

**PANJAB UNIVERSITY**  
**DR. HARVANSI SINGH JUDGE INSTITUTE OF DENTAL SCIENCES & HOSPITAL**  
**SECTOR-25, CHANDIGARH**  
**Ph: 0172-2534686, 87, 89. E-mail: directordental@pu.ac.in**

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Phone No.0172-2534686, 2534689  
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Tender no. IDS- 02/2014-15

Date.....

TENDER DOCUMENT FOR THE PURCHASE OF DENTAL EQUIPMENT FOR MDS COURSE



Last date for issue of Tender document	17-12-2014
Pre bid meeting Venue : Committee Room of the Institute	10-12-2014 at 11:00 a.m.
Due date and time for submission of Tender	19-12-2014 up to 4:00 p.m.
Date & Time of opening of Technical bid	20-12-2014 at 10.00 a.m.
Date & Time of opening of Financial bid	To be notified later

Tender fee Rs.500/-

**PANJAB UNIVERSITY**  
**DR. HARVANSI SINGH JUDGE INSTITUTE OF DENTAL SCIENCES & HOSPITAL**  
**SOUTH CAMPUS, SECTOR-25, CHANDIGARH**  
E-mail: directordental@pu.ac.in

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**Note to Prospective Bidders**

In view of previous tenders floated by this Institute wherein lot of items could not clear the technical evaluation stage, the prospective bidders are advised to take care of the following points for their bids to be considered.

1. The brochure attached should mention the specifications as in the tender document.
2. Proof of existence of the product in the Indian market for at least three years should be attached like supply order etc.
3. Authority letter from the company/manufacturer shall only be valid. No authority letter from an authorized distributor/dealer authorizing third party shall be considered.
4. Proof of various certifications like CE, FDA, UL, IEC-60601-1-2 etc. to be attached.
5. The tender document should have an index of all the pages attached.

Principal-cum-Professor

**PANJAB UNIVERSITY**  
**DR. HARVANSH SINGH JUDGE INSTITUTE OF DENTAL SCIENCES & HOSPITAL**  
**SOUTH CAMPUS, SECTOR-25, CHANDIGARH**  
E-mail: [directordental@pu.ac.in](mailto:directordental@pu.ac.in)

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No..... /IDS

Date

**IMPORTANT NOTE**

1. This Tender document, specifications along with terms & conditions may be obtained from the office of the Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh (by submitting demand draft of Rs. 500/- payable at Chandigarh, in favor of Registrar, Panjab University, Chandigarh).
2. Tender fee of Rs. 500/- is to be submitted along with the Tender if it is downloaded from website of Panjab University, Chandigarh ([www.puchd.ac.in](http://www.puchd.ac.in)).

This Tender form is placed to M/s.....at the cost of Rs.500/-.

From

The Principal-cum-Professor,  
Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital,  
Sector-25, South Campus,  
Panjab University, Chandigarh-160014.

The Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Punjab University, Chandigarh, has invited sealed tender as per following Annexure and Item to be procured.

S.N.	Name of Annexure/Items	Annexure	Detailed specifications (Page No.)
1.	Undertaking from the supplier on Non-Judicial stamp paper worth Rs. 30/- duly attested by Notary.	Annexure-A	13-14
2.	Performance Bond (Bank Guarantee)	Annexure-B	15-16
3.	Undertaking from the Supplier on a Non-Judicial Stamp Paper of Rs. 30/- duly attested by Notary) (To be returned within 30 days of issue of supply order)Performance Bond/Guarantee	Annexure-C	17-18

4.		Annexure-D	Detailed specifications (Page No.)
	(i) Common Equipment for MDS	D-1	19-28
	(ii) Equipment for Periodontics	D-2	29-46
	(iii) Equipment for Conservative & Endodontics	D-3	47-53
	(iv) Equipment for Orthodontics	D-4	54-59
	(v) Equipment for Prosthodontics	D-5	60-64
	(vi) Equipment for Oral Pathology	D-6	65-69
	(vii) Equipment for Oral & Maxillofacial Surgery	D-7	70-90

3. Technical bid shall be opened at 10.00 a.m. on 20.12.2014. The date and time for opening of the financial bids shall be intimated later after evaluation of the technical bid. In case, date of opening falls on day which is declared public holiday, the bids shall be opened on the following day at the same time.

