		No Change
	Generator-High Frequency		No Change
	Tube Voltage-60-90 KvP $\pm 2$ KV		No Change
	Tube Current-3-14 mA $\pm 2$ mA		No Change
	Server Specifications:		No Change
	Hardware Specifications: For 01 x console and 01x workstation separate		No Change
	Intel Core i7 processor		No Change
	1 TB SSD.		No Change
	PCI-Express bus for GPU		No Change
	Minimum 8 GB RAM.		No Change
	Windows 10 OS original.		No Change
	DVD ROM + Writer.		No Change
	Gigabit Ethernet.		No Change
	High—end Graphic card Radeon RX580 pulse 4GB GDDRS/Radeon RX 560 4GB GDDRS/Radeon PX570 4GB GDDRS Nitro or equivalent.		No Change
	Minimum 24" LED monitor with full HD resolution allowing display of image at its native resolution.		No Change
	Software Specification:		No Change
	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		No Change
	Should allow easy 2D and 3D examination, reporting and generate viewer CD		No Change
	Annotations created on image such as linear and angular measurements, notes and signs should be printable.		No Change

	Should have implant planning, simulation module, nerve tracing facility alongwith in-built implant library and customizable implant size selection		No Change
	Should have Zoom reconstruction		No Change
	Should have Multiple 3D filters.		No Change
	Should have Panoramic reconstructions of multiple thickness from 3D volume		No Change
	Should have Advanced image filters.		No Change
	Should have Workstation software.		No Change
	Should have Basic image manipulation for brightness. contrast & sharpness.		No Change
	Should have Patient and image database.		No Change
	Should have 3D slice view		No Change
	Should have 3D surface rendering and 3D volume rendering.		No Change
	Should have Surgical stent and prosthetic planning/simulation module.		No Change
	Should have DICOM connectivity open to 3 <sup>rd</sup> party software		No Change
	Should have MAR (Metal Artefact Reduction) module.		No Change
	Should include scout/preview imaging before final 3D CT Scan which enables to ensure correct patient positioning		No Change
	Should have Display at DAP (Dose Area Product) DAP value after every exposure.		No Change
	Should have Display of MPR (Multi Planar Reformation) with 3 orthogonal planes —axial, sagittal and coronal which will allow navigation		No Change
	Should have Ability to perform oblique and curved reformatting		No Change

	Should have Display of grayscale value /Hounsfield unit		No Change
	UPS-		No Change
	Should have 5KVA Online with 30 minutes backup		No Change
	Day Light Printer:		No Change
	Should have DICOM printer		No Change
	Should have Double Tray online with multiple film size loading options.		No Change
	Should have Print Resolution Min. 500 dpi.		No Change
	Should have 8 x10 inch, 10 x 12 inch, 14 x 17 Inch		No Change
	Contrast resolution : 12 Bit.		No Change
	Day light imaging loading system.		No Change
	DICOM sheet printing Software.		No Change
	Certifications-		No Change
	USFDA/EU CE /BIS certified.		No Change
	Should have AERB approval certificate prior to installation.		No Change
Sailography equipment and kit	Added-Intra Oral hangers-06 hangers---12 pieces Polyethylene tubing with a special blunt end metallic tip cannula with side hole for parotid gland & end terminal hole for submandibular gland,lacrrimal dilator ,contrast media,sialagoue ,X ray Cassatte(5X7 inch)-01 no	1	No Change
	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	No Change
	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	No Change
	<b>9.DEPARTMENT OF PUBLIC HEALTH</b>		

Dental chair and unit	Dental chair mount unit	16	No Change
	It should have two 3 way syringes (tip autoclave), with 3 spare tips.		<b>No Change</b>
	It should have two high speed Air Rotor terminal with water control on coupling supplied with Hand piece.		It should have two high speed Air Rotor terminal with water control on coupling/dentist table supplied with Hand piece ultra push (NSK/KAVO/W&H/Bien Air), also high speed hand pc should have a Clean head system with supporting certificate to ensure the safety against cross infection, Should be supplied with on Oil bottle 500mL with these hand instrument
	Brushless micro motor (35,000 rpm or higher) terminal having straight and contra angle hand pieces.		Brushless micro motor should be branded with digital display supplied by the manufacture (NSK/KAVO/W&H/Bien Air) (35,000 rpm or higher) terminal having straight and contra angle hand pieces. (The hand pc should be from well known band (NSK/KAVO/W&H/Bien Air)
	It should have Ultrasonic Scaler with 5 scaling tips and one set of perio-curette tips.		<b>No Change</b>
	All hand pieces /terminals should be kept on Autoclavable & 6 spare autoclavable pads should be supplied (over hanging).		All hand pieces/terminals should be kept on Autoclavable pad & 1 spare autoclavable pads should be supplied with over hanging system with x-ray viwe should be a part of the instrument trolly.
	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.		It should have movable latest LED Light with glass reflector ON/OFF, intensity control, Detachable, autoclavable, handle, non-contact type Minimum 28,000 Lux or higher at 80 cm distance.
	It should have light cure unit.		<b>No Change</b>
	It should have high and low vacuum motorized suction with		<b>No Change</b>

