

KHYBER COLLEGE OF DENTISTRY MTI PESHAWAR



Procurement of Minor Equipment For Khyber College of Dentistry (MTI) Peshawar Through EPADS Bidding Documents

Preface:

Note: The prospective bidder is expected to examine the Bidding Documents carefully, including all Instructions, Terms & Conditions, and Specifications etc. Failure to furnish all information required by the Bidding documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect would result in the rejection of the Bid.

INVITATION FOR BIDS THROUGH EPADS

Khyber College of Dentistry (KCD), Peshawar invites Bids through **EPADS** (E-Pak Acquisition & Disposal System) from eligible bidder (Manufacturer/Authorized Distributors) register with FBR for Income Tax, Sales Tax and reflected on Active Tax Payer (ATL) list of FBR, as well as registered with EPADS, for the below mentioned tender. Detailed of tender, specification, submission, Opening and method of evaluation is provided in bidding documents. Bid Security in Shape of Call Deposit Receipt (CDR) is required to be submitted from schedule bank of Pakistan in favor of Dean Khyber College of Dentistry, Peshawar.

S. No.	Name of Tender	Bid Security	Procurement Method
01	Minor Equipment	Rs. 500,000/-	Single Stage Single Envelope

TERMS & CONDITIONS:

1. A complete set of Bid Solicitation Document can be downloaded by interested Bidder from KCD Website <https://kcd.edu.pk/tenders> and EPADS <https://portalkp.eprocure.gov.pk> after publication of this advertisement in the newspaper till last day for submission of Bid.
2. Interested bidders shall submit bid(s) by uploading scan copy of bid(s) on EPADS on or before **30-06-2026 till 11:00AM (PST)**. The bidders shall upload all relevant/mandatory document on EPADS.
3. The Scan copy of the bid security must be attached with Bids on EPAD. Bids without earnest money on EPADS will not be entertained.
4. Original CDR/Bid Security must be submitted to the office of the Assistant Manager Procurement, Khyber College of Dentistry, Peshawar (KCD) on or before **30-06-2026 at 11:00AM (PST)**. If the original Bid Security does not reach the aforementioned office by the closing date & Time, the bid will be rejected.
5. Electronic Bids shall be opened on the same day at **11:30AM (PST)**.
6. Income Tax, Stamp duty, Professional Tax and KPRA or any other Government tax will be charged as per rules.
7. Procurements will be carried out as per Act and Rules of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KP-PPRA).
8. Registration with KPRA is mandatory wherever applicable.
9. The Bid accompanied by Pay Order (PO) shall be rejected.
10. Bids received through by hand/Post/Courier, e-mail/Fax shall not be accepted.
11. Interested bidders who wants to participate in the Tender Process shall registered themselves with the EPADS for gaining their unique user's name and password.
12. The advertisement is also available on the websites of Khyber College of Dentistry, Peshawar (KCD-MTI) (www.kcd.edu.pk) and KP-PPRA (<http://kppra.gov.pk>).
13. Khyber College of Dentistry, Peshawar (KCD-MTI) reserves the right to cancel any or all Bids by assigning cogent reason under Rule 47 Khyber Pakhtunkhwa public procurement Regulatory Authority.

DEAN
Khyber College of Dentistry,
Peshawar

INTRODUCTION:

Medical Teaching Institution (MTI)/ Khyber College of Dentistry, Peshawar invites. Sealed bids from eligible bidders (Manufacturers/authorized distributors) for KCD under Open Competitive Bidding under rule 6(2) (a) "Single Stage Single Envelope" bidding procedures of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KPPRA) Rules 2014.

1. Instructions to Bidders

- 1.1 This Bidding procedure will be conducted in light of Framework Contract (Rule 31-A) of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KP-PPRA) Rules 2014/2022.
- 1.2 The rate shall be considered for KHYBER COLLEGE OF DENTISTRYKCD-MTI Peshawar
Each Bidder SHALL write the name of the quoted brand along with complete specifications.
- 1.3 All the bidders are required to provide annexure wise complete requisite documents with page marking.
- 1.4 All prices quoted must be in Pak Rupees (PKR) and should include all applicable taxes. If not specifically mentioned in the Quotation, it will be presumed that the prices include all the taxes.
- 1.5 If any of the bidder requires any clarification regarding specification, Size, quality, or any other query, he may visit Purchase & Procurement Department (KCD) during working hours till deadline for submission of the bids.
- 1.6 Bidders should be financially sound and have proper office, telephone number and fax number in Khyber Pakhtunkhwa.
- 1.7 Bidders are essentially required to provide correct and latest postal/email/web addresses, phone/mobile/fax numbers for actively and timely communication.
- 1.8 The Bidder may after its submission withdraw its bid prior to the expiry of the deadline prescribed for submission of bids. Withdrawn bids will be returned unopened to the Bidders.
- 1.9 Any bid not received as per terms and conditions laid down in this document are liable to be ignored. No offer shall be considered if:
 - a. Received without bid security as mentioned in SBD.
 - b. Received after the date and time fixed for its receipt;
 - c. The tender document and the bid unsigned;
 - d. The offer is ambiguous;
 - e. The offer is conditional;
 - f. The bidder is from blacklisted firm in any Federal / Provincial Govt. Deptt:
- 1.10 Usage of correction fluid & corrections will not be considered unless duly signed by the authorize person.
- 1.11 Joint venture / consortium is not eligible for this tender.
- 1.12 In case of Bid Tie, the contract will be awarded to the firm provide the better Quality.

1.13. Any direct or indirect effort by a bidding firm to influence this institution during the process of selection of a bidder or award of contract may besides rejection of its bid result into its disqualification from participation in the KCD future bids.

1.14. Competent Authority reserves the right to reject any or all the bids as per provisions contained in Rule 47 of KP-PPRA Rules 2014/2022.

Bid Data Sheet

DATA SHEET		
Sr.No	Introduction/Description	Detail
I.	Name of Procuring Agency of Government of Khyber Pakhtunkhwa.	KHYBER COLLEGE OF DENTISTRY, Medical Teaching Institution Peshawar.
II.	Name of Project.	“Rate Contracting /Framework Of MINOR EQUIPMENT (KCD/FY2026-27)
III.	Name of Contract.	“Rate Contracting /Framework Of MINOR EQUIPMENT (KCD-FY2026-27)
IV.	Name of Procuring agency.	KHYBER COLLEGE OF DENTISTRY, Medical Teaching Institution Peshawar.
V.	Procuring agency’s address, telephone, telex, and facsimile numbers.	KHYBER COLLEGE OF DENTISTRY - MTI Peshawar – Pakistan Phone # (091) 9221393
VI.	Language of the bid.	English
BID PRICE AND CURRENCY		
I.	The price quoted shall be	DDP (Included all applicable taxes.) Including Transportation, Loading Unloading etc.
II.	The Price shall be fixed	The price shall be fixed and valid till 30 th June 2027 and may be extended with mutual consent.

PREPARATION AND SUBMISSION OF BIDS

I.	Qualification requirements.	AS mentioned in Qualification/Eligibility /Mandatory Criteria
II.	Qualification Criteria	Contract will be awarded to bidder who qualified in Mandatory Criteria and Offer Lowest price.
III.	Amount of bid security.	Rs. 500,000/- to be submitted in favor of Dean KHYBER COLLEGE OF DENTISTRY (KCDMTI) Note: The Bid security shall be from bank account of the bidder. Ordinary cheque and Payment Order (PO) in the form of bid security will result in bid rejection summarily.
IV.	Bid validity period.	120 days from the date of opening of bids
V.	Number of copies.	None
VI.	Address for bid submission.	EPADS
VII.	IFB title and number.	“Rate Contracting /Framework Of MINOR EQUIPMENT (KCD/FY2026-27)
VIII.	Deadline for bid submission.	30-06-2026 11:00 hours Sharp.
IX.	Date, Time and place for bid opening.	30-06-2026 11:30 hours Sharp. Committee Room KCD

2. General and Special Conditions of Contract

2.1. Language

All communications and documentations related to procurements shall be in English.

2.2. Bid Security

I. Bid security shall be submitted to the amount of **PKR 500,000/-** in shape of Call Deposit Receipt (CDR) from schedule bank of Pakistan, excluding microfinance banks, in favor of “DEAN KHYBER COLLEGE OF DENTISTRY KCD MTI”. A bid accompanied by Ordinary Cheque/Pay Order (PO) shall be rejected as non-responsive.

II. Bid Security of the unsuccessful bidders shall be released as promptly as possible upon the successful Bidder’s signing of Contract Agreement;

III. The bid security of the successful bidder shall be considered as the performance security till the validity of tender/contract.

2.3. The Bid security shall be forfeited:

- i. If a bidder withdraws his bid during the period of bid validity; or
- ii. In the case of a successful bidder, if he fails to:
 - a. Sign the contract agreement, in accordance with Para below.
 - b. supply of goods as per purchase order.
 - c. commits any breach of the Contract Agreement

2.4. Place of Delivery

The Bidder shall be solely responsible for transportation, loading, unloading and staking of the supplied items, till Purchase & Procurement Deptt. (Store) KHYBER COLLEGE OF DENTISTRY KCD-MTI.

2.5. Inspection of Goods on Delivery

Before payment, the concerned Department of KCD-MTI shall inspect the delivered material for meeting the quality and quantity against the prescribed specification. Any payment shall be processed after satisfactory assessment/inspection and acceptance by the Concerned Department.

2.6. Defects:

All defects in material/defective items will be corrected/replaced without any cost to the KCD-MTI within 07 days from the date of notice by the KCD-MTI.

2.7. Packaging

The Bidder shall provide such packing of the Equipment as is required to prevent their damage or deterioration during transit to their final destination. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Equipment's final destination and the absence of heavy handling facilities at all points in transit.

2.8. Performance Security: -

- I. The bid security shall be retained till the closing of the contract period i.e., 30-06-2027, however no performance security shall be sought from the successful bidders.
However, if contract extend then the bid security shall be valid up to extendable period.
- II. The Bid Security as a performance Security may be forfeited if the Supplier/Vendor fails to deliver or supply goods/Services in accordance with the terms and conditions of the Purchase Order or commits any breach of the Contract Agreement.

2.9. Bid Validity:

- i. The bids should be valid for a period of 120 days.
- ii. In exceptional circumstances, KCD Hospital may solicit the Bidder's consent to an extension of the period of validity reasons shall be recorded in writing. The request and the responses there to shall be made in writing. The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the bidding document.

3. *Evaluation and Comparison of Bids*

- 4.1. The Department will evaluate and compare the bids which have been determined to be substantially responsive.
- 4.2. Bids shall be evaluated against the given specifications and other terms & conditions mentioned in the Bid Solicitation Documents.
- 4.3. After preliminary examination, the responsive bidder(s) will be asked to provide the samples (Where required) of their quoted items and the same will be inspected/approved by the Purchase committee including technical members/End User, if rejected by the committee the order will be place to the next responsive bidder.
- 4.4. Rates of those items will be considered for comparisons which are approved by the purchase committee
- 4.5. The Lowest Offer will be accepted, meeting the Specification / quality needs and ensuring value for money.
- 4.6. All the bidders will strictly follow the rate form attached as “**Annexed-A**”
4. Obligations and Options in Case of Non-fulfillment of Contractual Obligations by The Supplier
 - a. The supplier shall perform services in accordance with recognized standards, applicable laws and regulations.
 - b. The suppliers shall appoint a focal person who shall coordinate with KCD-MTI at all times during the execution of the project/Contract.

c. The supplier shall carry out the services/Supplies with due diligence and efficiency and in conformity with sound practices.

d. The supplier shall act at all times so as to protect the interests of the KCD-MTI and shall take all reasonable steps to keep all expenses to a minimum consistent with sound economic and other practices. The supplier shall furnish the KCD-MTI such information relating to the Services as the Client may from time-to-time reasonably request.

e. Except with the prior written approval of the KCD-MTI, the supplier shall not assign or transfer the Agreement for Goods or any part thereof nor engage any other independent supplier or sub-contractor to perform any part of the services/Goods without prior consent of the service providers

f. The supplier agrees that no proprietary and confidential information received by the supplier from the KCD-MTI shall be disclosed to a third party unless the supplier receives a written permission from the KCD-MTI to do so.

g. Procuring entity may take any of the following actions if after the placement of the Purchase Order the supplier fails to deliver the goods within the prescribed period, according to the specifications, quantities and other terms and conditions given in the Purchase Order/Contract agreement: -

i. Purchase from any other source, at the risk and cost of the supplier, the goods not delivered or other goods of equivalent specifications, without canceling the Purchase Order/contract agreement;

ii. Cancel the Purchase Order/contract agreement at supplier's risk and cost. In such case, KCD-MTI reserves the right to take any action against supplier which it may deem fit under the circumstances including the blacklisting of the supplier;

iii. Or recover any consequential losses/damages incurred by procuring entity by withholding any or all amounts otherwise due to the supplier against this or any other Purchase Order/ Contract.

5. Disputes and Controversies/Dispute Resolution

i. KCD-MTI shall constitute a Committee consisting of odd number of members with proper powers and authorizations to redress complaints of bidders that may arise prior to issuance of Purchase Order/contract agreement, in accordance with the KPP Redressal Rules 2014.

ii. If a bidder is not satisfied with the decision of the Committee, he may take recourse to the KP-PPRA.

iii. The mere fact of lodging a complaint shall not warrant suspension of procurement process.

iv. Any dispute or difference arising out of the Agreement which cannot be amicably settled between the Parties, shall be finally settled by KP-PPRA whose decision will be final and binding on both the parties.

6. Sub-Letting Contract

The supplier shall not sub-let or assign this Contract or any part thereof without the written permission of the procuring entity. In the event of the Service/Goods subletting or assigning this Contract or any part thereof without such permission, the procuring entity shall be entitled to cancel the Contract and to purchase the goods elsewhere on the supplier account and risk and the supplier shall be liable for any loss or damage which the procuring entity may sustain in consequence of arising out of such purchase.

7. Bribes Commission Etc.

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor/Supplier or his partner, agent or servant, or any one on his or their behalf to any officer servant, representative or agent of the procuring entity or any person on its behalf in relation to the obtaining or to the execution of this or any other contract with the procuring entity, shall in addition to any criminal liability which he may incur, subject the contractor/Supplier to cancellation of this and all other Contracts and also to payments of any loss or damage resulting from such cancellation to the like extent as is provided in cases of cancellation hereof; and the procuring entity shall be entitled to deduct the amounts so payable from any moneys, otherwise due to the supplier under this or any other Contract. Any question or dispute as to the commission of any offence under this clause shall be settled by the procuring entity in such manner as it shall think fit and sufficient, and its decision shall be final and conclusive.

8. Termination

The Agreement shall terminate when, pursuant to the provisions hereof, the Services/Goods have been completed and full and final payment has been made.

9.1. Termination by the Client

The Client may, by a written notice of thirty (30) days to the supplier, terminate this Agreement. All accounts between the Client and the Service provider/Supplier shall be settled not later than sixty (60) days of the date of such termination.

9.2. Termination by the Supplier

The supplier may suspend the Agreement by a written notice of thirty (30) days only if the supplier does not receive payments due under this Agreement.

9. Force Majeure

The term "Force Majeure" as employed herein shall mean acts of God, strikes, lockout or other industrial disturbances, acts of public enemy, wars, blockades, insurrection, riots, epidemics, landslides, earthquakes, storms, lightning, floods, washouts, civil disturbances, explosions and any other similar events, not within the control of either Party and which by the exercise of due diligence neither Party is able to overcome. If either Party is temporarily unable by reason of Force Majeure to meet any of its obligations under the Agreement, and if such Party gives to the other Party written notice, of the event within fifteen (15) days after its occurrence, such obligations of the Party, as it is unable to perform by reason of the event, shall be suspended for as long as the inability continues. Neither Party shall be liable to the other Party for loss or damage sustained by such other Party arising from any event referred to as Force Majeure or delays arising from such event. Force Majeure shall not include insufficiency of funds or failure to make any payment required under the Agreement.

11. Other Terms & Conditions of The Market

11.1. This Bidding procedure will be conducted in light of Framework Contract (Rule 31- A) of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KP-PPRA) Rules 2014.

11.2. All the bidders will strictly follow the rate form attached as “**Annexed-A**”

11.3. Contracts shall be confirmed through a written agreement signed between successful bidder and the KCD-MTI Peshawar (**Draft attached as “Annex-B”**)

11.4. All the bidders will sign on Bidder Letter Head attached as “**Annex-C**”

11.5. Due to framework contract rate quoted by the bidder shall be valid till. June 30th 2027.

However extendable for another year up to a maximum of 03 years or till the finalization of new contract on mutual consent of both parties.

11.6. In case of a successful bidder, who repudiates the contract or fails to furnish performance and as the case may be shall proceed for blacklisting and the supply order will be placed to the Next Successful Bidder or from the alternative sources at the cost/risk of the concerned firm.