4. Tender must reach at the address given above in due date & time. The latest hour and date of receipt is up to 4.00 p.m. on 19.12.2014. The Institute will not be responsible for any type of delay, in submission of Tender.

5. Tenders are to be submitted as a three stage procedure i.e. EMD, Technical bid & Financial bid. All these three i.e. EMD, Technical bid and financial bid shall be sealed in 3 different envelopes viz. envelope A,B & C respectively. All these 3 envelopes should be marked as below :-

- Envelope A-EMD
- Envelope B-Technical bid
- Envelope C- Financial bid

All these 3 envelopes should also be super-scribed as ‘Tender for equipment due on \_\_\_\_\_’. The name and address of the tenderer should also be mentioned on each envelope. All these 3 sealed envelopes should then be put in a bigger envelope which should be sealed and super scribed ‘Tender for Equipment due on \_\_\_\_\_’, Name of the company and address should be written on this bigger envelope and this should be addressed to the Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, South Campus, Sector-25, Panjab University, Chandigarh.

#### **5-A ENVELOPE A (EMD)**

The contents of envelope–A should include following items

1. EMD in accordance with instructions given below.
2. Undertaking on non-judicial stamp paper of Rs. 30/- (Annexure-A)
3. The tender form as procured, duly signed & stamped on each page.

Other important points w.r.t. Earnest Money Deposit are :-

i) **EARNEST MONEY DEPOSIT**

Rs. 5,000.00 up to 1 Lac approx value of bid  
Rs. 50,000.00 up to 25 Lac approx value of bid  
Rs.1,00,000.00 up to 50 Lac approx value of bid  
Rs.1,50,000.00 for bids of value above 50 lacs.

- ii) The Earnest Money should be in the form of a scheduled bank/term deposit receipt valid for one year in the name of Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Panjab University, Sector-25, Chandigarh. Earnest Money in any other form will not be accepted.
- iii) Bids not accompanied by Earnest Money as stated above or less than the amount stipulated above shall be summarily rejected.
- iv) Earnest money/ security deposit/any other sums of the tenderers lying with the Institute in connection with any other tender/case will not be considered against this tender.
- v) The EMD shall be returned after completion of tender process to the unsuccessful firms and successful firms after receiving the 10% Bank Guarantee of the FOB value which has to be deposited within 30 days after placing the supply order to the successful firms.

**5-B ENVELOPE B (TECHNICAL BID) (To be submitted in duplicate)**

The contents of envelope –B should include following items

1. Covering letter indicating the list of enclosures.
2. Name and detailed specifications of the quoted Equipment with Price Blanked
3. Name and detailed specifications of essential accessories if any with price Blanked
4. Name and detailed specifications of optional accessories if any with price Blanked
5. Name and detailed specifications of the alternative Equipment with price Blanked
6. Warranty Offered.....Year/s (Minimum for Two Years)
7. Statement of deviation, parameter wise, from tendered technical conditions,/ specifications if any.

8. Copy of Income tax clearance certificate, latest PAN/TAN, copy of VAT registration/Service Tax registration, Registration Certificate.
9. Authorization from the manufacturer/principal/company of being the authorized distributor/dealer/agent/stockiest.
10. User List.
11. Name and address of nearest authorized service centre.
12. Catalogue of the equipment showing the make/model no and specifications in original.
13. Last three years turn over of the firm in the concerned business duly certified by a Chartered Accountant.
14. Information regarding other contracts entered/supplied made, into/to semi Govt. or Govt. institutions, of the same nature, during last 3 years may also be provided