	auto drain and auto flush motorized suction should have minimum volume of 250 ltrs/min and provision for disinfected air exhaust.		
	It should have auto zero, gargle, P1 and P2(erasable programme) positions.		No Change
	Chair should have up and down, backward and forward movement hand and foot control operated.		No Change
	Seat, backrest rest-synchronized movement and head rest Pneumatic/ manual movement		No Change
	a. Chair should have Minimum & maximum height 360mm & 700mm. b Unit should have removable axillary tray (stainless steel), transparent water booster.		No Change
	Base should solid metal with heavy casting.		No Change
	It should have LED based X-ray viewer.		No Change
	It should be provided with rotatable right arm rest (90 degree).		No Change
	It should be provided with one doctor's stool with back rest. The base should be of stable metal moving on five wheels with pneumatic movement with level.		No Change
	Two (2) Chairs should have-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.		No Change
	In Rest Chairs individual compressor is not required, it should have facility to connect with Central Air Compressor plant.		No Change

	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.		No Change
	(a) It Should have Dental instrument cabinet with acid and fire resistant table top fitted with minimum 6 and above drawer/ Shelves		It should have dental instrument cabinet with acid and fire resistant table top (glass/stainless steel fitted with minimum 6 and above drawer/shelves with inserts suitable for the dental practice.
	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.		No change
	The unit shall be capable of operating continuously in normal room temperature.		No change
	Complete installation of the system including water input and drainage system, air compressor, required electrical connection has to be installed.		No change
	Power supply		No change
	i. Equipment shall operate on 220V-240V, 50 Hz, single phase electric supply.		No change
	ii. The mains supply voltage variation may be 180-270V and frequency variation max. 3 %. The necessary protective shall be there with the machines.		No change
	Standards, safety and training:		No change
	i. Model Should be US FDA / CE (Issue by Notified body) / BIS approved.		i. Quality standards certification for the Model quoted should be either USFDA or European CE from notified body or BIS from CDSCO approved CBs or ISO 13485 from NABCB approved CBs.
	ii. Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No change
	Documentation:		No change
	i. User manual in English.		No change

	ii. Service manual in English.		No change
	iii. List of important spare parts and accessories with their part number and costing available in stock with the supplier.		No change
	iv. Certificate of calibration and inspection from factory.		No change
	v. Log book with instruction for daily, weekly, Monthly and quarterly maintenance checklist.		No change
	vi. The job description of the hospital technician and company service engineer should be clearly spelt out.		No change
	vii. List of Equipment available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/ technical Manual.		No change
			Spittoon Movable ceramic/glass should have an electrical on and off switch which can be programmed based on the tumbler your are using.
Autoclave	Hot and wet – class -B	2	No Change
	Should have container for distilled water, and exhaust 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 +_10%		No Change
	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 - not less than 3.0 L		No Change
	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
	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
	Main Input Supply (V, Hz, A) : $230 \pm 10\%$ , $50 \pm 3\%$ 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
<b><u>Dental Van</u></b>	Mobile Dental van with 02 units of Dental chairs with all attachemnts & adequate sitting space for 15-20 people		No Change
	· <b>VEHICLE BODY</b>		No Change
	· Body for special purpose of mobile dental vehicle on the bus chassis		No Change
	· <b>Exterior dimensions:</b>		No Change
	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		No Change
	o Complying with the norms of the Regional Transport Office, Department of Transport, Government of Bihar.		No Change
	· <b>External body frames:</b>		No Change
	o Of standard quality Galvanized Iron (GI pipes) square pipes		No Change
	o Of adequate thickness (i.e. Class) to support the various rails and pillars		No Change
	o Anti-corrosive treatment of good quality and standards of all fittings and welding		No Change
	o All anti-corrosive treatment should be of Zinc Phosphate epoxy primer paint or of similar nature and of standard quality.		No Change
	o All fixtures and welding should comply with Metal Inert Gas/Tungsten Inert Gas (MIG/TIG) technology		No Change
	<b>External and internal sheathings:</b>		No Change
	o External sheathing of GI sheets of 18-20G		No Change
	o Interior sheathing with at least 2mm thick FRP (Fibre		No Change

	Reinforce Plastic) over a GI sheet of adequate thickness		
	o All internal sheathings/surfaces should be of medical grade material.		No Change
	o Colour of interior ABS be as per approved scheme		No Change
	o Riveting of the components		No Change
	Insulation:		No Change
	o Polyurethane Foam (PUF) of minimum 50 mm between external and internal sheathings including the roof and floor		No Change
	· <b>Exterior Roof:</b>		No Change
	o Panelling of 18G Aluminium sheets		No Change
	o Standard roof design with a gradient for water runoff		No Change
	o External guttering for draining rain water		No Change
	o A detachable roof ladder to be provided		No Change
	Flooring:		No Change
	o Should be done with seamless industrial grade, durable, non-slip waterproof vinyl mat of adequate thickness, of standard quality		No Change
	O Colour of vinyl flooring to be as per the approved scheme		No Change
	o Chequered board Aluminium sheet (wherever required) of adequate thickness to withstand functional load with a low VOC adhesive		No Change
	o The floor shall be fitted with fire retardant marine board of adequate thickness (minimum 19 mm) and conforming to BIS standards		No Change
	O Exterior aspect of flooring be coated for water proofing and adequate impervious under-coating protection be provided		No Change
	Doors:		No Change