- 11.7. Bidders are advised in their best interest to maintain the required quality and not to quote for counterfeited or sub-standard items, as the inspection committee will ensure the quality of products at the time of supply of items.
- 11.8. If any of the given specifications/parameters does not meet the required specifications, their offer will not be considered and shall summarily be rejected by KCD-MTI Peshawar.
- 11.9. In case of repeated failure or non-supply the KCD-MTI Peshawar reserves the right to forfeit the bid security and may proceed for debarment / blacklisting.
- 11.10. Each Items supplied shall strictly conform to the Schedule of Requirements and to the Technical Specifications prescribed by the KCD-MTI Peshawar against each item.
- 11.11. The Unit Cost agreed in the Price Schedule (Rate Form), is inclusive of all taxation and costs associated with transportation and other agreed incidental costs.
- 11.12. All clauses mentioned in Draft Contract Agreement (Annexure-B) shall be considered as part of this SBD.
- 11.13. If the successful firm fails / delays in performance of any of the obligations, under the Contract / Letter of Award, violates any of the provisions of the Contract / Letter of Award, commits breach of any of the terms and conditions of the Contract / Letter of Award or found to have engaged in corrupt or fraudulent practices in competing for the award of contract / Letter of Award or during the execution of the contract / Letter of Award, the institution may without prejudice to any other right of action / remedy it may have, blacklist the bidder, either indefinitely or for a stated period, for future tenders in public sector, as per provision of KP Procurement Rules, 2014.

12. Delivery of Items & Penalty

- a. The schedule for supply of goods shall be as under:
 - i. Within 30 days from the date of issuance of supply order by the Purchasing Agency for items to be locally available ii. within 90 days from the date of issuance of supply order by the Purchasing Agency for items to be imported. (BL bill of lading should be attached)
- b. The Penalty on late supply of goods shall be charged as under
 - i. Penalty @2% For Late Supply within 15 Days from due date of delivery.
 - ii. Penalty @ 5% For Late Supply within 16-30 Days from due date of delivery.
 - iii. Penalty @ 10% For Late Supply beyond 30 Days from the due date of delivery.

13. Award of Contract:

Contracts shall be confirmed through a written agreement signed between successful bidder and the KHYBER COLLEGE OF DENTISTRY MTI Peshawar attached as “Annex-B”.

14. Signing of the Contract Agreement

The successful bidder shall receive an invitation in form of Letter of Award from KHYBER COLLEGE OF DENTISTRYKCD-MTI with the aim to sign an Agreement for Required items as defined.

The successful bidder within Fourteen days (14) days of receipt of Letter of Award will sign the agreement however, bid security shall not be release and shall be consider as a Performance Security till duration of contract.

15. Payment:

15.1. No advance payment will be permissible.

15.2. Payment shall be made on production of the following documents:

- i. The payment will be made after successful supply, installation and inspection of all requisite items.
- ii. The Supplier/Vendor submits manually signed invoice in triplicate certifying that merchandise supplied is in accordance with the contract. The invoice must show the Purchase Order No. ____, and Date _____
- iii. Material/Deliverables Receiving Report (in original) signed by the Authorized Representative of Procuring entity in acknowledgement of having received all supplies/deliverables in accordance with the Purchase Order/Contract Agreement.
- iv. Authenticated sales tax invoice in original as prescribed in the Sales Tax Act 1990 (where applicable).
- v. Valid Income Tax Exemption Certificate (otherwise Income Tax at) current applicable rates shall be deducted from the invoice). (Where applicable)
- vi. National Tax Number. vii. Sales Tax Registration Number. viii. Valid Professional Tax Certificate
- ix. Khyber Pakhtunkhwa Revenue Authority Certificate (for Services only)
- x. Recovery of all applicable taxes at source should be made as per rules

16. Applicable laws

This Agreement shall, in all respects, be read and construed and shall operate in conformity with the KP-PPRA Act 2012 and KPP Rules 2014.

Annex: "A"

Bid Form and Price Schedules

Price Schedule in Pak. Rupees (including all applicable taxes)

The prices quoted by the bidder shall be inclusive of all applicable duties and taxes. The Income Tax, stamp duty and Professional Tax or any other Government tax will be charged as per rules.

Note: - All the bidders are required to follow the following pattern while preparing financial bids.

Name of Bidder _____

S. No	Hospital Item Description	Firm's Item Description/Specification	Brand Name	UOM (Unit of measurement)	Unit price (PKR) Inclusive of all Taxes (With GST)

Signature of Bidder _____

Note: In case of discrepancy between unit price and total, the unit price shall prevail.

Annex: "B"

(DRAFT)
AGREEMENT DEED

FOR PROCUREMENT GOODS THROUGH FRAME WORK AGREEMENT

THIS AGREEMENT DEED is made on this day of (_____) and made effective with effect from (_____) by and between, and this agreement will be valid till 30-06-2027

**KHYBER COLLEGE OF DENTISTRY, Medical Teaching Institute,
Peshawar, Peshawar through its DEAN**

(Hereinafter referred to as '**First Party**' which expression shall unless repugnant to the context mean and include its heirs, executors, administrators, successors and assigns)

And

M/S _____

(Hereinafter referred to as '**Second Party**' which expression shall unless repugnant to the context mean and include its heirs, executors, administrators, successors and assigns).

(Both the above hereinafter collectively referred to as '**Parties**')

WHEREAS the Second Party has agreed to supply **MINOR EQUIPMENT**.

(hereinafter referred as 'Goods') out of the fresh stock to the First Party on the following terms and conditions:

NOW THIS AGREEMENT TO BE WITNESS AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as part of this agreement, viz

- Award Letter
- Financial Quotation
- Bid Solicitation Documents (SBD) (Final)
- Winning items list

DEFINITIONS:

a. '**Consideration**' means the price payable to the Second Party by the First Party under this Agreement Deed for the full and proper performance of its contractual obligations.

b. **‘Equipment’** means all of the equipment, machinery, and/or other materials which the Second Party is required to supply to the First Party under this Agreement Deed.

c. **‘Services’** means those services ancillary to the supply of the Equipment, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Second Party.

d. **‘Project Site’** where applicable, means the place or places named in this Agreement Deed.

e. **‘Day’** means a calendar day.

f. **‘Corrupt Practice’** means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

g. **‘Fraudulent Practice’** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

h. **‘Force Majeure’** means an event beyond the control of the Parties and not involving the Parties fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the First Party in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

TERMS AND CONDITIONS:

1. The Contract Agreement is made in light of Framework Contract (Rule31-A) of Khyber Pakhtunkhwa Public Procurement Regulatory Authority (KP-PPRA) Rules 2014

Due to framework contract rate quoted by the bidder shall be valid till June 30th 2027. However extendable for another year up to a maximum of 03 years or till the finalization of new contract on mutual consent of both parties.

2. Second Party shall deliver and install the Equipment/Goods at the premises and precincts of KHYBER COLLEGE OF DENTISTRY.

3. The specification, quality, quantity of goods shall be in conformity to purchase orders, which shall be made part of this Agreement Deed. The Second Party shall include the ancillary Services attached with the Equipment/Goods.

4. The Equipment/goods supplied under this Agreement Deed shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, it shall conform to the authoritative standards appropriate to the

Equipment's country of origin. Such standards shall be the latest issued by the concerned institution.

5. The second party shall provide exactly the same item as per approved sample from First Party.

6. Any increase in quoted prices, until this contract validity, from Second Party will not be acceptable to First Party.

7. The Second Party will be liable to complete the supply within stipulated time limit i.e., 30 days after the issuance of the Purchase order and will be according to following schedule

a. Within 30 days from the date of issuance of supply order by the Purchasing Agency for items to be locally available

b. Within 90 days from the date of issuance of supply order by the Purchasing Agency for items/equipment to be imported. (BL - bill of lading should be attached)

8. The Second Party will be liable to complete the supply within stipulated time limit by confirming quality, quantity and timeline up to the entire satisfaction of First Party.

9. The Second Party warrants that the Equipment/Goods supplied under this Agreement Deed are brand new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in this Agreement Deed. The Second Party further warrants that all Equipment supplied under this Agreement Deed shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the First Party specifications) or from any act or omission of the Second party, that may develop under normal use of the supplied Equipment in the conditions prevailing in the country of First Party.

10. The First Party shall promptly notify the Second Party in writing of any claims arising under this warranty.

11. The First Party, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Second party, may terminate this Agreement Deed in whole or in part:

a. if the Second Party fails to deliver any or all of the Equipment/Goods within the period(s) specified in this Agreement Deed, or within any extension thereof granted by the First Party; or

b. if the Second Party fails to perform any other obligation(s) under this Agreement Deed.

c. if the Second Party, in the judgment of the First Party has engaged in corrupt or fraudulent practices in competing for or in executing this Agreement Deed.

12. In case the Second Party failed to complete the supply till the due date i.e. 30 days from Issuance of the purchase order, a penalty as per detail below will be charged from the Second Party;

- a. Penalty @ 2% for Late Supply within 15 Days from due date of delivery.
- b. Penalty @ 5% For Late Supply within 16-30 Days from due date of delivery.
- c. Penalty @ 10% For Late Supply beyond 30 Days from the due date of delivery.

13. The Second Party shall be responsible for the transportation of the Equipment/Goods and the transportation charges incurred thereof. The Second Party shall complete the supply and installation of goods within the stipulated period as mentioned in the supply order (Imported Items) from the date of execution of this agreement or as extended or reduced by the First Party. In case of failure of Second Party to supply the goods within the stipulated period, the First Party will be at liberty to make an alternate arrangement at the risk and cost of Second Party and the Second Party shall be liable to pay the entire cost/amount to the alternate supplier according to the demand of the First Party. In the event of commuting a default the First Party will be at liberty to take any civil/criminal legal action against the Second Party in accordance with law.

14. The Second Party shall be responsible for any defect in goods or supply of goods. The entire goods will be free of any charges and encumbrance of what so nature and the First Party or its agent will be authorized at all reasonable time to view, check and examine the conditions of the supplied Equipment/goods.

15. Upon demand made by the First Party at any time or from time to time, to execute all such instruments, deeds or documents which the First Party may in its sole discretion require, the Second Party will do the needful.

16. The First Party will be furnishing all such information as the Second Party may at any time or from time to time required relating to the position of goods and pecuniary liability of the First Party or otherwise whatever.

17. The Second Party shall not, without the prior written consent of First party, disclose this Agreement Deed, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the First Party in connection therewith, to any person other than a person employed by the Second Party in the performance of this Agreement Deed. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

18. The Second Party shall provide such packing of the Equipment/goods as is required to prevent their damage or deterioration during transit to their final destination, as

indicated in the Agreement Deed. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Equipment's final destination and the absence of heavy handling facilities at all points in transit.

19. The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Agreement Deed, including additional requirements, if any, and in any subsequent instructions ordered by the First Party.

20. The First Party will be at liberty, at all times and shall have the right to return the Equipment, provided/delivered by the Second Party with regard to quality, quantity, value or otherwise fitness for use. Notwithstanding anything contained hereinabove, it is hereby agreed by both Parties that the First Party at all times be at liberty and shall have the right to cancel or reduce the quantity, without assigning any reason.

21. The amount of performance security, as a percentage of the Contract Price, shall Not Be Required. However, the bid security of **Rs. 500,000/-** received at the time of bids submission shall be retained by KHYBER COLLEGE OF DENTISTRY as Performance Security till the end of contract period and will be released back to successful bidders after the expiry of contract period, subject to the condition that all contractual obligations related to supplies are fulfilled.

22. The Second Party shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under this Agreement Deed is the result of an event of Force Majeure.

If a Force Majeure situation arises, the Second Party shall promptly notify the First Party in writing of such condition and the cause thereof. Unless otherwise directed by the First Party in writing, the second Party shall continue to perform its obligations under this Agreement Deed as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

23. Any notice given by one party to the other pursuant to this Agreement Deed shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in contract.

24. A notice shall be effective when dispatched on the given address of the Parties in this Agreement Deed via above means.

25. Payment to the Second Party shall be on presenting a bill in the shape of summary duly verified by Finance Department. The bill shall be counter verified from the

end using department before clearance. Demand in violation of this clause of agreement may lead to imposition of reasonable amount of fine.

26. The Equipment/goods shall be open to inspection at all times during the agreement period. The inspection shall be carried out by a representative from purchase, legal, quality control, finance or end using department.

27. Besides the above conditions the Second Party shall be bound to fulfil the defacing if found at any time and for the purpose shall be ready to sign and execute a fresh agreement if needed.

28. Each Clause of this Agreement Deed shall be and remain separate from and independent of and severable from all and any other Clauses herein except where otherwise indicated by the context of this Agreement Deed. The decision or declaration that one or more of the Clauses are null and void shall have no effect on the remaining Clauses of this Agreement Deed.

29. This Agreement Deed may be reviewed at any stage with mutual consultation of both Parties, if required. All amendments or addition to this Agreement Deed must be in writing and signed by both Parties through addendum to this Agreement. No amendment of any provision of this Agreement Deed shall be valid unless the same shall be in writing and signed by the Parties

30. The validity, interpretation, construction and performance of this Agreement Deed shall be governed by the Laws of Khyber Pakhtunkhwa in Pakistan. This Agreement Deed shall be interpreted with all necessary changes in gender and in number as the context may require and shall convey to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

31. **IN WITNESS WHEREOF** the Parties mentioned above have carefully pursued the terms and conditions embodied in this Agreement Deed and have executed the same, setting their signatures below, on the date and place mentioned above.

DEAN
KHYBER COLLEGE OF DENTISTRY
For & On Behalf of First Party

[Mention Name]
[Designation]
M/S (Provide Name)

WITNESSES

FOR FIRST PARTY

FOR SECOND PARTY

No.1.: _____
Name _____
C.N.I.C No.: _____
Contact No.: _____

No.1.: _____
Name _____
C.N.I.C No.: _____
Contact No.: _____

UNDERTAKING ON BIDDERS LETTER HEAD

Important Note:

All the bidders must submit this undertaking on their company letter head attached with technical bid at the time of bid submission on the following format.

1. I, _____ Owners / Director / Legal Attorney / Accredited representative of M/s _____, solemnly declare that,
2. M/s _____ have read the contents of the Bidding Document and have fully understood it.
3. That the financial instruments, statements of facts, data and documents being submitted by M/s _____ for the Tender vide KCD dated _____ are true, genuine and correct.
4. Undertakes that information being submitted is correct and true, and that any false information shall lead to disqualification at any stage.
5. M/s _____ is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body anywhere in Pakistan.
6. Bid Security (in original) is placed in the financial bid.
7. In case we fail to comply any of the aforesaid conditions or the documents submitted by M/s _____ is found false/forged, our tender will be cancelled forfeiting the Bid Security amount and debarring us from participation in future tenders of Medical Teaching Institution KCD, Khyber Pakhtunkhwa, for a period of one year.

Signature with Seal of the Deponent (bidder)

STATEMENT OF REQUIREMENT WITH SPECIFICATION

NOTE: Sample will be called at the time of selection (if required) Blacklisting of Defaulted Bidder/Contractor Conditions for Blacklistment of Defaulted Bidder/Contractor under rule 44 of KP-PPRA Rules 2014

The following are the events which would lead to initiate (Rule 44 of KP-PPRA Rules 2014) blacklisting/debarment process;

- a. Consistent failure to provide satisfactory performances.
- b. Found involved in corrupt/fraudulent practices.
- c. Abandoned the place of work permanently

Conditions for debarment of Defaulted Bidder/Contractor

- I. Failure or refusal to;
- II. Accept Purchases Order / Services order terms; III. Make supplies as per specifications agreed:
 - IV. Fulfill contractual obligations as per contract
 - V. Non-execution of work as per terms & condition of contract.
 - VI. Any unethical or unlawful professional or business behavior detrimental to good conduct and integrity of the public procurement process.
 - VII. Persistent and intentional violation of important conditions of contract.
 - VIII. Non-adherence to quality specifications despite being importunately pointed out.
 - IX. Security consideration of the State i.e., any action that jeopardizes the security of the State or good repute of the KHYBER COLLEGE OF DENTISTRY Peshawar.

Procedure for Blacklistment and debarment

1. Competent authority of KHYBER COLLEGE OF DENTISTRY may on information, or on its own motion, issue show cause notice to the bidder.
2. The show-cause notice shall contain the statement of allegation against the Bidder.
3. The bidder will be given maximum of seven days to submit the written reply of the show cause notice.
4. In case the bidder fails to submit written reply within the requisite time, the competent authority may proceed forth with ex-parte against the bidder.
5. Direct to issue notice of personal hearing to the bidder/ authorized representative of the bidder and the competent authority shall decide the matter on the basis of available record and personal hearing, if availed.
6. The competent authority shall decide the matter within thirty days from the initiation of proceedings.
7. The order of competent authority shall be communicated to the bidder by indicating reasons.

8. The order past as above shall be duly conveyed to the KP-PPRA and defaulting bidder within three days of passing order.
9. The duration of debarment may vary up to five years depending upon the nature of violation.

Redressing of Grievances

- a. The purchaser shall constitute a committee comprising of disagreed & notified by the competent authority proper powers and authorizations to address the complaints of bidders that may occur prior to the entry into force of the procurement contract.
- b. Any bidder feeling aggrieved by any act of the purchaser after the submission of his bid may lodge a written complaint concerning his grievances not later than 03 days after the announcement of the bid evaluation report.
- c. The grievance redressed Officer shall investigate and decide upon the complaint within 06 days of the receipt of the complaint. The report along with decision shall be forwarded to the purchaser officer within the prescribed period.
- d. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.
- e. Note: Grievance notified & designated who can invite appropriate official as co-opted member for grievance.