**The Detailed Technical Specifications Are Given In Annexure-D.**

Other important points w.r.t. Technical bid are :-

- i) All pages of the Technical Bid shall be numbered and signed.
- ii) The items for which the tenderer wishes to quote, should be quoted section wise as per Annexure-D in the same sequence i.e. (D1-D2-D3-D4-D5-D6-D7).
- iii) The tenderer shall give a list of Hospitals/Institutes in India where their equipment has been installed vide point 10 above. The Institute reserves the right to inspect such establishments and see actual performance of such equipments.
- iv) The Institute may also ask for demonstration of the equipment in the Institute at the time of technical evaluation, which then shall be mandatory to be considered for technical evaluation by the Committee.
- v) A person signing the tender form or any other document forming part of the contract on behalf of another shall be deemed to warranty that he has authority to bind such others and if on enquiry it appears that the person so signing had no authority to do so, the purchaser, may, without prejudice to other civil and criminal remedies against the contract, hold the signatory liable for all costs and damages and forfeit the Earnest Money.
- vi) Rates and Service charges should not be quoted in the Technical bid.
- vii) Tenders not accompanied by detailed information as required, are liable to be rejected.
- viii) It is specifically required that the tenderer whose items should be selected finally will supply all the operations and service manuals along with blue-prints and drawings including circuit diagrams of the equipment supplied as well as its components.

**5-C ENVELOPE-C (FINANCIAL BID) (to be submitted in duplicate)**

The contents of envelope-C should include following items :-

1. Covering letter

2. Name and detailed specifications of the quoted Equipment with Price indicated
3. Name and detailed specifications of essential accessories if any with price indicated
4. Name and detailed specifications of optional accessories if any with price indicated
5. Name and detailed specifications of the alternative Equipment with price indicated.
6. Service Contract.

The rates of the service contract after warranty period (two years) for both AMC and CAMC must be indicated strictly as below:

	AMC	CAMC	
Rate for 1st year	Rs. _____	Rs. _____	} for ____ units.
Rate for 2nd year	Rs. _____	Rs. _____	
Rate for 3rd year	Rs. _____	Rs. _____	
Rate for 4th year	Rs. _____	Rs. _____	
Rate for 5th year	Rs. _____	Rs. _____	

Other important points w.r.t. Financial bid are :-

- i) All pages in the financial bid shall be numbered and signed.
- ii) The items for which the tenderer wishes to quote, should be quoted section wise as per Annexure-D in the same sequence i.e. (D1-D2-D3-D4-D5-D6-D7).
- iii) The words, 'not quoting' should be clearly written against any item of equipment for which the tenderer is not quoting.
- iv) Price should be quoted in Indian Rupee only.
- v) The rates and units shall not be overwritten. The tender offer should be typed or written in ink. Offers in pencil will be rejected.
- vi) The rates per unit including installation charges and other accessories required as per tender/specification should be mentioned.
- vii) All type of taxes to be charged should be mentioned specifically other wise the amount mentioned in the bid will be treated as inclusive of all taxes.
- viii) Tenderer must quote only one rate for each item/make/model. These rates should be FOR destination.
- ix) Where more than one unit of any equipment is required/offered, the rate should be quoted for each unit. The rates quoted in ambiguous terms will render the tender liable to rejection.
- x) CAMC has to be for all parts. The CAMC may also include consumable and reagents. Any conditional offer may render the tender invalid.
- xi) The charges for the service contract will be paid in 4 equal installments in arrears for satisfactory service or as per mutually agreed upon schedule.

## **6. GENERAL TERMS & CONDITIONS**

- I). EMD will be released to unsuccessful bidder(s) after finalization of tender.