	o 1 driver side door		No Change
	o Two ergonomically placed doors		No Change
	o Location of doors will be as per final design approved		No Change
	o One door should be wide enough for entry of standard wheel chair with ramp		No Change
	o 1 emergency exit as per the standard norms		No Change
	o The doors should be securely lockable (from inside & outside) and latches provided		No Change
	o Be properly sealed to avoid leakage of air		No Change
	o The steps should be of anti-skid material of standard quality		No Change
	Windows:		No Change
	o Toughened glass		No Change
	o UV tinted (except one window for LCD) within permissible limits of the transport norms.		No Change
	o Windows in the passenger and dental clinic cabins should be sealed with proper gasket.		No Change
	o Windows in the driver cabin should provide sufficient ventilation.		No Change
	o <b>The location, size and number of the doors and windows would be finalized as per the design approved.</b>		No Change
	Wind screen:		No Change
	o UV tinted and conforming to the standards prescribed by the transport department of NCT of Delhi.		No Change
	o Wipers of standard quality with provision for water spray be provided for front windshield area.		No Change
	Rear view mirrors		No Change

	o Good quality rear view mirrors on both sides of driver cabin, of adequate size & reputed make		No Change
	· <b>Reverse sensors</b> of reputed make should be provided at the rear of the body.		No Change
	Exterior Lighting:		No Change
	o Ambulance siren and flasher of reputed make to be placed as per Government rules.		No Change
	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.		No Change
	Exterior body colour:		No Change
	o Body be painted with graphics approved by user and conforming to Central Motor Vehicle Rules		No Change
	o Of durable exterior polyurethane based paint with lamination.		No Change
	· <b>Roof top:</b> Provision should be made for placement of AC condenser unit		No Change
	· <b>Undercarriage:</b> Provision should be made for placement of:		No Change
	o Generator Compressor		No Change
	o Clean water tank o Waste water tank		No Change
	o <b>Storage area for Portable dental chair, foldable table (chair &amp; table not to be provided by vendor)</b>		No Change
	o Additional storage area for storing stores & general items		No Change
	o Provide proper access to maintain the undercarriage fixtures.		No Change
	ELECTRICAL		No Change
	· <b>Generator:</b>		No Change

	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.		No Change
	o Housed in vibration free enclosed space with acoustic deadeners		No Change
	o Have proper exhaust		No Change
	o Facility of auto start is desirable		No Change
	o Grouted and provision for sufficient shock absorption o Be from BIS/ISI/BES/Standard approved company		No Change
	o Exact location to be decided as per final design approved		No Change
	o Extra fuel jerrycan–20 litres for storing fuel for generator		No Change
	· <b>Roof mounted air conditioner</b> for air cooling and heating with ducting in seating area and should be engine driven		No Change
	o Be of reputed make confirming with BIS/ISI/BES standards		No Change
	· <b>One split type air conditioning system</b> 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		No Change
	· <b>Total capacity of both ACs should be of at least 22,000 British Thermal Units (BTU)</b>		No Change
	· <b>Electrical systems:</b>		No Change
	o <b>Stabilizers and voltmeters:</b> of specifications matching the equipment on the mobile dental clinic along with earth leakage circuit breakers		No Change

	o <b>Proper safeguards</b> 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		No Change
	o Provision for External Power Source (Shore Power/Generator) Alternating Current Supply (AC) including alternate supply for air conditioning and dental equipment's		No Change
	o <b>UPS</b> of sufficient capacity to run dental chairs, Compressor , lighting and fans in the clinic area & battery backup 1 hour.		No Change
	o <b>Electrical cables</b>		No Change
	§ Internally concealed and located such that no part can make contact with any fuel line or exhaust system		No Change
	§ All cables used shall be BIS/ISI marked		No Change
	§ Of approved thickness to withstand maximal estimated electrical flow.		No Change
	§ Copper conductors with fire retardant PVC insulation, to withstand up to 70°C temperature		No Change
	§ 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 Change
	§ No loose wire to wire connections shall be permitted.		No Change
	o Special insulation to be provided where such electrical circuits are necessary. Non-conductive insulated backing for all switch boards.		No Change

	o <b>Plug points and switches:</b> 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. <b>Location to be</b>		No Change
	finalized as per approved design.		No Change
	o <b>Shore power socket</b> at bus panel i.e. from outside to aid in attaching external power source.		No Change
	o <b>Interior lighting:</b> 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.		No Change
	o <b>Fans:</b> Total 8 walls mount fans in driver, passenger, registration area and dental clinic cabin, with variable speed control and swing movement and of		No Change
	standard quality.		No Change
	o Adequate lighting and air circulation be available with and without the generator running, with the bus stationary and during commuting.		No Change
	o <b>Distribution Panels-</b> 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		No Change
	source (shore power) or Generator.		No Change