LIST OF EQUIPMENTS FOR THE F.Y 2026-27

Pathology Laboratory

S. No	Name of Item	Specifications
1.	HbA1C Analyzer	<ul style="list-style-type: none"> • Fully automatic smooth and easy operation • Sample: whole blood. • Embedded thermal printer. • Reasonably accurate results/reports with less test time. • Compatible with our strips and local power supply. (CE, ISO)
2.	Incubator	<p>Precision Laboratory Incubator</p> <ol style="list-style-type: none"> 1. Chamber volume: 50–60 Liters. 2. Temperature range: Ambient +10°C to +80°C. 3. Temperature control via adaptive multifunctional PID microprocessor controller. 4. Color TFT graphical display with simultaneous display of actual value, set value, timer status and operating parameters. 5. Temperature setting resolution of 0.1°C or better. 6. Digital timer adjustable from 1 minute to at least 99 days and 23 hours. 7. Controller shall provide a Set Point WAIT function, whereby process timing starts only after attainment of the programmed temperature. 8. Fresh Air Control: The incubator shall provide adjustment of pre-heated fresh-air admixture by means of an air flap control adjustable in 10% incremental steps (0%, 10%, 20%, 30%, etc.), allowing reproducible and documented air exchange settings. 9. Double-door arrangement comprising: <ul style="list-style-type: none"> ○ Inner glass door for observation. ○ Outer insulated stainless-steel door. 10. Interior chamber and external housing shall be manufactured from stainless steel. 11. Chamber shall have rounded corners and removable shelving supports for ease of cleaning. 12. Safety system shall include: <ul style="list-style-type: none"> ○ Electronic adjustable over-temperature monitor. ○ Independent mechanical temperature limiter. ○ Dual over-temperature protection. 13. Operating parameters and stored programs shall be retained during power failure and automatically restored after power recovery.

		<p>14. Unit shall be supplied with minimum two adjustable stainless-steel shelves.</p> <p>15. Communication interface: Ethernet/LAN interface for monitoring and documentation.</p> <p>16. Power supply: 220–240 V, 50/60 Hz.</p> <p>Country of Origin: USA/EUROPE/JAPAN</p> <p>3 years Warranty</p>
3.	<p>Hot air Oven Universal Laboratory Drying Oven</p>	<p>Technical Specifications</p> <ol style="list-style-type: none"> 1. Bench-top universal laboratory drying oven suitable for drying, heating, conditioning, sterilization and general laboratory applications. 2. Chamber volume: 50–60 Liters. 3. Temperature range: Minimum 5°C above ambient temperature to at least 300°C. 4. Heating system based on natural convection for gentle and uniform heat distribution. 5. Temperature control through an adaptive multifunctional PID microprocessor controller with automatic self-diagnostic capability for fault detection and analysis. 6. Controller shall be equipped with a high-definition TFT color display for simultaneous indication of operating parameters, set values, actual values, timer status, program information and alarm messages. 7. Temperature setting resolution: 0.1°C or better. 8. Fresh-air management system shall permit adjustment of pre-heated fresh-air admixture through an air flap control mechanism. Fresh-air intake shall be adjustable in 10% incremental steps (0%, 10%, 20%, 30%, etc.), and the setting shall be programmable individually for each operating segment where multi-segment operation is provided. 9. Integrated self-diagnostic system for continuous monitoring of operating status and fault analysis. 10. Digital timer adjustable from 1 minute to at least 99 days and 23 hours. 11. Safety system shall include: <ul style="list-style-type: none"> ○ Electronic adjustable over-temperature monitoring. ○ Independent over-temperature safety protection. ○ Multiple over-temperature protection mechanisms. ○ Audible and visual alarm indications. 12. Interior chamber shall be manufactured entirely from high-grade stainless-steel resistant to corrosion and easy to clean. 13. Exterior housing shall be constructed from textured stainless steel or equivalent corrosion-resistant metal finish.

		<p>14. Chamber shall have rounded internal corners and removable shelf supports to facilitate cleaning and decontamination.</p> <p>15. Unit shall be supplied with minimum two (02) adjustable stainless-steel shelves.</p> <p>16. Operating parameters and stored programs shall be retained in the event of power interruption and automatically restored upon power recovery.</p> <p>17. Communication interface comprising Ethernet/LAN and/or USB connectivity for monitoring, documentation and data transfer.</p> <p>18. Power supply: 220–240 V AC, 50/60 Hz.</p> <p>Country of Origin: USA/EUROPE/JAPAN</p> <p>3 years Warranty</p>
4.	<p>Laminar Air flow hood (LAFH)</p>	<p>Laminar Air Flow Hood Cabinet Class II Type A2 Biological Safety Cabinet Technical Specifications</p> <ol style="list-style-type: none"> 1. Cabinet shall be a Class II, Type A2 Biological Safety Cabinet providing personnel, product and environmental protection for microbiological and cell culture applications. 2. Nominal working width shall be approximately 1.2 metres (4 feet). 3. Cabinet shall be certified and tested in accordance with: <ul style="list-style-type: none"> ○ NSF/ANSI 49 ○ EN 12469 ○ UL and CE requirements 4. Airflow design shall provide: <ul style="list-style-type: none"> ○ Approximately 30% exhaust and 70% recirculation airflow. ○ Average inflow velocity of 0.53 m/s (105 fpm). ○ Average vertical unidirectional downflow velocity of 0.30 m/s (60 fpm). 5. Work zone air cleanliness shall achieve ISO Class 5 or better. 6. Cabinet shall utilize separately mounted supply and exhaust HEPA/ULPA filtration systems providing: <ul style="list-style-type: none"> ○ Minimum 99.99% efficiency at 0.3 µm or ○ Minimum 99.995% efficiency at MPPS. 7. Filter sealing system shall employ a pressure-tight, zero-leak sealing mechanism utilizing spring-loaded compression technology to ensure long-term filter integrity. 8. Cabinet shall incorporate a metal air diffuser above the supply filter to ensure uniform airflow distribution and minimize turbulence. 9. Cabinet shall provide a filter loading capacity designed for extended service life with automatic compensation for filter loading to maintain airflow performance.

10. Blower system shall utilize an **electronically commutated motor (ECM)** with automatic airflow regulation and motor speed control.
11. Cabinet shall provide automatic filter loading compensation without manual adjustment throughout the operational life of the filters.
12. Cabinet shall incorporate an **internal exhaust damper** for airflow balancing and containment control.
13. Cabinet shall include an energy-saving standby or **night setback mode** for operation during non-working hours.
14. Cabinet construction shall be:
 - Pressure-tight all-welded construction.
 - Type 304 stainless steel interior work zone.
 - Minimum 16/18-gauge stainless steel fabrication.
 - Smooth radius corners for ease of cleaning and decontamination.
15. Viewing sash shall comprise tempered safety glass, vertically sliding and counterbalanced, allowing fully closed and operational positions.
16. Cabinet shall provide continuous monitoring of:
 - Inflow airflow.
 - Downflow airflow.
 - Sash position.
17. Audible and visual alarms shall be provided for:
 - Low airflow.
 - High airflow.
 - Improper sash position.
 - System faults.
18. Access shall be password protected to prevent unauthorized modification of operating parameters.
19. Standard utility provisions shall include:
 - Minimum three service couplings (3/8" NPT).
 - Minimum one gas service valve.
 - Minimum two internal electrical outlets.
20. Cabinet shall be suitable for either:
 - Recirculation into the laboratory environment, or
 - Connection to a facility exhaust system through a canopy/thimble connection where required.
21. External dimensions shall not exceed approximately:
 - Width: 1400 mm
 - Depth: 850 mm
 - Height: 1600 mm (excluding stand variations).
22. Unit shall be supplied complete with support stand/storage base, fluorescent/LED lighting, UV light (if manufacturer standard), electrical

		<p>outlets and all accessories necessary for operation. Country of Origin: USA/EUROPE/JAPAN 3 years Warranty</p>
5.	PH Meter	<p>Bench Top Microprocessor Controlled pH Meter Technical Specifications</p> <ol style="list-style-type: none"> 1. Bench-top digital microprocessor-controlled pH meter suitable for research, pharmaceutical, environmental, food, industrial and educational laboratories. 2. Simultaneous display of pH and temperature measurements. 3. pH measuring range: -2.000 to +20.000 pH or wider. 4. pH resolution selectable up to 0.001 pH. 5. pH accuracy: ±0.005 pH or better. 6. mV measuring range: ±1200 mV or wider. 7. mV accuracy: ±0.3 mV or better. 8. Temperature measuring range: -5°C to +105°C or wider. 9. Temperature resolution: 0.1°C or better. 10. Temperature accuracy: ±0.1°C or better. 11. Automatic Temperature Compensation (ATC) using an integrated temperature sensor within the pH electrode. 12. Calibration: <ul style="list-style-type: none"> • Automatic buffer recognition. • Minimum two-point calibration. • Capability for up to three-point calibration. • Storage of calibration data and electrode status information. 13. Instrument shall provide automatic electrode diagnostics and calibration evaluation. 14. Display shall indicate: <ul style="list-style-type: none"> • pH value. • Temperature. • Calibration status. • Electrode condition. 15. Instrument shall be capable of operation from: <ul style="list-style-type: none"> • AC mains power (220–240 V, 50/60 Hz). • Internal battery/rechargeable battery operation. 16. Instrument shall be supplied complete with: <ul style="list-style-type: none"> • Electrode stand with base. • Combination pH electrode with integrated temperature sensor. • Plastic beakers. • Electrode storage/filling solution (3M KCl). • pH buffer solutions 4.01, 7.00 and 10.01.

		<ul style="list-style-type: none"> Operating manual and accessories required for immediate operation. <p>17. Electrode supplied shall be a laboratory-grade gel-filled or refillable combination electrode with integrated temperature sensor and low-maintenance design.</p> <p>Country of Origin: USA/EUROPE/JAPAN 3 years Warranty</p>
6.	Electrolytes Analyzer	<p>Electrolyte Analyzer (Direct ISE Technology)</p> <p>Technical Specifications</p> <p>1. Bench-top electrolyte analyzer utilizing **direct (undiluted) Ion Selective Electrode (ISE) technology**.</p> <p>2. Analyzer shall be capable of measuring:</p> <ul style="list-style-type: none"> * Sodium (Na⁺) * Potassium (K⁺) * Chloride (Cl⁻) * Calcium (Ca⁺⁺) and/or Lithium (Li⁺) <p>3. Sample types:</p> <ul style="list-style-type: none"> * Whole blood * Serum * Plasma * Diluted urine <p>4. Sample volume requirements:</p> <ul style="list-style-type: none"> * 100 µL for whole blood, serum and plasma. * 400 µL diluted urine (1:10 dilution). <p>5. Analysis time:</p> <ul style="list-style-type: none"> * Whole blood/serum/plasma: **60 seconds or less** * Urine: **90 seconds or less** <p>6. Calibration system:</p> <ul style="list-style-type: none"> * Automatic one-point calibration with every sample or equivalent. * Automatic two-point calibration at fixed intervals not exceeding four hours. * On-demand calibration facility. <p>7. Measurement methodology shall be direct ISE without sample dilution.</p> <p>8. Measurement ranges shall be at least:</p>

****Serum / Plasma / Whole Blood****

- * Na+: 20–200 mmol/L
- * K+: 0.2–40 mmol/L
- * Cl⁻: 25–200 mmol/L
- * Ca⁺⁺: 0.1–6.0 mmol/L
- * Li+: 0.2–5.0 mmol/L

9. Display resolution:

- * Na+: 0.1 mmol/L
- * K+: 0.01 mmol/L
- * Cl⁻: 0.1 mmol/L
- * Ca⁺⁺: 0.01 mmol/L
- * Li+: 0.01 mmol/L

10. Reproducibility (within run):

- * Na+: CV <1%
- * K+: CV <2%
- * Cl⁻: CV <2%

11. Reproducibility (between run):

- * Na+: CV <2%
- * K+: CV <2.5%
- * Cl⁻: CV <2.5%

12. Display:

- * Graphic LCD display.
- * Minimum resolution 128 × 64 pixels.

13. Printer:

- * Built-in thermal printer.

14. Internal memory:

- * Minimum 125 patient results.
- * QC storage for normal, low and high controls.

15. Communication:

- * RS232 communication interface.

Country of origin should be USA/Europe/Japan

3 years Warranty

7.	Fully Automatic Hematology	<p>Automated Hematology Analyzer (3-Part Differential)</p> <p>Technical Specifications</p> <ol style="list-style-type: none"> 1. Fully automated hematology analyzer capable of performing CBC analysis with 3-part WBC differential. 2. Measurement principles shall include: <ul style="list-style-type: none"> * DC impedance method for WBC counting. * DC impedance method for RBC and platelet counting. * Non-cyanide hemoglobin measurement method. 3. Parameters reported shall include a minimum of: <ul style="list-style-type: none"> * WBC * RBC * HGB * HCT * MCV * MCH * MCHC * PLT * LYM% * MXD% * NEUT% * LYM# * MXD# * NEUT# * RDW-SD * RDW-CV * PDW * MPV * PCT * P-LCR 4. Throughput: Minimum **60 samples per hour**. 5. Sample aspiration volume: <ul style="list-style-type: none"> * Whole blood mode: **≤50 μL** * Prediluted mode: **≤20 μL** 6. Sample identification capability of at least **15 alphanumeric characters**. 7. Quality control:
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		<p>* Support for low, normal and high control materials. * Storage of at least **60 QC files with 6 lots** or equivalent.</p> <p>8. Data storage capacity:</p> <p>* Minimum **35,000 patient results with histograms**.</p> <p>9. Built-in thermal printer shall be provided.</p> <p>10. Display shall provide numerical results, histograms and analyzer status information.</p> <p>11. Communication interfaces shall include:</p> <p>* Ethernet (LAN) connectivity. * RS-232 serial communication. * Barcode reader connectivity.</p> <p>12. Analyzer shall support external host computer communication and LIS integration.</p> <ul style="list-style-type: none"> • Analyzer shall utilize non-cyanide reagents for hemoglobin analysis. • Country of Origin Should be USA/Europe/Japan • 3 years Warranty
8.	HbA1C Analyzer Biosensor for HBA1C	<ul style="list-style-type: none"> • Fully automatic smooth and easy operation • Sample: whole blood. • Embedded thermal printer. • Reasonably accurate results/reports with less test time. • Compatible with our strips a local power supply. (CE, ISO) • 3 years Warranty
9.	Semi-Automatic Chemistry Analyzer	<ul style="list-style-type: none"> • Standard interference filters 6-7 at least with extra portions for optional filters- preferably 340, 405, 505, 546, 578, 620 and 660nm. • Measurement mode: i. Kinetic ii. Two Point Kinetic i. End point with sample blank and with or without reagent blank. ii. With blanking automatic zero setting. • With in-built printer. • Fixed temperature at 37c and with thermoregulatory peltier system. • With a proper calibration and quality control system. • Languages: English is compulsory. • Compatible with local power supply (CE, ISO) • 3 years Warranty
10.	Centrifuge Machine	<ul style="list-style-type: none"> • Operating at an RCF suitable for centrifuging blood and other body fluids. • Fixed angle rotor with 6-12 places. • Can accommodate capped conical tubes as commonly used in a pathology Lab. • Brushing drive induction motor.

		<ul style="list-style-type: none"> • Fitted with timer. • Easy smooth operation with proper balance. <p>Compatible with local power supply. (CE, ISO) 1 year Warranty</p>
11.	Roller Mixer Blood Sample	<ul style="list-style-type: none"> • Rocking and rolling action for complete mixing at variable speeds. • Adjustable speed ranges from 10-70rpm. • 4-10 rollers designed for gentle and efficient rolling, easy to clean. • Continuous and smooth quite operation. • Ambulant temperature range +4c to 60c (adjustable) • Compatible with local power supply. (CE, ISO) • 1 year Warranty
12.	Laboratory Water Bath	<p>Laboratory Water Bath</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> • Bench-top laboratory water bath suitable for routine heating, incubation, sample preparation and temperature control applications. • Usable capacity: 14 litres ±10%. • Internal chamber dimensions shall be approximately: <ul style="list-style-type: none"> ○ Width: 350 mm ○ Depth: 290 mm ○ Height: 140 mm • Temperature operating range: <ul style="list-style-type: none"> ○ Minimum 5°C above ambient temperature to +95°C. ○ Dedicated boiling mode capable of operation at +100°C. • Temperature control shall be through a microprocessor-based PID controller ensuring precise temperature regulation. • Controller shall incorporate an automatic self-diagnostic system with fault indication. • Digital display shall continuously indicate actual and set temperatures. • Integrated digital timer adjustable from 1 minute to at least 99 hours 59 minutes. • Safety system shall include: <ul style="list-style-type: none"> ○ Electronic over-temperature protection. ○ Independent secondary over-temperature protection. ○ Visual alarm indication for fault conditions. • Water bath tank shall be manufactured from high-grade stainless-steel resistant to corrosion and laboratory chemicals. • External housing shall be constructed from textured stainless steel or equivalent corrosion-resistant metal finish. • Unit shall be supplied complete with a gabled (pitched) stainless-steel cover/lid designed to minimize condensate dripping into samples. • Heating system shall provide uniform temperature distribution throughout the bath. • Equipment shall be suitable for continuous operation.