	o All panelling and equipment should be of standard BIS quality and should have display units.		No Change
	o Wiring should be harness coloured, numbered & function coded		No Change
	<b>WATER SYSTEM</b>		No Change
	· <b>Water purifier capacity 20 litre per hour.</b>		No Change
	· <b>Clean water tank</b>		No Change
	o Capacity : 200 litres		No Change
	o With booster pump		No Change
	o High quality stainless steel, leak proof material and with external covering		No Change
	o With locking sealed cap		No Change
	o With sensor indicating status of water level		No Change
	o To be placed in the undercarriage		No Change
	· <b>Waste water tank</b>		No Change
	o Drainage system from the dental chairs, washing areas should be identified		No Change
	o Capacity : At least 100 litres		No Change
	o To be placed in the undercarriage preferably on the passenger entry side o Of high quality stainless steel and leak proof material		No Change
	o Provision for draining waste water should be easily accessible and operable o With sensor indicating status of water level		No Change
	Location of the tanks & water purifier shall be as per the final design approved		No Change
	<b>INTERIORS</b>		No Change
	<b>Driver Cabin</b>		No Change
	o Ergonomically designed		No Change
	o Driver seat should comply with standard safety and quality and be provided with a retractable seat belt.		No Change



	o The placement of instrument panel shall be such that the primary instruments and controls are visible unobstructed from the driver seat.		No Change
	o Display of reverse sensor device to be included.		No Change
	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.		No Change
	o Provision of standard quality locks for all doors.		No Change
	Internal Partition walls		No Change
	o Of steel of approved thickness and should be powder coated.		No Change
	o The partitions separating the passenger seating area, clinic area and registration area should have a hinge door.		No Change
	Passenger sitting area		No Change
	o Provision for seating 10 persons or more, as per the space availability of Adequate aisle space to be provided		No Change
	o Passenger seats should have back rests and preferably head rests. <b>The seat design</b>		No Change
	would be as per the final design approved.		No Change
	O Front seats should have a horizontal bar in front to hold on for safety purposes.		No Change
	<b>O Overhead storage space to be provided as per the final design approved.</b>		No Change
	o Dust free blinds or curtains		No Change
	o Two foldable benches can be provided( if space permits) to increase seating capacity		No Change
	Registration area:		No Change
	· should have a registration counter		No Change

	· location of area shall be as per final design approved		No Change
	Dental clinic area		No Change
	Dental equipment		No Change
	1. <b>Two electrically operated dental chairs:</b> The chair should be electrically operated and have		No Change
	o Thick seamless upholstery to prevent adherence of dust and thus cross-contamination, with lamination.		No Change
	o Double articulated head rest for patient comfort		No Change
	o 3 programmable working positions and auto return to zero.		No Change
	o Independent up and down movement and backrest movement of the chair.		No Change
	o Delivery unit with pneumatic locking arm, control panel, one 3-way syringe, instrument tray for placing instruments		No Change
	o Inbuilt micro motor and piezo ultrasonic scaler.		No Change
	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.		No Change
	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		No Change

	O White and cold 3 LED sensor light (at least 20,000 LUX) o One x-ray viewer		No Change
	o Multifunctional foot control		No Change
	o Doctor's stool with adjustable backrest tilt & height adjustable foot ring.		No Change
	o Provision for harnessing the doctor's stools when not in use.		No Change
	o The company manufacturing the dental chair should be ISO, and products accredited with CE Mark.		No Change
	o Provision for separate clamping of dental chair light to the roof of the bus and harnessing of the instrument tray arm.		No Change
	o US FDA / European CE /BIS Approved model should be offered.		No Change
	2. <b>One Autoclave</b> having wet and dry cycle, which can achieve 135°C, with minimum capacity of 20 litres, front loading. Should be:		No Change
	o B-Type front loading fully automatic autoclave with vacuum & dry cycle o Micro-processor controlled		No Change
	o Wrapped/unwrapped, porous, solid instrument including cotton swabs can be sterilized		No Change
	o Bow and Dick test qualified		No Change
	o Have digital display of pressure and temperature		No Change
	o Have double safety lock on the door, silicon gasket to prevent any leakage of air and diagnostic automatic alarm for any malfunctioning		No Change
	· Can be used at 121 <sup>0</sup> C/134 <sup>0</sup> C during sterilization.		No Change
	· Grouted to prevent movement during transport		No Change

	3. <b>One compressor:</b> minimum 1.0 HP, 20 litres tank, oil-free		No Change
	o To provide medical grade air for dental use o With anti-rust- coating tank.		No Change
	o To be placed in the undercarriage with encased tubings connecting to the dental chairs.		No Change
	Dental X-Ray (DC-portable)		No Change
	(1) Dental X-Ray (DC- portable) -for taking Intra Oral periapical and Occlusal X Ray		No Change
	(2) 2) Certification EU CE (with 4 digits notified number)		No Change
	(3) AERB approval Required for Dental X-Ray		No Change
	(4) Electrical safety standards IEC- 60601/ IS 13450		No Change
	Performance Parameters		No Change
	Tube voltage in KV-70 KV		No Change
	Availability of selection option for Bisecting angle technique & Parallel Technique -YES		No Change
	Tube current in mA- 7-10mA		No Change
	Focal spot in mm – (0.8)		No Change
	Should have Total filtration and Inherent Filtration- Yes		No Change
	Total filtration in mm Al - 2		No Change
	Inherent filtration in mm Al – 0.5		No Change
	Minimum range of exposure time in sec – 0.2		No Change
	Power supply - 220-240 V , 50 Hz single phase		No Change
	Based on DC Current- YES		No Change
	RVG / X ray Film compatible - YES		No Change
	Machine should have a stable base with sturdy locking wheel mechanism- YES		No Change
	Machine shall be wall mountable - YES		No Change

	Should have digital control equipped with an easy ready display indicating with precision - YES		No Change
	Stool for the patient provided - YES		No Change
	Soft positioning arms for accurate tube positions - YES		No Change
	Light and flexible movements - YES		No Change
	Internally lead coated head tube and cone to avoid scattered radiations - YES		No Change
	Exclusive angular indicating system for head positioning in various radiography techniques- YES		No Change
	High efficiency and greater sharpness of the radiography - YES		No Change
	Additional Parameters		No Change
	Should have high voltage generator with high efficiency in the emission of the X rays - YES		No Change
	Should have free swivel head, which allows easy positioning of head – YES		No Change
	Number of light weight lead equivalent aprons (AERB Approved) - 2 (with lead thickness 0.5 mm)		No Change
	To be supplied with Thyroid shield -Yes		No Change
	User manuals to be supplied - Yes		No Change
	Reports		No Change
	Manufacturer should have ISO certification -YES		No Change
	Copies of all certifications and reports to be provided to buyer on demand at time of supplies - YES		No Change
	RVG (Radio Visio graph) Technical Specifications		No Change
	1. RVG is used for digital dental X-rays which can be		No Change

	instantly viewed and evaluated with minimal radiation exposure		
	2. High resolution RVG based on CMOS technology with optical fibre.		No Change
	3. Maximum reduction in patient radiation as compared to X-ray film.		No Change
	4. Should have easy positioning of sensor inside the mouth		No Change
	5. Should supply sensor with minimum active area 600mm <sup>2</sup> .		No Change
	6. Should have a Pixel size: 20 µm x 20 µm +/-2		No Change
	7. Size of the sensor in mm x mm:- 39mm x29mm with tolerance +/- 3		No Change
	8. Sensor cable length (meters):- 2m to 3m.		No Change
	9. Thickness of the sensor should be Upto 5 mm.		No Change
	10. Spatial resolution approx. 25–35-line pairs/mm.		No Change
	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)		No Change
	12. Ability to Synchronize with Laptop/ Windows Software.		No Change
	13. Software has facility to acquire images from intraoral camera which may be of a different manufacturer.		No Change
	14. Laptop with LCD/LED color monitor not less than 14-inch screen, minimum I-5 processor, Windows 10, HDD 1TB, 8 GB RAM & Laser Printer.		No Change

	15. Should have positioning devices a. Bitewing b. Periapical c. Endodontic.		No Change
	16. For Radio Visio Graph - USFDA (510 K)/ European CE (Issued by notified body)/BIS certified model should be offered.		No Change
	Thyroid Collar- 2 and lead Apron-2		No Change
	Accessories in dental clinic area		No Change
	· <b>Fire detection and fighting system</b> as per the Govt. norms, of reputed 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.		No Change
	· <b>LCD TV</b> of a reputed make, with remote control, 32 inches, Full HD, USB compatible, mounted, with proper metal casing and padding, with metal shutter for protection		No Change
	· <b>DVD player</b> of reputed make, with remote control: High definition, USB compatible, with HDMI cord, to be grouted behind LCD casing		No Change
	· <b>One Refrigerator</b> of 40-50 ltrs capacity of reputed make, single door, semi-autodefroster, should run with and without the generator running, with the bus stationary and during commuting		No Change
	· <b>Public Address system</b> of reputed make:		No Change
	o 2 wireless microphones (with a range of at least 10m away from the vehicle)		No Change
	o Amplifier of adequate power with two audio in (auxiliary so as to enable it to play audio from TV/ DVD, one for Microphone),		No Change

	o 4 internal ceiling speakers of appropriate power		No Change
	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.		No Change
	o The volume of internal and external speakers should be independently modifiable.		No Change
	· <b>One Oxygen cylinder and mobile stand</b> , secured tightly to the vehicle body with removable clamps, along with regulator and delivery mask.		No Change
	· <b>Cabinets:</b>		No Change
	o The cabinets need to be fixed onto the body of the vehicle.		No Change
	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.		No Change
	o Should be of at least an area of 6ft X 2 ft. in order to place the autoclave and sterilized instruments.		No Change
	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.		No Change
	o All drawers and cabinets need to be lockable and should be locked/ unlocked with a single key.		No Change



	o On the external surface of the cabinet, provision should be provided for inserting a label.		No Change
	o <b>The design and colour of the cabinets and drawers will be as per the final design approved.</b>		No Change
	o Cabinets should allow some shock absorption so as to prevent damage to stored items.		No Change
	· <b>One Metal Cabinet with stainless steel wash basin and tap:</b> The sink should be corrosion proof with filter traps.		No Change
	· <b>Biomedical waste color-coded bins:</b> 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.		No Change
	· <b>Retractable/ Foldable prescription writing table</b>		No Change
	· <b>Towel holders, apron hangers and attachments for placing soap dispensers and anti- microbial hand rubs.</b>		No Change
	· <b>Dust free blinds or curtains</b> on the windows		No Change
	· <b>Equipment mounting,</b> tie downs, padding and bracing for operational transport of various equipment's such as the dental chairs.		No Change
	· <b>Locking provision</b> for battery and other external equipment's and an anti-theft alarm system with door sensors for the vehicle.		No Change