		<ul style="list-style-type: none"> • Power supply: 220–240 V AC, 50/60 Hz. • Country of Origin: USA/EUROPE/JAPAN
13.	General Purpose Laboratory Centrifuge	<ul style="list-style-type: none"> • Operating at an RCF suitable for centrifuging blood and other body fluids. • Fixed angle rotor with 6-12 places. • Can accommodate capped conical tubes as commonly used in a pathology Lab. • Brushing drive induction motor. • Fitted with timer. • Easy smooth operation with proper balance. • Compatible with local power supply. (CE, ISO) • 1 year Warranty
14.	Blood Culture Machine UK/USA/EU/JAPAN	For Microbiology
15.	Phantom head with complete dental station Country of Origin: US, UK, JAPAN, EUROPE	<p>Description: The Simulation Complex is intended for dental students at the preclinical and clinical stages of training; for improving manual and theoretical skills in all areas of dentistry; and for training cadets, residents, postgraduate students, interns, doctors during specialization and certification, as well as dental assistants, in order to develop and maintain stable skills in performing dental procedures with various clinical cases and complications.</p> <p>Description of one equipment set: Mobile block housing of the simulator on wheels, pcs. Phantom torso with shoulders, pcs. Anatomically correct phantom head Set of replacement jaws for practicing therapy and prosthodontics Set of replacement jaws for practicing anesthesia and aspiration skills Removable flesh-colored silicone mask Built-in tablet computer with augmented reality software Compressor built into the simulator block housing for compressed air supply, pcs. Built-in intraoral camera A dentist's unit including a set of dental instruments for the dentist Assistant's unit including a set of dental assistant's instruments Light-curing lamp Monitor Pantograph arm for shadowless light Shadowless light Water circulation system containers Dental pedal</p> <p>Phantom head Mechanism for fixing the head in a specified position Limit stop for neck joint movements</p> <p>Removable articulated block of the upper and lower jaws has anatomically correct temporomandibular joint simulators allowing lower jaw movements to be simulated according to the spatial curve of the canine path</p> <p>Number of standard lower-jaw positions of the jaw articulator</p>

fully closed
 fully open, with distance between upper and lower incisors
 Training gnathological anatomical elements:
 - Frankfort horizontal;
 - Camper's plane;
 - Bonwill triangle;
 - Wilson curve;
 - Spee curve

Lower jaw opening parameters according to Posselt's diagram with reproduction of laterotrusive, mediotrusive and protrusive movements

Simulation of the cervical ligament for practicing gingival retraction
 Simulation of the cervical ligament around the entire circumference of the tooth neck
 Passive insertion of the retraction cord into the sulcus (simulation of a mixed gingival biotype)
 Insertion of the retraction cord is performed with a packer along the tooth axis
 Posterior teeth have supporting and protective cusps expressed by first-order fissures
 On posterior teeth, cusps are divided by second- and third-order fissures into ridges
 Supporting and protective cusps in the anterior region are expressed by perikymata, mamelons, ridges, rolls and blind pits
 Gum material allows impressions to be taken
 Teeth are fastened with screws
 Possibility to replace teeth individually

Sensor contact pad indicating the correct anesthesia injection point
 Incisive anesthesia
 Palatal anesthesia
 Tuberal anesthesia
 Infraorbital anesthesia
 Mandibular anesthesia
 Torus anesthesia
 Gow-Gates anesthesia
 Mental anesthesia

17 sensors at anesthesia sites

Containers with blood-simulating fluid in the areas of anesthesiologic injections are anatomically correctly located within the oral mucosa:

Capability to perform an aspiration test during mandibular and tuberal anesthesia using a wireless carpule syringe simulator

Capability of pneumatic system operation from the compressor built into the simulator housing
 Capability to connect the simulator pneumatic system to an existing external pneumatic line

		<p>LCD monitor: system for visualizing the working area using an intraoral camera. Water circulation system containers</p> <p>Compressor built into the simulator block housing to provide pressure and compressed air supply</p> <p>Dentist instrument unit Buttons for lowering/raising the human torso model on a movable bracket Control unit for dental instrument parameters (micromotor and turbine rotation speed, water supply and shutoff, micromotor reverse, scaler power) Turbine handpiece Turbine hose for turbine handpiece</p> <p>Light-curing ultraviolet lamp Shadowless lamp Intraoral camera Dentist/assistant chair:</p> <ul style="list-style-type: none"> • Height adjustment • 3 years Warranty
16.	<p>Basic Phantom Heads Imported</p>	<p>Basic Phantom Heads The phantom head can be fully moved up and down, rise and fall by electricity. Two sets of memorial position can be setup freely. With function of moving up and down, rise and fall, the user can take clinic simulator test and finish 9 degree and 12-degree education. The user can feel real during the simulator test process. Phantom head, it can be used during the simulator dentistry diagnoses and cure process and is always following the latest teaching material. What's more, with kinds of assistant educational appliance it will take more advantages for education</p> <p>Standard accessories: High speed handpiece tube Low speed handpiece tube 3-way syringe Water purification system Weak suction system Multifunctional Foot switch LED lamp Dental St Cool (metal foot) Mobile unit for phantom head complete Workbench (metal frame) Built in power socket & USB connector</p> <p>Should be completely Imported. 3 years Warranty</p>

17.	Phantom Head Teeth	Imported
18.	Virtual Anatomy Dissection table	<p>*Compulsory feature At least 5 units of the quoted hardware model should be installed across Pakistan.</p> <p>Anatomy table is a large, immersive and interactive touch device that provides optimal touch interaction and visualization to further enhance the experience and performance of virtual anatomy software. It features a large 75” monitor with an electrical tilt function and a 4K capacitive touchscreen, vastly improving the sense of interaction with the visualized data.</p> <p>Anatomy table is a large, immersive and interactive touch device that provides optimal touch interaction and visualization to further enhance the experience and performance of virtual anatomy software. It features a large 75” monitor with an electrical tilt function and a 4K capacitive touchscreen, vastly improving the sense of interaction with the visualized data.</p> <p>Hardware specs Includes:</p> <ul style="list-style-type: none"> ○ 75 Inches 4K resolution screen with multi touch feature ○ Protective coating on the display ○ Integrated speakers on the system ○ i5 13th Generation PC ○ NVIDIA Graphics card with 6GB VRAM ○ 32 GB system RAM ○ 512GB SSD for storage ○ Operating system Windows 11 ○ Trolley base with caster wheels ○ Hydraulics systems for vertical and horizontal motion ○ UPS for power backup ○ Display can be extended up to three more external screens <p>Software modules include:</p> <ul style="list-style-type: none"> ○ Complete male and female Human atlas which includes: ○ Cardiovascular system ○ Respiratory system ○ Lymphatic system ○ Musculoskeletal system ○ Nervous system ○ Digestive system ○ Urinary system ○ Reproductive system ○ Additional Features in digital human atlas includes: ○ Bone mapping and surfaces and landmarks ○ Muscle insertion and origin points <ul style="list-style-type: none"> ○ Virtual dissection on the human body to explore the underlying structures.

- **Virtual Cadaver**, compiled 10,000 CT scan slices of a real human cadaver through software and presented to teach human anatomy in utmost realistic details.
- **Radiology**, System for viewing DICOM images with tools for handling radiological studies and clinical cases. It allows viewing images of different modalities such as CT scans, Magnetic Resonances, X-rays.
- **PACS Integration**, our APEX anatomy table can be integrated with the hospital PACS system that allows for real patient cases from the university hospital to be taught to the students in safe classroom environment
- **3D reconstruction of the images**, Our APEX ANATOMY TABLE can transform and reconstruct the CT and MR images into a 3D structure for students to dissect the body and study the different pathology of REAL PATIENT SCAN. This allows the student to understand the internal pathology in more detail and compare normal body scans with pathological conditions
- **Physiology**, visualize the working of the human body and microscopic detail. From the basic beating heart to unique muscle fiber contraction, synaptic transmission and much more. These physiology modules are unique with APEX ANATOMY TABLE only
- **Microanatomy**, state of the art micro anatomy structures from eyes, ears, skin to all the systems micro anatomy structures such as nephrons, Bone Layers, Small intestine cross section, Touch Receptors, Alveolus
- **Histology and Histopathology**, having more than 200 in the system already built of glands, organs, tissues and systems, and slides with pathologies in that can be zoomed up 400x without any damage to the quality of the image of slide. Student can mark the points on the slides, measure the distance between point A to point B on the slide and make notes. Detail content of each slide is also given in text.
- **Pathologies**, explore a wide range of diseases and abnormalities through detailed, high-resolution 3D models. It allows comparison between normal and pathological anatomy,
- **Muscle Movement**, allows users to visualize real-time, dynamic muscle actions, helping them understand how individual muscles and muscle groups work during different movements. By simulating contraction and relaxation, this feature demonstrates functional anatomy in an interactive way, making it easier to grasp complex biomechanical concepts.
- **Embryology**, provides an interactive, step-by-step visualization of human development from early fertilization to advanced fetal stages. It allows users to explore critical developmental processes, organ formation, and anatomical

		changes over time in detailed 3D models. 3 years Warranty
	Prosthodontics: List of Equipment for Clinical area casting room and ceramic Laboratory.	
19.	Duplicating and Hardening Machine	Four zone heating system. Three temperature sensors control and monitor the temperature in the duplicating material container. Chamber dimension: Height=360-370mm, Width=300mm,360mm Capacity 3-6kg. Three micro compressor temperature control levels with two tubs of 5-6kg capacity each. Two duplicating flasks 3 years Warranty
20.	Casting Machine	Casting system using vacuum and argon gas pressure. Capacity of casting wide range of alloys (Silver alloy, Chrome cobalt alloy, etc) Ability to perform wide variety of casting like crown and bridges and dentures. Fast and safe. Dimensions Width=400-450mm, Depth=550-600mm, Height=450-500mm Clear view of ally fusion process Touch button control panel Timed end cycle shutdown of the cooling pump. Vibration free Auto standby function when idle. With all accessories like different sizes of crucibles for different purposes. (Germany, France, USA, Japan) 3 years Warranty
21.	Articulators along with Face bows	Hanau Semi-adjustable. Light and resistant to corrosion Opening and closing system permits adaptation to each patient. Removable and autoclavable ear pieces, bite fork and orbital pointer. Graduated condylar rods Anatomic nose support. (Germany, France, USA, Japan) 3 years Warranty
22.	Bioart A7 Plus Articulator and facebow	
23.	Fully Adjustable Articulator	
24.	Chairside air abrasion handpieces	
25.	Die & Cast system	
26.	Hammers	
27.	Electric curing Machine	
28.	Electric Die saw	
29.	Dental Cast surveyor	
30.	Gutta core with oven	
31.	Plaster Models mold upper lower	
32.	Electro polishing bath	A Complete 3-Station Electro polishing System. Corrosion resistant parts with a mid-Volume output. Push-Button operation and a built-in digital timer. Total maximum polishing output of 24-volt DC at 10-25 amps. Stainless steel cabinets which should be corrosion resistant. Three years warranty on all parts with free

		<p>labor. A cooling fan built into the unit. Digital temperature control for greater precision. A digital timer. Cabinet dimensions: 12-15Wx17-25Lx18-30H. Tank volume: 1-3 gallons. Current Capacity: 25-100amps. Construction all stainless steel. RFI/EMI filtered. UL listed. Electrical 120Volt. Auxiliary tank— (Optional) 3 years Warranty</p>
33.	Vacuum mixer	<p>For mixing investment material, plaster and duplicating material Optimal vacuum capacity of approx. 100 mbar Maintenance free diaphragm pump Coupling for mixing bowl 250-300ml, 550-600ml, 835-850ml With pre and post evacuation options. (Germany, USA, France) 3 years Warranty</p>
34.	Sand-Blasting Machine	<p>Three interchangeable nozzles for different size of blasting materials. Illuminated chamber with dust protected tubular lamp with long service life Quadruple filter system for high extraction High collection capacity of pre filters 1.5-5kg. Option for connection to the central suction extraction system. Filters, gasket, rubber plug, paper filters (10), fuses, spare extra nozzles, spare windows, 250 corundum blasting materials 20kg, 110 size corundum blasting material 20 kg. (Germany, USA, France) 3 years Warranty</p>
35.	Electric wax knife	<p>Easy to use Excellent heat conductivity Long service life Easy to use and visible control buttons. Accurate temperature maintenance with reset function. Built in digital CPU circuit accurately maintains desired temperature Digitally displays temperature in either Celcius or Farenheit Previous working temperature is kept in memory, even if the unit has been turned off Usable with AC 100-240 V without additional adjustment Light handle Translucent compartment in rear of unit for easy storage of carving tips 2 waxing tips Exchangeable tips (Germany, USA, France) 3 years Warranty</p>
36.	Porcelain furnace	<p>Multiple free programs, Pre Heat temperature 0-600 C, Preheat 0-30 minutes in 6 steps Fast internal pre heat time, Start vacuum 0-1000 C, Vacuum levels 0-99%. Release vacuum 0-1200 C. Final temperature 0-1200 C. Timed final temperature 0-30mins. Internal cooling time 0-10min. External cooling time 0-60 min in 6 steps. Automatic standby 0-60 min. Dimensions: H*W*D=520-600*300-350*420-550mm Vacuum pump for ceramic. Type of pump: Oil tank hermetically sealed Outflow 35 liters (France, Germany, USA) 3 years Warranty</p>

37.	Preheating furnace for crown and bridge and partial denture (C.C Plates)	<p>Microprocessor controlled temperature regulation with digital display</p> <p>Preheating temperature at least up to 1100 C</p> <p>Maximum capacity of the mold chamber 100 MP</p> <p>Option of multiple individual program to be set</p> <p>Multiple temperature holding levels can be entered</p> <p>Programmable heating rate, linear heating rate of 1-9 C/min</p> <p>Clock time for desired casting readiness can be specified, optical and acoustic signal for end program.</p> <p>Corrosion resistant casting of stainless steel</p> <p>Connection piece and timer for regular suction extraction, switch off temperature can be set in every stored program</p> <p>3 years Warranty</p>
38.	Dental Surveyor	1 swivel arm, two articulated joints, Model holder, 1 wax chisel, Scanning needle probe, 3 undercut gauges, 1 carbon marker, holder. (Germany, USA, Japan) 3 years Warranty
39.	Dental Model Vibrator	Imported
40.	Rings for casting	<p>Stainless steel 1x=35*35 (10 pcs), 2x=38*58 (10 pcs), 3x=48*58 (10 pcs), 6x=65*55 (10 pcs), 9x=80*55 (10pcs)</p> <p>Universal rubber sprue former for rings. 1x, 2x, 3, 6x, 9x.</p>
41.	Free expansion silicon ring with plastic sprue bases	1x=30*55(6pcs), 3x=48*55 (6pcs), 6x=65*55(6 pcs), 9x=80*55(6 pcs)
42.	Free expansion plastic rings with plastic sprues	34*55 (6 pcs), 50*55 (6 pcs), 75*70 (6 pcs)
43.	Crucible holders	5 pcs
44.	Crucible tongs	5 pcs
45.	Self-locking tongs for rings	30mm, 80 mm
46.	FULLY DIGITAL DENTAL 3D PRINTER UK/USA/EU/JAPAN	<p>A. Resin-Based Dental 3D Printer (Latest Generation)</p> <p>1. Printing Technology</p> <ul style="list-style-type: none"> · DLP / LCD / SLA (high-resolution dental grade) · UV wavelength: 385 nm or 405 nm (monochrome) · Light engine accuracy: ≤ 50 microns <p>2. Printing Resolution</p> <ul style="list-style-type: none"> · XY Resolution: ≤ 50 microns · Layer Thickness: 25-100 microns (adjustable) <p>3. Build Volume</p> <ul style="list-style-type: none"> · Minimum: 120 × 70 × 150 mm <p>(Larger volume preferred for multiple arches)</p> <p>4. Compatible Dental Resins</p> <p>Must support medically certified (Class I / Class IIa) resins for:</p> <ul style="list-style-type: none"> · Dental models · Surgical guides (biocompatible) · Splints & nightguards · Denture base & teeth resin

		<ul style="list-style-type: none"> · Temporary crown/bridge resin Castable resin (for metal frameworks) Tray resin for custom trays · Gingiva resin 5. Software & Connectivity · Slicing software with automatic supports · STL/ PLY / OBJ file support Direct integration with intraoral scanner · Wi-Fi / LAN connectivity 6. Speed · Ability to print full arch dental model in < 40-50 minutes 7. Accessories (Mandatory) UV Curing Unit: <ul style="list-style-type: none"> 360° multi-directional curing Temperature-controlled chamber 385/405 nm compatibility Washing Unit: <ul style="list-style-type: none"> IPA / bio-safe cleaning solution o Basket and automatic agitation Starter Resin Kit 3 years Warranty
47.	Metal Dental 3D Printer (SLM / DMLS Technology) UK/USA/EU/JAPAN	<p>Used for permanent prosthodontic frameworks</p> <ol style="list-style-type: none"> 1. Printing Technology <ul style="list-style-type: none"> · Selective Laser Melting (SLM) / Direct Metal Laser Sintering (DMLS) · Laser Type: Fiber Laser 300 W (preferably 500 W) 2. Printable Dental Metals <ul style="list-style-type: none"> · Cobalt-Chromium (Co-Cr) Dental Alloy (mandatory) · Titanium Grade 5 (Ti-6Al-4V) (optional but preferred) · Stainless steel (optional) 3. Accuracy & Print Quality <ul style="list-style-type: none"> · Accuracy: ± 20-40 microns · Part Density: ≥ 99% · Layer Thickness: 20-50 microns 4. Build Plate Size <ul style="list-style-type: none"> · Minimum: 70 x 70 × 70 mm <p>(Larger preferred for multiple frameworks)</p> 5. Applications Required <ul style="list-style-type: none"> · Metal crowns & bridges · Implant bars & abutments · Full-arch frameworks · RPD frameworks · Copings · Custom metal trays 6. Powder Handling & Safety <ul style="list-style-type: none"> · Closed-loop inert gas environment (argon/nitrogen) · Auto powder recycling system