<b>Central Air Compressor Plant</b>	1. The compressor air plant to provide Air to whole area of Dental College for operating Dental chairs & other equipments. It should have the oil free Compressors, stack mounted and will be complete with all standard accessories like motor, Cooler, Controller, Safety Alarm, Temp and Pressure Sensors and all other standard accessories	1	No Change
	Supply, installation, testing and absolute oil free, bacteria free moisture free, compressed air fitted with dryer and refrigerant for cooling.		No Change

	Compressed air should be 100% oil free, bacteria free, moisture free and it should be refrigerant for cooling.		No Change
	The compressor should consist of duplex stacks of compressors. Each compressor stack will have 2 compressors fixed on one stack.		No Change
	The Compressor should be Reciprocating /Screw/Scroll type, oil free, each stack will have Motors of 30 HP, 50 Hz, 3 Phase.		No Change
	One stack of Compressor capacity should be 100 cfm or higher, Free Air Delivery for each compressor at 8 Bar.		No Change
	There should be two such stacks one running and one standby of 100 scfm each.		No Change
	The air quality at outlet should be 100% Oil Free.		No Change
	The Compressor must be with sound level, have low vibration, compact and suitable for both continuous and start / stop operation at outlet pressure of 8 Bar.		No Change
	The compressor stack should be in (Duplex) configurations. There will be two such stacks		No Change
	The Compressor package systems should have a Tank of capacity, not less than 1500 ltrs followed by Air Filtration System.		No Change
	Air Filtration system will be stack mounted & should consist of a duplex Heatless Desiccant Dryer of 100 cfm capacity of minus 40 deg ADP.		No Change

	Duplex 4 stage Air Filtrations system consisting of 5micron, 1 micron, 0.01 micron and Activated Carbon Filters Filter will be fitted after the Air Tank.		No Change
	The Compressor should have duplex pressure reducing station.		No Change
	The reducing station should have 2 different lines of 4 Bar and 8 Bar with the help of Pressure regulators. Along with interconnection piping and isolation valves.		No Change
	The Compressor should have electrical panel with PLC connected to compressors, automation, duplexing and sequencing.		No Change
	It's should comply with HTM 2022/NFPA 99 standards		No Change

#### Amendment in Technical specification for 100 Bedded Hospital equipment

SI. No	Technical Specification as per tender		Proposed Amendment
	<b>Oto Acoustic Emission (OAE) analyzer</b>		
a.	TEOAE Specifications:		
1	Facility of click stimulus and Tone burst stimulus		No change
2	Configurable stimulus intensity		No change
3	Band analysis from 1 KHz to 8 KHz		No change
4	Reproducibility in half octave bands		No change
5	Should have suppression facility		No change
6	Full cross correlation, frequency analysis with reproducibility and signal to noise data on single test or between test pairs		No change
b.	Customized TEOAE protocol DPOAE specifications:		No change
1	Frequency range Minimum of 500-10,000Hz.		No change

2	Number of test points per octave: Upto 32 points per octave		No change
3	Intensity: f1 and f2 levels from 0 to 70 dB SPL.		No change
4	Customizable measurement protocols.		No change
5	Variable Ratio: f2/f1.		No change
6	DP Definition Points: f2-f1; 2f2-f1; 2f1-f2; 3f1-2f2; 3f2-2f1; 4f1- 3f2; 4f2-3f1.		No change
7	Contra lateral suppression facility		No change
c.	SNR assessment SOAE specification		No change
1	Sensitive microphone to pick up SOAE		No change
2	Multiple SOAE's		No change
3	Actual and latent spontaneous		No change
d.	OAE Computer Specification:		No change
1	Minimum Core i5 Pentium processor		No change
2	4 GB DDR 3 RAM		No change
	USFDA/European CE (Issued by Notified body) approved model should be offered.		No change
	<b>SLIT LAMP</b>		No change
1	Magnification selection: 3 steps by rotation drum		No change
2	Eyepiece: 12.5x/10x		No Change
3	Diopter adjustment: $\pm 5D$ or better		No Change
4	Slit width: continuous from 0 to 14mm		No Change
5	Slit length: continuous from 0 to 14 mm		No Change
6	Aperture : continuous from 0 to 14mm		No Change
7	Slit angle : 0° to 180°		No Change
8	Filter : blue, Red free		No Change
9	Light source :LED		No Change
10	Standard accessories and table		No Change
11	Should operate from 200 to 240Vac, 50 Hz input supply		No Change
12	Should provide suitable ups with 30 minutes backup		No Change
13	USFDA/European CE (Issued by Notified body) approved model should be offered.		No Change
	<b>Applanation Tonometer</b>		
a.	Should be light weight (upto 100g) and ergonomic design		No Change
b.	j.A98:B103		No Change
c.	Transducer tip 1.0mm		No Change
d.	Small inbuilt LCD screen for display of IOP measurement		No Change

e.	Transducer--Micro Strain Gauge		No Change
f.	Measurement Range-- 5 - 55 mmHg		No Change
g.	Power Source — Rechargeable batteries		No Change
h.	Spares to be provided - Should provide two additional batteries		No Change
i.	Disposable Caps 100 caps each.		No Change
j.	USFDA/European CE ( Issued by Notified body ) approved model should be offered.		No Change
	<b>Foetal Doppler</b>		
a	Should be handy, work on Rechargeable battery.		No Change
b	Should have an ON/OFF switch		No Change
c	Should have an LCD display for FHR.		No Change
d	Should have Auto counting.		No Change
e	Should have probe storage facility to avoid accidental falling.		No Change
f	Should have facility to control the volume of FHR sound.		No Change
g	Should provide rechargeable battery along with recharging unit.		No Change
h	Should have Automatic power off facility.		No Change
i	Should have battery level indication.		No Change
j	Should be supplied with a carry pouch.		No Change
k	Should work 220VAC +/- 10 %, 50Hz		No Change
1	US FDA and/ European CE /BIS approved model should be offered.		US FDA/European CE/BIS approved model should be offered
	<b>CTG Machine</b>		
1	Fetal Monitor for recording and analyzing the Fetal Heart Rate (FHR) on beat- to beat basis.		No Change
2	Toco and maternally sensed fetal movements, both manually and automatically detected.		No Change
3	Should have facility of twin monitoring.		No Change
4	Graph on thermal printer with the machine, only thermal paper is required.		No Change
5	Display of FHR up to Twins FHR1 & FHR2 & TOCO on 10" or more TFT/LCD display.		No Change
6	Uterine contractions alarm. Alarm delay facility, so that alarm is available only if the alarming condition is persistent for preset time. TFT/ LCD panel with ON-LINE user friendly alarm and patient data.		No Change

7	Actual FHR in BPM.		No Change
8	Blinking corresponding to each Beat.		No Change
9	UA in % Alarm message display High/ Low FHR limits.		No Change
10	Patient ID no. Memory Backup/ Graphical or Tabular trend for minimum 24 hours with fast printing facility. Feather touch key operated volume control.		No Change
11	In-built /separate acoustic stimulator with a separate marker on the graph for acoustic stimulators.		No Change
12	Ultrasound transducer should be multi crystal wide beam pulsed Doppler with frequency of 1MHz.		No Change
13	Fetal Heart Rate: measurement Range: 50-220 BPM.		No Change
14	Signal processing: Auto Correlation.		No Change
15	External Toco transducer which should be a sealed waterproof unit. Guard ring designed to reduce maternal respiration artifact. Measurement Range: 0-100 Units.		No Change
16	Event Marker-Hand held, patient operated as well as front panel operated. Voltage- 230 V AC $\pm$ 10%, 50 Hz.		No Change
17	Unit should be designed as per IEC -601-1 (certificate to be submitted)		No Change
18	Unit should be BIS/CE certified and from ISO 9001:2008/ISO 13485 certified manufacturers.		Unit should be BIS/CE certified/ISO 9001:2008/ISO 13485 certified manufacturers.
19	Firm should mention all the pre-installation requirements in technical bid.		No Change
20	The company should mention the make & model name/number of the quoted equipment and submit the technical brochure of the quoted model in the technical bid along with compliance sheet as per technical specifications.		No Change
21	User manual with trouble shooting guidelines should be provided by supplier.		No Change

22	Should be supplied with the following accessories at the time of installation- Transducer belt, Belt buckles, Main cables, interconnecting cables, ultrasound gel bottles (10 no.).		No Change
	<b>Pulse Oxymeter (Baby &amp; Adult)</b>		
1	Should have plethysmograph wave form with numeric display for SPO2 and Heart rate on LCD/TFT display screen.		No Change
2	Should have a SPO2 range of 0 to 100%.		No Change
3	Should have SPO2 accuracy of $\pm 2\%$ for range 70%-99%.		No Change
4	Should provide bar graph for pulse strength.		No Change
5	Audio and visual alarm for both upper and lower SPO2, Heart rate.		No Change
6	Beep sound and alarm sound should have separate volume control.		No Change
7	Should have a minimum of 2 hours' back-up time.		No Change
8	Should be a portable, light weight and desktop model.		No Change
9	Should work with input 200 to 240Vac 50 Hz supply.		No Change
10	Should have trend data of at least 72 hrs.		No Change
11	Model Should be US FDA and Europeans CE approved product.		Model Should be US FDA/Europeans CE approved product.
12	Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450		No Change
	<b>Cardiac Monitor</b>		
1	Should be able to monitor 5 lead ECG, SPO2, NIBP, Respiration rate and Temperature.		No Change
2	Should be portable with carrying handle.		No Change
3	Should have touch screen TFT display with at least 10 inches or higher with at least 6 waveforms and numeric display simultaneously.		No Change
4	Should have Lithium ion battery with 4 hours battery backup.		No Change
5	Should have keys for quick access to main functions.		No Change
6	Should have adult, pediatric and neonatal modes.		No Change