		<ul style="list-style-type: none"> · HEPA filtration system <p>7. Software</p> <ul style="list-style-type: none"> · Dental CAM software · Auto-support generation · STL/ 3MF compatibility <p>8. Post-Processing Equipment (Mandatory)</p> <ul style="list-style-type: none"> · Sandblasting unit · Ultrasonic cleaner <p>Vacuum sintering furnace (for Co-Cr if required) Milling/finishing handpiece Protective PPE kit 3 years Warranty</p>
48.	Spectrophotometer	<ol style="list-style-type: none"> 1. Device Type <ul style="list-style-type: none"> • Chairside dental spectrophotometer • Non-contact or minimal-contact optical measurement • Designed specifically for dental shade analysis 2. Measurement Technology <ul style="list-style-type: none"> • Spectral range: 380–780 nm • Spectral resolution: Minimum 10 nm • Output: CIE L*, a*, b* values • <input type="checkbox"/> E (color difference) capability • Built-in calibrated LED light source, independent of ambient light 3. Shade Matching Capabilities <ul style="list-style-type: none"> • Must support VITA Classical A1–D4 and VITA 3D-Master systems • Should analyze incisal, middle, and cervical thirds • Multi-zone shade mapping 4. Accuracy and Reproducibility <ul style="list-style-type: none"> • Repeatability error: <input type="checkbox"/> E <input type="checkbox"/> 1.0 • Accuracy: <input type="checkbox"/> E <input type="checkbox"/> 2.0 • Automatic calibration unit included 5. Display and Output <ul style="list-style-type: none"> • On-device display or wireless connectivity to tablet/laptop • Outputs L*a*b*, <input type="checkbox"/> E, and shade match results • Export formats: PDF, JPEG, or data export • USB/Bluetooth preferred 6. Clinical Functions <ul style="list-style-type: none"> • Ability to measure natural teeth, ceramics, composites • Suitable for crowns, bridges, veneers, dentures, and implant prosthetics • Ability to function without influence of external lighting

		<p>7. Additional Requirements</p> <ul style="list-style-type: none"> • Calibration block included • Autoclavable or disposable infection-control tips • Rechargeable battery with 1–2 hours operation • Internal memory for minimum 100 measurements <p>8. Software</p> <ul style="list-style-type: none"> • Windows or Android-compatible • Patient record storage • Shade comparison tools • Cloud backup (optional) <p>9. Warranty & Support</p> <ul style="list-style-type: none"> • Minimum 1-year warranty • Local service support • Availability of replacement calibration parts 3 years Warranty 																		
49.	3D Intra Oral Scanner	<p>For seamless integration into dental CAD/CAM workflows, an intraoral scanner must have a core set of features focused on accuracy, speed, software compatibility, and ease of use. The latest intraoral scanners are characterized by high accuracy (sub-20 microns), fast scanning speeds (full arch in under a minute), and ergonomic, lightweight designs. They feature advanced connectivity, AI-powered software, and robust hygiene protocols.</p> <p><u>Core Technical Specifications</u></p> <table border="0"> <tr> <td>Feature</td> <td>Specification Details</td> </tr> <tr> <td>Accuracy</td> <td>High precision, often sub-20 microns (µm)</td> </tr> <tr> <td>Scanning Speed</td> <td>Full-arch scans typically take 30-60 seconds.</td> </tr> <tr> <td></td> <td> <ul style="list-style-type: none"> • True Color Capture (50-70 fps) • Powder-free operation </td> </tr> <tr> <td>Technology</td> <td>structured light or laser light projection (Confocal / Parallel Confocal / Active Triangulation) with 3D-in-motion video technology to capture thousands of images per second.</td> </tr> <tr> <td>Light Source</td> <td>Primarily uses white or blue LED and laser light.</td> </tr> <tr> <td>Output Data Format</td> <td>Open architecture systems typically export standard STL, OBJ, and PLY files for universal compatibility with CAD/CAM software.</td> </tr> <tr> <td>Connectivity</td> <td>Predominantly USB 3.0 (Type-A or Type-C) or wireless via Wi-Fi 6 for enhanced mobility.</td> </tr> <tr> <td>Ergonomics</td> <td>Lightweight handpieces (often between 124g to 300g with battery) and a small, often autoclavable, tip for better patient comfort and access</td> </tr> </table>	Feature	Specification Details	Accuracy	High precision, often sub-20 microns (µm)	Scanning Speed	Full-arch scans typically take 30-60 seconds.		<ul style="list-style-type: none"> • True Color Capture (50-70 fps) • Powder-free operation 	Technology	structured light or laser light projection (Confocal / Parallel Confocal / Active Triangulation) with 3D-in-motion video technology to capture thousands of images per second.	Light Source	Primarily uses white or blue LED and laser light.	Output Data Format	Open architecture systems typically export standard STL, OBJ, and PLY files for universal compatibility with CAD/CAM software.	Connectivity	Predominantly USB 3.0 (Type-A or Type-C) or wireless via Wi-Fi 6 for enhanced mobility.	Ergonomics	Lightweight handpieces (often between 124g to 300g with battery) and a small, often autoclavable, tip for better patient comfort and access
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		<p>to posterior areas.</p> <p>Hygiene Features include autoclavable, hygienically sealed tips (up to 100+ cycles) and single-use protective sleeves to minimize cross-contamination.</p> <p>Advanced Features</p> <p>AI-Powered Software: Machine learning algorithms help automatically filter out unnecessary soft tissues (like the tongue or cheeks), identify preparation margins, and register bites, resulting in cleaner and faster scans.</p> <p>Calibration-Free Operation: scanners, such as the 3Shape TRIOS 5.</p> <p>Integrated Diagnostics: scanners incorporating multi-modal imaging, such as near-infrared imaging (NIRI) or fluorescence technology, to aid in the detection of interproximal or occlusal caries (cavities) without X-rays.</p> <p>Haptic Feedback: Subtle vibrations and LED indicators guide the user during the scanning process, ensuring optimal distance and angle for data capture.</p> <p>Wireless Operation: Enhanced battery life and wireless connectivity options. 3 years Warranty</p>
50.	Extraoral Dental Scanner	<p>The latest technical specifications for dental extraoral scanners focus on high precision, speed, and seamless integration into digital workflows. Key features often include blue or white light scanning, high-resolution cameras, and open system compatibility for versatile use.</p> <p>General Technical Specifications</p> <p>While specifications vary by manufacturer and model, recent extraoral scanners generally share the following characteristics:</p> <p>Accuracy (Trueness & Precision): ≤ 7 microns, • 3-axis/5-axis scanning</p> <ul style="list-style-type: none"> • Impression + cast scanning <p>Scanning Technology: Most modern extraoral scanners use structured light technology, commonly with blue light LED or white light sources, which is highly accurate and does not require powder application.</p> <p>Cameras: Devices often incorporate multiple high-resolution cameras (e.g., 2x 5MP or 4x 5MP) to capture detailed data points per area.</p> <p>Output Format: Scanners are typically "open systems," exporting data in standard formats like STL, OBJ, and PLY, ensuring compatibility with various CAD/CAM software (e.g., exocad, 3Shape) and 3D printers.</p> <p>Field of View (FoV): Typical scanning areas can range, but common examples are around 100mm x 100mm x 75mm for comprehensive model capture.</p> <p>Scanning Speed: Multi-axis motion and efficient software algorithms enable fast and automatic scanning of dental casts or impressions. < 20 sec per arch</p> <p>Connectivity: Connection is often achieved via USB 3.0 for high-speed data</p>

		<p>transfer.</p> <p>Common Associated PC Requirements</p> <p>Extraoral scanners require robust computer systems for processing the large datasets. Recommended PC configurations for optimal performance include: CPU: Intel Core i7-8700 or higher RAM: 16GB or 32GB (recommended) Hard Drive: 256 GB SSD or above GPU: NVIDIA RTX 2060 6GB DDR3 or higher Operating System: Windows 10 Professional (64-bit) or later</p> <p>Key Trends & Features</p> <p>Integration: The trend is towards a seamless digital workflow where extraoral scans (e.g., facial scans with devices like the Meti Smile face scanner) are integrated with intraoral scans and CBCT data for comprehensive diagnosis and treatment planning.</p> <p>Automation & AI: Advanced software uses AI to process and optimize scan data, offering features like automatic detection of scan types and improved processing.</p> <p>High Reliability: Studies show modern extraoral scanners possess excellent intra-operator and inter-examiner reliability, consistently reproducing complex dental and facial geometries. 3 years Warranty</p>
51.	Digital Articulator System	<p>Key specifications and advancements for the latest digital articulators include:</p> <p>Key Technical Specifications</p> <p>Data Acquisition Integration: Seamless integration with modern intraoral scanners (IOS), facial scanners, and Cone Beam Computed Tomography (CBCT) data to build a complete virtual patient. This eliminates many manual steps prone to error.</p> <p>Mandibular Movement Analysis: Ability to record and simulate patient-specific, dynamic mandibular movements (protrusion, retrusion, laterotrusion, mastication) in real-time. This is often achieved using electronic jaw motion analyzers (e.g., Zebris, Mod jaw, Planmeca 4D jaw motion systems) that use optical tracking or sensors.</p> <p>Accuracy: High precision in replicating jaw relationships, with studies showing deviations typically within 1 mm, and often less than 100 µm (0.1 mm), which is considered clinically insignificant and often more accurate than traditional methods.</p>

		<p>Software Capabilities:</p> <p>Occlusal Analysis: Detailed analysis of static and dynamic occlusion, including force sites and frequency of contacts.</p> <p>Collision Detection: Advanced algorithms for identifying and correcting occlusal collisions during virtual movements, optimizing prosthesis design.</p> <p>AI Integration: Emerging use of Artificial Intelligence (AI) and machine learning to refine diagnosis, improve data superimposition, and enhance treatment predictability.</p> <p>Open Architecture: Compatibility with a wide range of scanners, 3D printers, and milling machines (CAD/CAM systems), offering flexibility in the digital workflow. Integrates with Exocad/3Shape</p> <p>Adjustability: Capability to function as both mathematically simulated (mean value) and completely adjustable articulators, allowing customization of parameters like condylar inclination (0–60°), Bennett angle (0–30°), and intercondylar distance (90–150 mm) for a patient-specific simulation.</p> <p>3 years Warranty</p>															
52.	T-Scan system	<p>The T-Scan system is comprised of a sensor, handpiece, and software that integrate to provide a comprehensive digital analysis of a patient's bite.</p> <p>Features required:</p> <ul style="list-style-type: none"> • Wafer-thin for minimal closure interference • High resolution sensels across sensing surface for precise analysis • Durable construction proven to withstand 15-25 closures • Reusable sensor on single patient – Can be cold sterilized between visits • Research proven, repeatable results • Easily inserted into the handle's sensor support • Available in large and small sizes <p>T-Scan Sensor Specifications</p> <p>A system that could utilize high-resolution, reusable sensors available in two sizes (large and small) is recommended.</p> <table border="1" data-bbox="511 1438 1380 1848"> <thead> <tr> <th>Specification</th> <th>Large Sensor</th> <th>Small Sensor</th> </tr> </thead> <tbody> <tr> <td>Thickness</td> <td>0.102 mm (4 MIL)</td> <td>0.102 mm (4 MIL)</td> </tr> <tr> <td>Overall Length</td> <td>153 mm (6.0 in)</td> <td>148 mm (5.8 in)</td> </tr> <tr> <td>Overall Width</td> <td>74 mm (2.9 in)</td> <td>67 mm (2.6 in)</td> </tr> <tr> <td>Sensing Area Length</td> <td>56 mm (2.20 in)</td> <td>50 mm (2.0 in)</td> </tr> </tbody> </table>	Specification	Large Sensor	Small Sensor	Thickness	0.102 mm (4 MIL)	0.102 mm (4 MIL)	Overall Length	153 mm (6.0 in)	148 mm (5.8 in)	Overall Width	74 mm (2.9 in)	67 mm (2.6 in)	Sensing Area Length	56 mm (2.20 in)	50 mm (2.0 in)
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		<p>Sensing Area Width 66 mm (2.60 in) 58 mm (2.30 in)</p> <p>Number of Sensels 1,370 1,122</p> <p>Sensel Resolution 62 sensels/cm² 62 sensels/cm² (400 (400 sensels/in²) sensels/in²)</p> <p>Substrate Polyester (latex-free) Polyester (latex-free)</p> <p>System & Software Specifications (T-Scan with v10 Software) Data Capture Rate: The system captures data at a standard rate of 175 Hz, with a "Turbo Mode" capable of capturing up to 500 Hz for a high-resolution representation of the occlusion.</p> <p>Connectivity: The handpiece connects to any standard USB port for data transfer to a computer.</p> <p>Software Features: The T-Scan v10 software includes numerous advanced features:</p> <p>2D & 3D Displays: Visualizes force percentages by tooth, quadrant, and side, using a color scale from blue (low force) to red (high force).</p> <p>Digital Impression Overlay (DIO): Allows the import of STL files from intraoral scanners to view force data directly on the patient's digital models.</p> <p>Implant Loading Alerts: Provides immediate feedback on potentially problematic forces on implants to help prevent failure.</p> <p>Timing Analysis: Displays the sequence of contacts (first, second, third, etc.) and allows discrete tooth comparisons without manual calculations.</p> <p>Center of Force Trajectory: Instantly visualizes the path and balance of the patient's bite.</p> <p>Reporting: Generates customizable patient reports and MP4 video files of the scan for patient education and referrals. 3 years Warranty</p>
53.	3D Milling Machine	<p>Key features of a 3D milling machine in dentistry include high precision, versatile material processing (e.g., zirconia, PMMA, titanium), automated operation for efficiency, and the ability to produce a wide range of restorations like crowns, bridges, and veneers. These machines combine CAD/CAM technologies to automatically create dental prosthetics from a digital model with speed and consistency.</p> <p>High accuracy and precision: They operate with digital precision, often to the micron level, to ensure restorations are a perfect fit for the patient.</p>

Versatile material processing: Dental milling machines can work with a wide variety of materials, including zirconia, composite, wax, PMMA, and titanium alloys, allowing for different types of restorations.

Automated operation: Many modern machines have automated features like automatic tool changers and material loading to reduce manual labor and improve efficiency.

Speed: They can produce restorations in a short amount of time, sometimes within a single appointment (same-day dentistry), which is faster than traditional methods.

Consistency: The automated process ensures that every restoration is made to the exact same digital specifications, minimizing human error.

CAD/CAM integration: The technology is built on a [Computer-Aided Design](#)/Computer-Aided Manufacturing (CAD/CAM) system, which allows for seamless integration with digital workflows and digital dental models.

Scalability: Milling machines can be used for both single-chairside applications and large-scale production in dental laboratories

Key Milling Machine Specifications

Milling units vary based on application (chairside vs. lab) and materials processed (dry for zirconia/PMMA; wet for glass ceramics/titanium).