7	Should provide prominent prioritised audio, visual alarms for high, low heart rate, Spo2, RR, low battery, lethal arrhythmia recognition and ST Analysis.		No Change
8	Should have separate volume control for beep sound for QRS and alarm sound.		No Change
9	Should provide following accessories:		No Change
	· Reusable adult 3 lead ECG cable set – 2 nos.		No Change
	· Reusable adult and pediatric SPO2 finger probes – 1 each.		No Change
	· Adult and pediatric NIBP cuff of different size		No Change
10	Should work on 200-240V AC/50Hz with inbuilt rechargeable battery.		No Change
11	Model Should by US FDA & CE approve product.		Model Should by US FDA/CE approve product.
12	Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450.		No Change
	<b>A-Scan machine</b>		
1	Should have easy readable LCD display		No Change
2	Should have adjustable gain control		No Change
3	Should have a probe frequency of 10 MHz with internal fixation light		No Change
4	Should use immersion & contact measurement technique		No Change
5	Should have automatic, manual, PMMA, Silicone, Acrylic, Aic capture modes		No Change
6	Should provide IOL formulas such as Holladay I, Hoffer Q, SRK/T, Haigis etc. and post refractive formulas like Shammas etc.		No Change
7	Should have a measurement range of 0.01 to 60mm.		Should have a measurement range of 0.01 to 45mm.
8	Should measure Anterior Chamber Depth, VCD, Lens thickness and axial length.		No Change
9	Should have inbuilt thermal printer / external printer through USB		No Change
10	Should provide footswitch, immersion cup, carry case and probe hold		No Change
11	Should have LAN and USB port connectivity		No Change

12	Should operate from 200 to 240V / 50 Hz power supply		No Change
13	Certification- USFDA/European CE from notified body		No Change
	<b>CBC 3-Part</b>		
1	Should be fully automated three part haematology Analyzer providing 20 parameters including a 3- part differential		No Change
2	The system should give a differential count as Lymphocytes, mid population and Granulocytes.		No Change
3	System should be capable of processing samples at 60 -70 samples/hour & storage memory result capacity 10000.		No Change
4	The system should be based on “closed, maintenance free Sample Rotary Valve (SRV) / Needle for precise sample all quoting for dilution.		No Change
5	System should have auto Probe wiper to clean the sample probe automatically after sample aspiration and with pre dilution mode.		No Change
6	The system should use non cyanide based reagents for Hb estimation.		No Change
7	System for the reliability of the results should have “electrical Impedance” method of cell counting with an integrated temperature sensor for monitoring and compensating for shift in room temperature,.		No Change
8	The system should use to proven and approved “Volumetric & time Metering” of cell counting, for WBC RBC and PLT for high precision of the results and stability of the calibration with close measuring chamber.		No Change
9	The system should have a system of count and aperture monitoring every 30 sec or before each aspiration of sample for precision and reliability of counts.		No Change
10	The system should have automatic floating discriminator of RBC /PLT.		No Change
11	The system should have Open mode as well as pre diluted mode of sample aspiration.		No Change
12	The system should use high Intensity LED for HB estimation.		No Change

13	All reagents required should be available locally from the company or its authorized distributor		No Change
14	System should be user friendly with color touch screen and should option for external printer as well as data inter facing		No Change
15	System should be US FDA approved and European CE certified.		System should be US FDA approved/European CE certified.
16	Price Evaluation will be done as per annexure-II		No Change
17	Reagent Consumption chart for 10 test per day (including two times ON/OFF) should be provided.		No Change
18	Should be provided with UPS for at least 60 min.		No Change
19	Should be provided with control		No Change
20	AMC/CMC of machine for 10 years		No Change
21	Blood mixer should be provided separately		No Change
22	Bar code for sample should be provided		No Change
23	Proper demonstration of machine should be provided before installations		No Change
24	Proper training of machine should be provided to lab technician & Doctors		No Change
25	Complementary Supply of reagents for first 5000 (Five Thousand) test free of cost		No Change
26	Should be provided with permanent printing facility (Not on thermo graph Paper) Printing facility should be covered in warranty.		No Change
Technical specification of other equipment for 100 Bedded Hospital remains same			

**Note- Ultrasonic scaler of the dental chair should be from reputed company like setalac, EMS, Kavo, W & H make, if not manufactured by the OEM of the dental chair**

**Annexure-III**  
**(Schedule of Requirement)**

<b>SL N.</b>	<b>Department</b>	<b>Name of Equipment</b>	<b>Qty.</b>	<b>Qty.(After Amendment)</b>
13	DEPARTMENT OF PROSTHODONTICS AND CROWN AND BRIDGE	CADCAM	1	<b>0</b>
82	CONSERVATIVE DENTISTRY & ENDODONTICS	CADCAM	1	<b>0</b>