Specification	Typical High-End Lab Machine	Typical Chairside Unit
Axes	5-axis simultaneous milling	4 or 5-axis milling/grinding
Spindle Speed	Up to 60,000 - 80,000 RPM	Up to 60,000 RPM
Material Compatibility	Zirconia, PMMA, wax, PEEK, titanium, CoCr, glass ceramics	Glass ceramics, hybrid materials, PMMA
Tool Capacity	10-16 automatic tool changer	3-4 automatic tool changer
Size/Weight	Larger, heavier lab unit (e.g., 117-270 kg)	Compact desktop unit (e.g., 50 kg)
Milling Time	10-20 minutes per unit (approximate)	15-30 minutes per single restoration

3 years Warranty

<p>54. Dental CAD/CAM system</p>	<p>The "best" dental CAD/CAM system depends heavily on whether it is for a dental lab or a chairside clinic, and user preference for open vs. closed systems. The key features of the best cad/cam software include a highly integrated cad/cam environment, powerful 2d and 3d modeling tools like parametric design, advanced cam capabilities such as toolpath simulation and multi-axis machining, cloud-based collaboration and data management, and an intuitive, easy-to-use interface for enhanced productivity.</p> <p><u>CAD features</u></p> <p><u>2D and 3D modeling:</u> The ability to create precise 2D drawings and detailed 3D models is fundamental for design and visualization.</p> <p>Parametric design: This allows for designs to be built around a set of parameters and constraints, making it easy to modify and update the design by changing those parameters.</p> <p>Intuitive interface: A user-friendly interface allows for easier navigation and access to tools without a steep learning curve, improving efficiency.</p> <p>Assembly design: Tools for creating and managing complex assemblies of multiple parts are crucial for many engineering projects.</p> <p><u>CAM features</u></p> <p>Integrated CAD/CAM environment: Having both design and manufacturing tools in a single software package streamlines workflow and reduces the need to switch between different programs.</p> <p>Advanced toolpath strategies: This includes a wide range of options for generating efficient and precise toolpaths for different operations, from simple 2D cuts to complex 3D surfacing and multi-axis machining.</p> <p><u>Simulation and collision detection:</u> The software should allow users to simulate the machining process to identify potential errors and collisions before production begins, which saves time and prevents costly mistakes.</p> <p><u>Post-processors:</u> The ability to generate the correct machine code (e.g., G-code) for various CNC machines is essential for compatibility.</p> <p>Collaboration and management</p> <p><u>Cloud-based collaboration:</u> Cloud integration enables real-time collaboration, remote access, and data sharing among multiple users, regardless of their location.</p> <p>Data management: Features like version control and branching are important for managing design revisions and keeping track of changes, especially in a collaborative environment.</p> <p>Additional features</p> <p>Scalable component libraries: The ability to build and use customizable</p>
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		<p>libraries of standard components can save time and improve consistency.</p> <p>Mobile access: The option to access and work on designs from mobile devices is a significant convenience for some users.</p> <p>Simulation tools: Beyond basic tool path simulation, some software offers advanced tools for simulating various physical properties and behaviors of the design. 3 years Warranty</p>
55.	<p>Laptop compatible with latest digital intraoral scanners and MOD jaw scanners and other digital technologies.</p>	<p>Latest digital intraoral scanners require high-performance computers (laptops) with specific specifications, primarily running windows 10/11 professional 64-bit with a robust intel core i7/i9 or amd ryzen 7/9 cpu, 32 gb of ram, a fast ssd, and a dedicated NVidia GeForce rtx graphics card.</p> <p>General system requirements</p> <p>While specific requirements vary by scanner brand and model, the general consensus for optimal performance includes:</p> <p>Operating system: windows 10 or 11 professional (64-bit) is the standard. Some m</p> <p>Processor (cpu): a powerful, modern processor is essential for fast image processing.</p> <p><i>Recommended:</i> intel core i7 12th/13th gen (e.g., i7-13700h) or amd ryzen 7.</p> <p>Memory (ram): sufficient ram is critical for real-time data handling.</p> <p><i>Recommended:</i> 32 gb or higher for large scans and smooth operation.</p> <p>Graphics card (gpu): a dedicated NVidia discrete graphics card is almost universally required. Amd radeon cards are typically not supported.</p> <p><i>Recommended:</i> NVidia GeForce 3060, rtx 3070, or rtx 4060 (with 8 gb vram or higher).</p> <p>Storage: a solid-state drive (ssd) is mandatory for quick data retrieval and processing.</p> <p><i>Recommended:</i> 512 gb or 1 tb ssd.</p> <p>Ports: at least two usb 3.0 type-a ports are often needed. Some modern scanners like the medit i900 use usb-c/thunderbolt ports that support power delivery (pd) for a direct plug-and-scan experience without a separate power hub.</p> <p>MODJAW specifications</p> <p>The Modjaw Tech in Motion device is a state-of-the-art 4D motion capture system that records real-time jaw movements for precise diagnostics and treatment planning in digital dentistry. It integrates with existing CAD/CAM systems and intra-oral scanners.</p>

		<p>Mod jaw Tech in Motion Specifications</p> <p>The system is primarily software-driven, relying on a high-precision camera and a powerful computer to process dynamic data.</p> <p>Technology: Real-time 4D motion capture (3D plus time).</p> <p>Imaging Hardware: High-precision, high-frequency HD medical camera.</p> <p>Data Input: Compatible with any intra-oral scanner files (STL, PLY, OBJ formats). It also allows for the import of CBCT data and face scan images.</p> <p>Software (TWIM™):</p> <p>Visualization: Dynamic visuals of models in 2D, 3D, and 4D.</p> <p>Analysis: Dynamic mapping of dental contacts, calculation of occlusal curves, automated calculation of posterior determinant parameters (Bennett Angles, condylar slopes, Spee curve), and TMJ hinge axis auto-localization.</p> <p>Workflow: Streamlined integration with major CAD software like Exo cad and 3Shape Unite.</p> <p>Hardware Design: All-in-one medical device with a touch screen PC panel, rotative arm, and a stable cart with a locking system.</p> <p>Functionality and Benefits</p> <p>Dynamic Data: The key feature is the ability to record natural, everyday patient movements like chewing, speaking, and swallowing, rather than just static bite registration.</p> <p>Precision: Eliminates guesswork in restorations, aligners, and full-mouth reconstructions by providing patient-specific functional data.</p> <p>Efficiency: Accelerates the digital dentistry process from planning to execution by seamlessly integrating data into the design and production workflow.</p> <p>Export Options: Allows for the export of static and 4D motion data, enabling a virtual articulator setup in the lab. 3 years Warranty</p>
56.	Digital Photography Kit	<p>The latest technical specifications for digital dental photography center on using DSLR or mirrorless camera systems with specific manual controls, high-resolution sensors, a macro lens, and a dedicated flash system (ring or twin flash) for consistent, high-detail, and color-accurate images.</p> <p>Essential Equipment Specifications</p> <p>Camera Body: A Digital Single Lens Reflex (DSLR) or a modern mirrorless camera body is the gold standard due to manual control, high resolution (minimum of 10-12 MP, but modern cameras offer 20-33 MP or more), and support for high-quality interchangeable lenses.</p> <p>Lens: A macro lens is essential for capturing the fine details and achieving life-</p>

size (1:1) magnification ratios needed for close-up intraoral shots.

Focal Length: An ideal fixed focal length of **85mm to 105mm (or 100-120mm for mirrorless)** provides a comfortable working distance from the patient without causing image distortion.

Flash System: Proper lighting is critical for consistent exposure and accurate color reproduction.

Ring Flash: Provides even, shadowless illumination, ideal for general intraoral photography.

Twin (Bipolar) Flash: Offers adjustable light angles to create subtle shadows that enhance surface texture, useful for detailed shade analysis and revealing anatomy.

Intraoral Accessories: Rhodium-coated mirrors, cheek retractors, and contractors (black background plates) are necessary for clear views and optimal contrast.

Recommended Camera Settings

For professional, standardized results, manual settings are universally recommended.

Setting	Intraoral Recommended Values	Extraoral Recommended Values	Purpose
Aperture (f-stop)	f/22 to f/32	f/8 to f/16	Maximizes depth of field to ensure the entire subject (e.g., full arch of teeth) is in sharp focus.
Shutter Speed	1/200s	1/125s to 1/160s	Fast enough to prevent motion blur and synchronize with the flash.
ISO	100	100 to 200	Keeps image noise (graininess) to an absolute minimum for clear details.
Focus Mode	Manual Focus (MF)	Manual Focus (MF)	Ensures consistent focus on the exact desired area, as autofocus can be unreliable

		<p>in the oral cavity.</p> <p>File Format RAW RAW or JPEG RAW format retains unprocessed image data, crucial for post-processing and legal documentation, while JPEG is quicker for everyday use.</p> <p>White Balance Flash setting Flash setting Ensures consistent and accurate color representation for shade matching.</p> <p>3 years Warranty</p>
57.	Steamers	<p>Boiler in stainless steel 4-5 litres Heat protection with high insulating materials Pipe fitting in stainless steel and copper Electric power cut out in case of water failure Minimum level sensor switch Work pressure 4 bar Safety valve Emission of dry steam. Refilling 3-5 litres water. Fast reaching working temperature (10 min) Gun with hot water dropping protection Hose design for hot temperature and pressure</p>
58.	STEAM STERILIZER 100 L	<p>Steam Sterilizer Microprocessor Controlled, fully automatic Floor unit, Single door autoclave with fractionated pre vacuum. Door opening/closing by motor High quality door gasket no need for air compressor Built in Double Jacketed automatic flushing electric steam Generator. Should has Multi point steam injection and should have a very short cycle time. Internal and external chamber made of high-quality stainless steel and the door should be made of same material i.e. (AISI 316 TI or better). Heating current monitoring High Quality water ring Vacuum pump for deep drying. Current monitoring vacuum pump Cooling water management system Sensor controlled and load-specific vacuum drying Twin Chamber for efficient heat management with booster effect. Energy saving mode.</p>

		<p>Automatic shutdown mode. Automatic start time mode. Capacity: 100 Liter or more Loading quantity for instruments: 35 kg or more Loading quantity for textiles: 7 kg or more Quick cycle program = 17-19 min. Colored touch display 5 - 7" enables an intuitive operation as well as information & malfunctions. Should have at least 5 Standard Sterilization programs of 121 C & 134 C & 3 Test programs. Measurement of Pressure & temperature highly précised PT1000 sensors. Identification of personnel by PIN code Fully automatic Motorized door lock. Automatic Water Quality Monitoring Sensor before each cycle. Must has built in water treatment system. Media Monitoring Sensor in case of low water pressure. Visual and acoustic information on machine in case of any malfunction. Build in thermal degasification system. Independent Documentation system. Should be able to store at least last 120 cycle data. The Unit must have de gassing function. Communication interface, LAN for connecting printer/computer system & built in CF Card for data log. Should have option to connect directly to bar code label printer without further software Should Fully compliance according to DIN EN 285: 2009; EN 17665 and 93/42 EEC European Directive for Medical Devices. Standard Accessories: 1 x Mesh Wire Basket (1 STU) 1 x Loading Cart 2 x SS/Aluminum Trays for instruments. 1 x Transport trolley System Should include Standard Accessories & trays. Power supply: 3x380-416 V, 50 Hz, Note: The Country of origin of all quoted equipment should be USA/Western Europe/Japan. 3 years Warranty</p>
59.	STEAM STERILIZER 200 L	<p>Steam Sterilizer Microprocessor Controlled, fully automatic Floor unit, Single door autoclave with fractionated pre vacuum. Door opening/closing by motor High quality door gasket no need for air compressor Built in Double Jacketed automatic flushing electric steam Generator. Should has Multi point steam injection and should have a very short cycle time. Internal and external chamber made of high-quality stainless steel and the door should be made of same material i.e. (AISI 316 TI or better).</p>

		<p>Heating current monitoring High Quality water ring Vacuum pump for deep drying. Current monitoring vacuum pump Cooling water management system Sensor controlled and load-specific vacuum drying Twin Chamber for efficient heat management with booster effect. Energy saving mode. Automatic shutdown mode. Automatic start time mode. Capacity: 200 Liter or more Loading quantity for instruments: 70 kg or more Loading quantity for textiles: 14 kg or more Quick cycle program = 19-22 min. Colored touch display 5 - 7" enables an intuitive operation as well as information & malfunctions. Should have at least 5 Standard Sterilization programs of 121 C & 134 C & 3 Test programs. Measurement of Pressure & temperature highly precised PT1000 sensors. Identification of personnel by PIN code Fully automatic Motorized door lock. Automatic Water Quality Monitoring Sensor before each cycle. Must has built in water treatment system. Media Monitoring Sensor in case of low water pressure. Visual and acoustic information on machine in case of any malfunction. Build in thermal degasification system. Independent Documentation system. Should be able to store at least last 120 cycle data. The Unit must have de gassing function. Communication interface, LAN for connecting printer/computer system & built in CF Card for data log. Should have option to connect directly to bar code label printer without further software. Should Fully compliance according to DIN EN 285: 2009; EN 17665 and 93/42 EEC European Directive for Medical Devices. Standard Accessories: 2 x Mesh Wire Basket (1 STU) 2 x Loading Cart 4 x SS/Aluminum Trays for instruments. 1 x Transport trolley System Should include Standard Accessories & trays. Power supply: 3x380-416 V, 50 Hz, Note: The Country of origin of all quoted equipment should be USA/Western Europe/Japan. 3 years Warranty</p>
60.	Handpieces	<p>Stainless steel body Clean head system ISB turbine</p>

		<p>Water spray Push button Power= 16 Watts Speed= 380,000-450,000 rpm Mini head size: W= 10.6mm*H=12.4mm Easy replacement of cartridge LED light option if possible</p>
61.	Portable x-ray with scanner	<p>X-ray Generator: Tube voltage: 60 Kv (fixed) Tube current: 3 mA (fixed) High voltage generating circuit: High frequency inverter method X ray control method: Controlled by micro processor Time setting range: 0.01 – 1.6 second (0.01 sec step) X-ray tube: Type: Stationary anode x ray tube X-ray tube focal size: 0.8mm Target angle: 20 degrees Total filtration: 1.6 mm Al (inherent filtration: 0.8 mm Al, Fixed added filtration: 0.8 mm Al) Also Include: Back scatter shield Low radiation Variable customizable presents Rechargeable battery Light weight upto 5 lbs Use with digital scanner or film</p>
62.	Dental Dewaxing bath	<p>Double walled, outside and inside body made of stainless steel Temperature controlled with digital display and controller cum digital timer. Alarm at end of operation time Drain valve for dewaxing Work on 220-230 volts AC Inner side 300-350*250-300*350-400 mm Temperature controlled with hydraulic thermostat from 5 C above ambient to 100 C with a sensitivity of 5 C Timer can be set from half hour to 2 hours</p>
63.	Thermostatically controlled water bath for Acrylic Curing	<p>Capacity 3-5 Liters Temp range: 0-180 C Bench top Temp control: heating Bath shape in accordance to flask geometry 1350 Watts</p>
64.	Ultrasonic Debridement Bath	<p>Low noise Weight: 3-4 kg Typical generator peak output: 240 Watts Power consumption: 120 watts Operating frequency: 50 Khz</p>

		Timer: 0-15 mins Volume: 2-2.75 L
65.	Dental loupes with head bands	Magnification power: 2.5x-4x Working length: 340mm-420mm Option for attached head bands Adjustable to operator
66.	Vacuum former	Easy-to-use system Uses 5"x5" resin sheets Available in 110 Volt and 220 Volt Machine weight: 20-30 lbs. Machine size: 14 -15" x 8-10" x 10-12" Symmetrical heating system Lightweight, rust-free aluminum frame
67.	Physio dispenser for Implant.	
68.	Individual Instruments Wrapping/Packing Machine	
69.	Auto Clave USA/Japan/Germany/EU	High Speed (Fast cycles), 20 To 24 liters capacity/extra capacity (optional). Advanced control, lifelong durability, water quality check, chamber stainless steel highly polished, data management data for 100to 300 cycles is downloadable to USB memory. Built in printer/with external printer facility will also acceptable. Top/Front water filling. Built in freshwater storage container. Built in waste water storage container. Fully automatic autoclave 4 to 8 sterilization programs. Temperature control accuracy: 134°C-137°C Power Supply: 230V, 50Hz, 2,000 to 2500 Watt. Accessories: 4-6 piece of trays compatible with the steam sterilization. One piece of holder for unloading of trays. 3 years Warranty
70.	Crash Cart Trolley	Imported
71.	Micromotor (Bench top)	
72.	Lathe Machine with cutting stones	
73.	Lathe Machine with polishing buff	
74.	Model Trimmer	
75.	Cast trimmer	
76.	Hydraulic Press	
77.	Piezo surgical Unit	
78.	Piezo electric ultrasonic scaler for endodontic use	
79.	Piezo electric ultrasonic tips for periodontal use	
80.	RFA Device	(Resonance Frequency Analysis)
81.	Pulp Tester	
82.	Scaler Hand Piece	
83.	Brain + Cord	

84.	Scaler Tips (Variety)	
85.	Cord for Detachable Scaler Hand Piece	
86.	X-Ray viewer (Illuminator)	Imported
87.	Wheel chair	(Imported)
88.	Blood warmer	(Imported)
89.	Cautery Machine	(Imported)
90.	Portable X-Ray	Portable per apical, Rechargeable Hyperlight – Eighteeth, V-Light
91.	Sensor (Intra oral sensor) (Imported)	Size: 0,
92.	Sensor (Intra oral sensor)	Size 1 (Imported)
93.	Sensor (Intra oral sensor) (Imported)	Size: 2
94.	Intra oral digital scanner	
95.	PSP X-Ray Scanner	PSP X-Ray Scanner / Phosphorous plate scanner
96.	PSP Phosphorous Plates	PSP Phosphorous Plates Size: 0,1,2
97.	Amalgamator (UK, USA, EU, JAPAN)	CE, ISO
98.	Prophy Jet (UK, USA, EU, JAPAN)	CE, ISO
99.	Endo motor (Rotary plus reciprocating) USA/EU/UK/JAPAN	Torque range 0.6 - 4.0 Ncm in continuous rotation Speed range 250 - 1200 rpm in continuous rotation Multiples angle available for clockwise and counterclockwise reciprocation. Rated input DC 18 V 0.5 A. Charging time 5 hours approx. Consists of; Endo motor Hand piece, endo motor Control unit, Contra-Angle Attachment, endo motor AC adapter. (CE, ISO)
100.	Endo-motor detachable heads (rotary + reciprocating)	
101.	DIAGNODENT PEN 2190	<ol style="list-style-type: none"> 1. Length approximately 220 mm 2. Diameter approximately 32 mm 3. Weight 110 g 4. Voltage 5. 1 cell, mignon LR6 alkaline 6. 1.5 V 7. Light output of the laser diode <1 mW 8. Wavelength of the laser diode 655 nm 9. Beam strength of the infrared diode <140mW/sr 10. Wavelength of the infrared diode 850 nm - 950 nm 11. Degree of protection IP 44 12. Operating temperature +10 oC to +30 oC 13. Calibration temperature +22oC ±2oC 14. relative humidity 30% RH to 75% RH

		<p>15. Power consumption <200 mA</p> <p>16. Transportation and storage conditions</p> <p>17. Transportation and storage temperature -10 oC to +55 oC</p> <p>18. relative humidity 5% RH to 90% RH</p> <p>19. Air pressure 700 hPa to 1060 hPa</p> <p>Standard Warranty as per Manufacturer</p>
102.	Laser for caries removal and root canal preparation	<ul style="list-style-type: none"> • Dual-wavelength system combining Er:YAG and Nd:YAG • Sub-ablative to moderate settings, typically 0.5 W to 3.0 W • Ultra-short pulses (50µs to 300µs) • Fiber Optic Tips: Thin, flexible, radial-firing, or stripped fiber tips (diameters 200 µm to 600µm) to easily traverse curved canals and create acoustic streaming <p>Standard Warranty as per Manufacturer</p>
103.	Dynamic Navigation system for Complex Dental and Surgical Procedures	<ul style="list-style-type: none"> • Tracking System: Uses active or passive optical cameras (e.g., stereoscopic infrared sensors) or electromagnetic fields to track movement in 3D space. • Imaging & Planning Software: Powered by preoperative Cone-Beam Computed Tomography (CBCT) scans. Software provides virtual 3D rendering to map anatomical boundaries (e.g., nerves, sinus cavities) and plan surgical trajectories. • Sensors & Trackers Patient Tracker: Attached to the jaw/skull to monitor the patient's position. Instrument/Drill Tracker: Clamped directly to the surgical handpiece to track spatial position, angle, and depth. • User Interface (UI) A display monitor that provides the surgeon with a "target view" to visually align the instrument to the virtual surgical plan in real time <p>Standard Warranty as per Manufacturer</p>
104.	Obturating System Dual (back flow and heat & touch combined) USA/EU/UK/JAPAN	<p>Dual Console</p> <p>1 Pack and 1 Flow Handpieces</p> <p>Singles gutta-percha cartridges (20 gauge)</p> <p>Singles gutta-percha cartridges (23 gauge)</p> <p>Electric Heat Pluggers</p> <p>Cartridge Nut</p> <p>Cleaning Brush</p> <p>Bending Tool and 1 Heat Shield</p> <p>Pluggers of various sizes</p> <p>Easy click on pluggers</p> <p>Pluggers can be used for down packing and searing of gutta-percha.</p> <p>Thermal response tip for pulp vitality testing</p> <p>Temperature and flow rate can be seen individually (CE, ISO) Standard Warranty as per Manufacturer</p>

105.	Obtura system dual with tips imported	
106.	Scalar Tips	
107.	Electric Pulp Tester USA/EU/UK/JAPAN	Must consist of main tester body with a hand piece (in which tips are inserted), 2 short tips, 2 long tips, mini crown tester body (optional), grounding lead with lip clips. Senses sensitivity or vitality of a tooth Digital type showing readings from 00 to 80. Must turn on automatically as it contacts tooth surface. Powered by 1.5V size AA batteries. (CE,ISO). Standard Warranty as per Manufacturer
108.	High speed Hand piece Mini/Standard/Big Head USA/Japan/EU/UK	Stainless steel body Clean head system ISB turbine Water spray Push button Power= 16 Watts Speed= 380,000-450,000 rpm Mini head size: W= 10.6mm*H=12.4mm Easy replacement of cartridge LED light (Optional). (CE,ISO) Standard Warranty as per Manufacturer
109.	Slow Speed Hand piece	
110.	Table top Hand piece	
111.	Apex locator 6 th Generation	USA/EU/UK/JAPAN (CE,ISO)
112.	Air abrasion system	Air abrasion system with spray (aluminum oxide or silica particles needed with it) 27u, 50u, 90u
113.	QTH curing light with cord & cordless	
114.	LED Curing light with cord & cordless	Portable LED Curing light
115.	Portable LED curing light	1 to 3 second curing light
116.	Piezo Saw	(Piezo Surgical bone surgery saw) (CE, ISO) (UK, USA, EU, Japan, Korea)
117.	RFA (UK, USA, EU, Japan)	Resonance Frequency Analysis for Dental Implant (CE, ISO)
118.	Centrifuge machine for PRP	(CE, ISO) (UK, USA, EU, Japan)
119.	Resonance frequency monitor for checking implant strength	(CE, ISO) (UK, USA, EU, Japan)
120.	Ridge expanders	(CE, ISO) (UK, USA, EU, Japan)
121.	Dental soldering machine	(CE, ISO) (UK, USA, EU, Japan)
122.	Ultrasonic scalar unit	Detachable (external Portable with different tips) (CE, ISO) (UK, USA, EU,

		Japan)
123.	Tips for Ultrasonic Scalar	
124.	Ultrasonic Scalar Hand piece separate	for the selected ultrasonic scalar (CE, ISO) (UK, USA, EU, Japan)
125.	Ultrasonic Scalar Hand piece	(Imported)
126.	Model Trimmer Dual Wheel	USA, UE, UK, Japan (CE, ISO)
127.	Model Trimmer Single Wheel	USA, UE, UK, Japan (CE, ISO)
128.	Cardiac Monitor	Imported
129.	Digital Microscope Camera and C Mount	Adaptor (UK, USA, EU, Japan) CE, ISO
130.	Acrylic Trimmer (Electric Motor)	Imported (CE, ISO)
131.	Hydraulic Press	Imported (CE, ISO)
132.	Grinding Machines	Imported (CE, ISO)
133.	Commercial histopathology slides for teaching purposes of the oral lesions	
134.	Stains eosin and hematoxillin	
135.	Microtome	<p>Semi-Automatic Rotary Microtome</p> <p>Technical Specifications</p> <ol style="list-style-type: none"> 1. Semi-automatic rotary microtome suitable for preparation of paraffin embedded tissue sections for histopathology, research and diagnostic laboratories. 2. Instrument shall be equipped with a touch-screen control panel for operation, parameter setting and status monitoring. 3. Feed mechanism shall be driven by a stepper motor system ensuring precise, smooth and low-noise specimen advancement. 4. Display shall provide continuous indication of: <ul style="list-style-type: none"> o Section thickness. o Trimming thickness. o Section counter. o Specimen feed/stroke position. o Operational status. 5. Section thickness range: 0.5 µm to 100 µm or wider. 6. Section thickness adjustment increments shall include: <ul style="list-style-type: none"> o 1 µm increments in the fine sectioning range. o Progressive larger increments for thicker sections. 7. Trimming thickness range: 5 µm to 500 µm or wider. 8. Instrument shall incorporate an automatic specimen retraction function during return stroke to minimize blade wear and improve section quality. 9. Specimen retraction value shall be programmable and not less than 10

		<p>µm.</p> <p>10. Horizontal specimen feed stroke: minimum 28 mm.</p> <p>11. Vertical specimen stroke: minimum 60 mm.</p> <p>12. Maximum section size: not less than 50 × 45 mm.</p> <p>13. Specimen orientation system shall provide:</p> <ul style="list-style-type: none"> • X-Y axis orientation adjustment. • Minimum $\pm 8^\circ$ orientation capability. • 360° specimen head rotation. <p>14. Handwheel shall be capable of locking in any position and shall include safety locking mechanisms.</p> <p>15. Instrument shall provide:</p> <ul style="list-style-type: none"> • Overload protection. • Safety alarm system. • Sleep/standby mode. • Emergency safety locking. <p>16. Blade holder shall accept both:</p> <ul style="list-style-type: none"> • High-profile disposable blades. • Low-profile disposable blades. <p>17. Blade holder shall include an integrated finger guard/blade protection system.</p> <p>18. Waste collection tray shall be removable without tools for cleaning.</p> <p>19. Instrument shall be supplied with:</p> <ul style="list-style-type: none"> • Universal cassette clamp. • Standard specimen clamp. • Disposable blade holder. • Waste tray. • Tissue moulds. • Tissue cassettes. • Necessary fuses and accessories. <p>20. Sectioning precision error shall not exceed $\pm 5\%$.</p> <p>Power supply: 220–240 V AC, 50/60 Hz. Standard Warranty as per Manufacturer</p>
136.	Educational Microscope for students	(Imported) CE, ISO
137.	Compound Light Microscopes	(Imported) CE, ISO
138.	Smart Microscope for Biomedical routine and research	(USA, UK, EU, Japan) CE, ISO
139.	Multi Head Microscope (five heads) camera compatibility	(USA, UK, EU, Japan) CE, ISO
140.	DENTAL OPERATING MICROSCOPE (DOM) UK/ USA/ EU/ JAPAN	<p>Specifications;</p> <ul style="list-style-type: none"> • Floor mounted microscope • Six step or continuous magnification (2x-28x) • 180-degree tiltable binoculars

		<ul style="list-style-type: none"> • Integrated UHD 4k camera for pictures and video recording that can be saved in SD card or transferred directly to USB • Objective lens with a working distance range of 200-300mm • LED light source (100,000+ LUX) with run up time upto 60,000 hours. with different filters (green and orange). • Eye pupillary distance adjustable knob • Wireless foot pedal for photography • Automatic balancing arms with electromagnetic brakes • 360-degree rotation of the microscope body • Preferably microscope having integration of advanced digital technology such as Augmented reality (Dent sight AR) • 3 years warranty
141.	High Fidelity VR Based dental simulators UK/ USA/ EU /JAPAN	<p>Country of Origin: US, UK, JAPAN, EUROPE</p> <p>*Compulsory Feature:</p> <p>1. At least one installation of the Manufacturer required in Pakistan</p> <p>Physical & Structural Build:</p> <ul style="list-style-type: none"> • Fully integrated, self-contained ergonomic physical console. • Built-in mechanical motors for automated height adjustability to accommodate varied ergonomic working positions. • Fully integrated, quiet mechanical ventilation system designed for active internal heat dissipation to allow prolonged, continuous operations without overheating. • Dual-Screen Architecture: Console must feature two high-definition monitors to allow simultaneous trainee manipulation and observer/assistant view. • Primary Surgery/Immersive Screen: Minimum 17" up to 24" 1080p Full HD display panel. • Secondary Interactive Screen: Minimum 15.6" up to 21.5" 1080p Full HD multi-touchscreen panel for setting parameters, choosing clinical cases, and viewing administrative interfaces. <p>Robotic Haptic Feedback System:</p> <ul style="list-style-type: none"> • High-precision, mechanical Haptic Arm mimicking authentic dental handpieces (drills, burs, probes). • Force Feedback Dynamics: Actively operational across 3 axes (X, Y, Z). • Maximum Force Capacity: Must achieve a continuous/peak force feedback threshold of up to 1.8 lbf (7.9 N) to deliver highly realistic resistance when transitioning between different anatomical layers (e.g., cutting through enamel vs. softer dentine). • Must include integrated physical supportive finger rests for authentic ergonomic hand stability during drilling procedures. • High-Precision Mirror Tool: Must include a secondary spatial tracking tool/haptic device operating as a virtual dental mirror for indirect visualization and realistic mirror manipulation training. • D Space Mouse: Integrated navigation controller to effortlessly pan, zoom, tilt, and navigate the 3D dental environment • Multi-Functional Foot Pedal: Heavy-duty foot switch to mimic dental unit rheostats, controlling the activation, speed/power of dental instruments, and modulating simulated air/water sprays.

		<p>Access Control & Identity Management:</p> <ul style="list-style-type: none"> • Integrated RFID Contactless Card Reader built natively into the console. <p>Teacher Software Module & Content Editor:</p> <ul style="list-style-type: none"> • Independent Case Creation (Editor): Must include a proprietary case editor allowing faculty to import actual patient data via standard DICOM (imaging) and STL (surface mesh) file formats. • Faculty must be capable of mapping individual tissue properties (defining custom enamel, dentine, pulp boundaries) and placing custom caries, targets, and structural pathologies entirely in-house without requiring external manufacturer processing. • Extensive pre-loaded digital library containing diverse tooth morphologies, root canal layouts, and pre-existing decay models. <p>Software:</p> <ul style="list-style-type: none"> • Full virtual patient • Adult and child patient • Patient animations and emotions • Object can be rotated and translated • Position of the patient's head can be moved • Patient chair is adjustable (height / inclination) <p>Specialized Training Modules:</p> <p>At least 250 plus cases and scenarios with the ability to add custom cases. Each case would also provide complete performance feedback at the end of each session.</p> <ul style="list-style-type: none"> • System must natively include or explicitly support expandable modular suites for: • <i>Familiarization & Dexterity Training</i> (geometric targets, hand-eye coordination) • <i>Restorative Dentistry</i> (caries removal, cavity preparations) • <i>Endodontics & Micro-Endodontics</i> (root canal access, pulp therapy) • <i>Prosthodontics</i> (crown/bridge preparations, fixed/removable denture prep) • <i>Implantology</i> (implant placement planning and drilling) • Pediatrics • Anatomy • Polishing (Hygiene) • Scaling (Hygiene) • Teeth Extraction • Anesthesia • Periodontics <p>3 years warranty</p>
142.	Resin 3D Printer	<p>Optimal Specifications Guide</p> <p>Display & Light Source</p> <p>Panel Type Mono LCD (10x faster than RGB; essential for speed)</p> <p>Resolution 8K minimum — 12K preferred for maximum detail</p> <p>XY Resolution ≤ 25 μm (lower = finer detail)</p> <p>Light Source Parallel matrix or LLS — even UV distribution across full build plate</p>

		<p>Wavelength 405 nm UV (industry standard, widest resin compatibility)</p> <p>Build Volume</p> <p>Recommended Size 218 × 123 × 220 mm or larger (mid-large format)</p> <p>Z Height 200 mm minimum — enables tall prints without splitting</p> <p>Platform Surface Sandblasted or laser-engraved aluminum for adhesion</p> <p>Z-Axis & Precision</p> <p>Layer Thickness 0.01 – 0.15 mm adjustable range</p> <p>Z Resolution ≤ 10 μm step precision</p> <p>Drive Mechanism Dual linear rails + lead screw (eliminates wobble)</p> <p>Backlash Near-zero; critical for layer alignment</p> <p>Speed & Release System</p> <p>Exposure Time 1 – 2 sec per layer (mono LCD benchmark)</p> <p>Print Speed 70 – 150+ mm/hr with fast settings</p> <p>Release Film ACF (Anti-Crystalization Film) — longest life, lowest suction force</p> <p>Peel Mechanism Tilt-release or TSMC — gentler on prints vs. vertical pull</p> <p>Lift Speed 60 – 180 mm/min (configurable per resin)</p> <p>Resin & Compatibility</p> <p>Resin System Open — works with any 405 nm third-party resin</p> <p>Resin Types Standard, ABS-like, flexible, water-washable, dental, castable</p> <p>Vat Capacity 200 – 300 mL (reduces refill interruptions)</p> <p>Vat Material FEP or nFEP base; ACF film preferred</p> <p>Electronics & Connectivity</p> <p>Connectivity USB + Wi-Fi (wireless slicing send)</p> <p>Display 4"+ color touchscreen, responsive UI</p> <p>Slicer Support Chitobox Pro, Lychee Slicer, or native slicer with full control</p> <p>File Formats .ctb, .pwm, .pm3, or open formats</p> <p>Control Board 32-bit with TMC stepper drivers (quiet, precise)</p> <p>Build Quality & Safety</p> <p>Frame Full aluminum/metal chassis — no plastic structural parts</p> <p>Fume Management Activated carbon filter or sealed enclosure with exhaust</p> <p>Resin Detect Sensor to alert low resin mid-print</p> <p>Power Loss Resume print on power recovery</p> <p>Tilt Sensor Detects failed layers to stop wasted prints</p> <p>Quick-Reference Summary</p> <p>Spec Target Value</p> <p>Panel Mono LCD, 8K–12K</p> <p>XY Resolution ≤ 25 μm</p> <p>Z Resolution ≤ 10 μm</p> <p>Build Volume 218 × 123 × 220 mm+</p> <p>Release Film ACF</p> <p>Print Speed 100+ mm/hr</p> <p>Resin System Open 405 nm</p> <p>Frame Full metal</p> <p>Connectivity USB + Wi-Fi</p> <p>Specifications represent best-in-class targets as of mid-2026. Verify current model availability before purchasing. 3 years warranty</p>
143.	Radiograph Projector (Imported)	CE, ISO (to assess the dental panoramic tomograph)

144.	Calorimeter Imported	CE, ISO
145.	Wax Dispenser Imported	CE, ISO
146.	Commercial slides of normal oral tissues	
147.	High speed Hand Piece Straight (Imported)	High speed mini, Standard and big size head Imported two & four hole
148.	Slow speed hand piece (Imported)	With contra and straight complete set
149.	Straight Hand piece (attachment)	Imported
150.	Suction motor (Imported)	650 and 850 watt (oil free)
151.	Oxygen Gas Cylinder	240 CFT
152.	Oxygen Cylinder regulator	
153.	Nebulizer Machine	Imported
154.	Glucometer	Imported
155.	Glucometer T strip (compatible with glucometer)	Imported
156.	Pulse Oximeter	Imported
157.	Lathe Cut Machine (UK, USA, EU, Japan)	CE, ISO
158.	Micro Motor (UK, USA, EU, Japan)	CE, ISO
159.	Clinical/Surgical Micro motor	UK, USA, EU, Japan (CE, ISO)
160.	Denture polishing unit (UK, USA, EU, Japan)	Dental Laboratory Polishing Lathe, Led Lighting, Trays for pumice, protection screens, electric protection against unexpected start-ups, etc. polisher/buffs at two ends (one small one large) and high torque engine, variable speed up to 7000 rpm To be installed/fixed on the marble top. (CE, ISO)
161.	Articulators (UK, USA, EU, Japan)	Hinge articulators (basic)
162.	Curing Tank (Imported)	Wet cure curing unit for acrylic resin, constructed in plastic coated galvanized steel, fully insulated tank & Lid in heavy duty stainless steel. Capacity of 6 x 3 flask compressors. Capable of single or two stage temperature processes. With a digital temperature display. (CE, ISO)
163.	Dental Loupe Camera (UK, USA, EU, Japan)	(CE, ISO)
164.	OT Lights UK, USA, EU, JAPAN	(CE, ISO)
165.	Laryngoscope UK, USA, EU, JAPAN	(CE, ISO)
166.	OT Tables (Electric Tables)	(CE, ISO)

167.	Fiber Optic Laryngoscope Carl Storz	(CE, ISO)
168.	Fiber Laryngoscope (Flexible intubation video endoscope)	
169.	Harmonic Scalpel	With all accessories
170.	Physio dispenser	Implants
171.	Surgical Drill Machine	
172.	Air Compressor (UK/USA/EU/Japan)	Tank Capacity: 500 Liters or Higher 3 heads, {3 phase motors. Oil free air compressor motor, three piston head 440-volt, 3.4 amp, 1.5uw, 1400 rpm or more, 3 phase, (CE, ISO)} 1. Digital control Kit for motor starting. 2. Automatic on/off pressure control. 3. Air control regulator. 4. Auto drain of water. 5. Galvanized iron tank. 6. Air filters for motors.
173.	Air Compressor Motors (UK/USA/EU/Japan)	Oil free air compressor motor, three piston head 440-volt, 3.4 amp, 1.5uw, 1400 rpm or more, 3 phase, (CE, ISO)
174.	Air Compressor 300Ltr or higher Oil Free (Imported)	1. 4 motors 1500Watt. 2. 220V 3. Digital control Kit for motor starting. 4. Automatic on/off pressure control. 5. Air control regulator. 6. Auto drain of water. 7. Galvanized iron tank. 8. Air filters for motors.
175.	Air Compressor 40Ltr or higher Oil Free/Noise free (Imported)	1. Single motor 850Watt. 2. 220V 3. Automatic on/off pressure control. 4. Air control regulator. 5. Auto drain of water. 6. Galvanized iron tank. 7. Air filters for motors.
176.	Bulb/Lamp	For Analyzer Machine Microlab-300
177.	Lead Apron used in X-Ray Room	Size 0.25mm
178.	Seat Mounted Periapical X-Ray Machine	1. X-Ray Tube <ul style="list-style-type: none"> • Tube Voltage: 60 - 70 KV. • Tube Current: 07-10mA. • Focal Spot Size: 0.4 – 0.8mm. 2. Exposure Time: <ul style="list-style-type: none"> • Range: 0.01 – 3.2 Sec or more with fine adjustment. 3. Image Receptor Compatibility: <ul style="list-style-type: none"> • Compatible with digital sensors and traditional film.

		<ul style="list-style-type: none"> • Specify if compatible with intra oral digital sensors. (CMOS,CCD) <p>4. Control Panel:</p> <ul style="list-style-type: none"> • Easy to use interface. • Pre-programmed exposure settings for different types of patients and teeth (adults, children, molars, incisors etc.) • Display showing exposure parameters. <p>5. Arm and Head Movement:</p> <ul style="list-style-type: none"> • Adjustable, stable arm with smooth operation. • 360-degree rotation of the X-Ray head. • Extendable and flexible arm to reach all areas of the mouth comfortably. <p>6. Safety features:</p> <ul style="list-style-type: none"> • Built-in lead shielding. • Visual and audible exposure indicators. • Safety interlocks. <p>7. Image Quality:</p> <ul style="list-style-type: none"> • High resolution imaging capability. • Consistent image quality with minimal distortion. <p>8. Ease of Use:</p> <ul style="list-style-type: none"> • User friendly operation with minimal training required. • Ergonomic design to reduce operator fatigue. <p>9. Power Requirements: Voltage 220V 50Hz.</p>
179.	<p><u>ICU VENTILATOR</u></p> <p>COUNTRY OF MANUFACTURER <i>Europe/USA/Japan</i></p>	<p>FEATURES: Intensive care ventilator, for use on Pediatric/Adult patients With Graphics Display Monitor.</p> <p>TECHNICAL SPECIFICATION: <u>VENTILATION:</u></p> <ul style="list-style-type: none"> • Microprocessor based controlled ventilation system with built in AIR Source. • Touch Screen with Built in LCD/TFTcolormonitor15” Minimum. <p><u>MODESOFVENTILATION:</u></p> <ul style="list-style-type: none"> • Volume control • Pressure control PC • CPAP • SIMV +Pressure support • Non-invasive ventilation • Bi-level/APRV/BI-PAP Ventilation • Dynamic Bi-level/ PRVC MODE, (DUALCONTROLMODE) • ALPV/ Auto Vent Mode • ASV/WOBOV • HFO • Helmet Ventilation

CONTROL:

- Set & measured parameters simultaneously.
- Measurement range/specification
- Inspiratory tidal volume: minimum 50ml or less
- SIMV breath frequency: 1 to 50 bpm
- Inspiratory pressure: 10 to 60 cmH₂O
- Inspiratory flow: 80 L/min
- I:E ratio: 1:4 / 4:1
- PEEP: 1 to 20 cmH₂O
- FiO₂/O₂ delivery: 21 to 100%

Monitoring Parameters for set and measured value simultaneously with Digital Display

- Total breath rate.
- Oxygen concentration FIO₂ (Paramagnetic Sensor)
- Expired minute volume
- Peak expiratory flow
- I:E ratio
- Peak Pressure
- Mean pressure
- Lung Mechanics with pressure and volume loops.

OTHERS CONTROL AND FUNCTIONS:

- Backup apnea ventilation
- NIF/MIP, PEEP_i, P_{0.1} and VC/FRC
- Breath circuit Compliance Compensation
- Expiratory hold/Inspiratory hold
- Pressure and flow trigger sensitivity.
- Trigger sensitivity indication
- Should be able to operate on single gas source at 21% Oxygen.
- Autoclave able reusable patient tubing circuit for paediatrics
- Trend Data
- Built in ETT/Tracheostomy Cuff Pressure Monitor
- Built in/Integrated Calorimeter Measurement
- Intrapulmonary/ Esophageal Pressure Monitoring

ALARMS:

- Apnea
- AC power failure
- High and low expired minute volume
- High and low peak airway pressure
- High and low breath rate
- FiO₂ variation
- Low and high base line pressure
- Gas supply source failure
- Low battery

NEBULIZER:

- Built in Pneumatic/Ultrasonic nebulizer for ventilation.

BATTERYBACKUP:

- With internal battery backup of 01 hour.

Oxygen Cell

- Oxygen Cell Paramagnetic Type (Built-in)

AIR SUPPLY:

- Built in Turbine.

HUMIDIFIER:

- Automatic compensation (Servo) controlled heated humidifier with Temperature monitoring at airway and Humidification chamber with alarm for low/high limits with water trap in the patient circuit.

Note:

- The warranty of equipment will be including batteries, oxygen sensor, all kind of sensors
- and flow sensor.

Accessories:

- Humidifier
- 1 Tubeset, adults Reusable
- 1 Tubeset, Children Reusable
- 1 Humidifier chamber
- O2 Pressure Hose 3.0m
- Humidifier
- Complete Re-useable Patient circuit 1 each for adult & Paeds
- Temperature Sensor
- Test lung
- Hinged Arm
- Capnography module to monitor carbon dioxide of the patient.
- Battery backup or Suitable Rating UPS having 60 min Back Up time for complete system functionality.
- Peep Finder/ PV Tool

Warranty:

Two years With Parts (Comprehensive warranty Including O2 Sensor, Batteries, Flow Sensor)

USER AND TECHNICAL TRAINING

Clinical and application training for operator

Technical training for biomedical engineer and technician

REGULATORY COMPLIANCE

		US-FDA510(k)/CE/EC/ MHLW (Any Two Certificates)
		INSTALLATION Successful Firm shall be bound to install the quoted equipment with the coordination of User Department and Bio-Medical Department
180.	High power Suction	
181.	Piezo Saw	
182.	Electric Cautery with tips	
183.		
184.	Portable LED Curing light	1-3 Second curing
185.	IPR Hand piece	with multiple saw
186.	Surgical drill/ Saw heavy duty Drill Machine NSK	
187.	Harmonic Surgical Handpiece/Machine	
188.	Lab work station Bench	
189.	Portable LED curing light	1 to 3 second curing light
190.	Photography retractors Small	
191.	Photography retractors Large	
192.	Photographic mirror (Rhodium lining)	
	Oral Pathology	
193.	Staining Rack	
194.	Calorimeter	
195.	Regent refrigerator	Pharmaceutical Refrigerator / Cold Storage Cabinet Technical Specifications <ol style="list-style-type: none"> 1. Pharmaceutical-grade refrigerator suitable for storage of vaccines, reagents, medicines, biological samples and laboratory materials. 2. Effective storage capacity: Minimum 340 litres. 3. Temperature control range: +2°C to +8°C. 4. Microprocessor-controlled temperature regulation system with digital display of actual cabinet temperature. 5. Temperature uniformity shall be maintained throughout the storage chamber through forced-air circulation. 6. Cabinet shall be fitted with a high-performance hermetically sealed compressor suitable for continuous operation. 7. Internal chamber shall be manufactured from SUS 304 stainless steel.

		<p>8. External cabinet shall be constructed from painted steel with corrosion-resistant finish.</p> <p>9. Cabinet shall be equipped with:</p> <ul style="list-style-type: none"> ○ Full-height glass display door. ○ Heat-reflective/low-emissivity coating on glass to minimize thermal ingress and UV exposure. <p>10. Internal compartment shall incorporate four independently accessible inner storage doors/partitions designed to reduce cold-air loss during access.</p> <p>11. Interior dimensions shall be approximately:</p> <ul style="list-style-type: none"> ○ Width: 700–750 mm ○ Depth: 300–400 mm ○ Height: 1400–1500 mm <p>12. External dimensions shall not exceed approximately:</p> <ul style="list-style-type: none"> ○ Width: 850 mm ○ Depth: 500 mm ○ Height: 1900 mm <p>13. Refrigeration system shall use environmentally friendly refrigerant.</p> <p>14. Cabinet shall include an automatic condensate evaporation system eliminating routine manual drainage of condensate water.</p> <p>15. Shelving system shall consist of heavy-duty coated steel wire shelves with adjustable positions.</p> <p>16. Interior illumination shall be provided through energy-efficient LED lighting.</p> <p>17. Cabinet shall include at least two door locks with keys.</p> <p>18. Alarm system shall provide audible and visual indications for:</p> <ul style="list-style-type: none"> ○ High temperature. ○ Low temperature. ○ Door ajar/open door condition. ○ Sensor malfunction. ○ Over-temperature protection. <p>19. Cabinet shall incorporate compact evaporator and fan arrangement to maximize usable storage volume.</p> <p>Power supply: 220–240 V AC, 50/60 Hz.</p>
196.	Hamatoxyline stain	
197.	Eosin stain	
198.	Potassium hydroxide	
199.	Media (blood agar)	
200.	Xylene	
201.	Alcohol (95%)	
202.	DPX Mountant	
203.	Centrifuge Machine	<ul style="list-style-type: none"> • Bench Top Laboratory Centrifuge • Technical Specifications • Bench-top microprocessor-controlled laboratory centrifuge suitable for routine clinical, research, educational, industrial and quality-control

		<p>applications.</p> <ul style="list-style-type: none">• Speed range: 200 rpm to 6,000 rpm or better.• Maximum relative centrifugal force (RCF): 4,400 × g or higher.• Instrument shall permit direct entry and display of both RPM and RCF values.• User-programmable memory capacity: minimum 99 stored programs/methods.• Acceleration profiles: minimum 10 selectable acceleration levels.• Deceleration profiles: minimum 10 selectable deceleration/braking levels.• Running time modes shall include:<ul style="list-style-type: none">• Continuous operation.• Programmable timer from at least 10 seconds to 99 hours 59 minutes 59 seconds.• Quick-spin function.• Display:<ul style="list-style-type: none">• Backlit LCD display.• Simultaneous display of speed, time and operational status.• Drive system:<ul style="list-style-type: none">• Maintenance-free motor.• Low vibration and low-noise operation.• Noise level during operation shall not exceed 56 dB(A).• Rotor recognition system shall be provided.• Lid system:<ul style="list-style-type: none">• Mechanical or electromechanical safety lid lock.• Automatic rotor stop upon lid opening.• Imbalance detection and protection.• Safety features shall include:<ul style="list-style-type: none">• Overspeed protection.• Imbalance detection.• Motor over-temperature protection.• Lid interlock safety system.• Error diagnostics and fault indication.• Instrument footprint shall be compact and suitable for bench-top installation.• Power supply: 220–240 V AC, 50/60 Hz.• Maximum power consumption: not more than 70 watts.• Unit shall be supplied complete with:<ul style="list-style-type: none">• Angle rotor.• Rotor lid and accessories.• User manual.• Power cord.
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		<ul style="list-style-type: none"> • Rotor capacity: • Fixed-angle rotor with capacity 12 × 15 mL minimum. • Maximum rotor speed 6,000 rpm or higher. <p>Country of Origin: USA/Europe/JAPAN</p>
Science of Dental Materials		
204.	Dental Dewaxing Bath	Double walled, outside and inside body made of stainless-steel temperature controlled with digital display and controller cum digital timer. Alarm at end of operation time drain valve for dewaxing work on 220-230 volts AC Inner side 300-350*250-300*350-400mm Temperature controlled with hydraulic Thermostat from 5 C above ambient to 100c with a sensitivity of 5 C Timer can be set from half hour to 2 hours
205.	Thermostatically controlled water bath for Acrylic Curing	Capacity 3-5 Liters Temp range: 0-180 Bench top Temp control: Heating Bath shape in accordance to flask geometry 1350 watts
206.	Washer Disinfecter UK/USA/EU/JAPAN	<p>Specification:</p> <ol style="list-style-type: none"> 1. Chamber Capacity: 30-65 liters 2. Chamber material: Stainless Steel 3. Cleaning Method: High pressure spray washing. 4. Disinfection Type: Thermal disinfection. 5. Disinfection temp: 90-95C°. 6. Drying system: Hot Air/ HEPA 7. Program: 5-40 preset & programmable cycles. 8. Control System: Microprocessor/PLc. 9. Display: LED/Touch Screen. 10. Power: 220-240V 50/60Hz. 11. Water connection: Cold/Hot/RO 12. Pump Flow rate: 100-260 L/min 13. Noise Level: 50-55dB
207.	Pouch Sealer Imported	<p>Specifications:</p> <ol style="list-style-type: none"> 1. Sealing Type: Heat Sealing/Impulse. 2. Sealing Width: 10-12mm or more. 3. minimum Seal length: 250-300mm. 4. Power Supply: 220-240V 50Hz. 5. Power Consumption: 80-500Watt. 6. Temperature Control: adjustable Thermostat. 7. Heating Time: 2-5 Second. 8. Body Material: Stainless Steel. 9. Mounting Type: Tabletop or Wall mounted. 10. Control Type: Manual or Auto 11. Cooling Time: About 2 seconds 12. Weight: 5-8 Kg 13. Protection: Over Heat. 14. Adjustable: Temperature Control. 15. Compatible with: Paper/Plastic sterilization rolls.

208.	Ultrasonic Cleaner UK/USA/EU/JAPAN	Specifications: 1. U-Frequency: 35-45KHz 2. U-Power: 60-180Watt. 3. Tank Capacity: 5-30 Liters 4. Tank Material: Stainless Steel. 5. Heating Temp: 40-820C° 6. Timer Setting: 1-30 mint -1-99mint. 7. Power Supply: 220-240V 50Hz 8. Control Type: Digital LED 9. Drain System: Auto 10. Safety System: Overheating protection Auto shut off.
209.	Water Distillation Plant	Specifications: 1. Capacity: 4 Liters or More 2. Distillation output: 0.7-1.5 L/min. 3. Daily Production: 4-26 Lit/ day or more 4. Power Supply: 220-240V 50Hz. 5. Power Consumption: 525-800 Watt. 6. Chamber Material: Stainless Steel. 7. Cooling system: Air Cooling/Condenser 8. Safety Protection: Over Heat Auto cut-off 9. Protection Temp: 115-300C° 10. Water Purity: Up to 96-99% Pure 11. Weight: 3.5-6.5Kg 12. Dimension: Around 230x370mm 13. Filter Type: activated Carbon 14. Table top Design. 15. Easy Cleaning and Maintenance. 16. Loco Noise Protection.
210.	Endodontic motor detachable heads (rotary + reciprocating	
211.	Endodontic motor (Rotary + reciprocating	
212.	Rubber Dam Clamps	
213.	Osseo dentification Drills	