- II) Tenderer will have to demonstrate the quoted item, if required, to Technical Evaluation committee within the stipulated time frame as and when asked for or as has been mentioned in the tender. The bid of the tenderer shall be liable to be cancelled on non-compliance of this clause.
- III) The company will get only one chance for demonstration. In case the company fails to arrange the demonstration the tender shall liable to be cancelled.
- IV) In case demonstration of the equipment is required, the same has to be arranged at Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Panjab University, Sector-25, Chandigarh.
- V) Only the item/s of manufacturers or their authorized distributor/dealer/agent would be considered.
- VI) Tenderer must provide the telephone and fax no with tender for all correspondence.
- VII) The equipment should be guaranteed/warranted for a minimum period of two years or as mentioned in specifications from the date of satisfactory installation and inspection.
- VIII) Delivery schedule :- Within 4 weeks after placement of supply order, failing which the supply order shall be deemed cancelled unless waived off by Principal-cum-Professor.
- IX) Firm should undertake to enter into Annual Maintenance Contract (AMC/CAMC) for equipment as well as for accessories attached, for minimum period of five years after completion of warranty period and accordingly quote the rates of AMC for five years. The rates quoted should be both for Comprehensive AMC (CMC) as well Non Comprehensive AMC (AMC) for five years. Firm should undertake to keep the equipment in running order throughout the year and in case of equipment going out of order the fault will be attended within 48 hours of lodging the complaint.
- X) The Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Panjab University, Sector-25, Chandigarh has the right to accept or reject any or all the tenders without assigning any reason(s) thereof.
- XI) The Tenderer is required to submit undertaking as per the Performa enclosed on a non-judicial stamp paper of Rs. 30/- (Annexure-A) and is to be put in envelope-A.
- XII) Clarification of bidding documents:

A prospective bidder requiring any clarification of the tender document may notify the purchaser in writing at the purchaser's mailing address indicated in the



invitation for tender. The purchaser will respond in writing to any request for clarification of the bidding documents which it receives not later than **15 (Fifteen)** days prior to the deadline for submission of bids prescribed by the purchaser. Purchaser's response including an explanation to the query but without identifying the source of inquiry shall be put on University website.

XIII) Amendment of bidding documents:

- (a) At any time prior to the deadline for submission of bids, the purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.
- (b) The amendment will be notified on the University website and will be binding on all prospective bidders.
- (c) In order to afford prospective bidders reasonable time in which to take the amendment into account in preparing their bid, the purchaser may, at its discretion, extend the deadline for the submission of bids.

XIV) Any effort by a bidder to influence the purchaser in the purchaser's bid evaluation, bid comparison or contract award decisions shall result in the rejection of the bidder's bid and also banning of future business dealings with the bidder.

XV) This tender form is not transferable.

XVI) This tender form consists of pages 1 to 92. This tender form along with other Annexures (unfilled) duly signed by the tenderer should be returned to the institute along with the EMD, in envelope-A.

XVII) Offers not on the prescribed form shall not be considered.

XVIII) If the firms failed to supply the order in due time, the firms will be blacklisted and E M D will be forfeited.

XIX) Performance Bank Guarantee:-

- a) The successful tendered shall be required to furnish a Contract Performance Guarantee Bond in the shape of Bank Guarantee as per (**Annexure-B & C**) or FDR/TDR (pledged in favor of the Principal cum professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh for an amount equivalent to 10% of the FOB value, of equipment towards the execution of the Agreement and the warranty. The term equipment, wherever used, means the main equipment and the electrical, civil and any other miscellaneous work done in the turnkey project. The Bank Guarantee or FDR/TDR should be valid for 30 months.

- b) The supplier shall ensure submission of duly executed agreement (Annexure B & C) and the desired performance Bank Guarantee within 30 days of issue of purchase order failing which and without prejudice to its remedy under the contract, the purchase order shall stand cancelled except when specific extension is given by the Principal-cum- Professor of the Institute in this regard, only on request from the supplier within 30 days of the issue of purchase order, citing valid reasons for seeking an extension which shall, in any case be given for a maximum of 30 days .If Agreement/ PBG is not supplied within the stipulated period, the order is liable to be cancelled and the EMD shall be forfeited.
- c) If the supplier fails to deliver any or all of the goods or perform the service within the time periods specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as liquidated demurrages, a sum equivalent to 0.5% of the contract price for each week of delay or part thereof until actual delivery or performance, up to a maximum deduction of ten percent(10%) of the contract price. Once the maximum is reached, the purchaser may consider termination of the contract as the case may be of the equipment including components, spares, accessories and optional items and civil, electrical and any other miscellaneous work undertaken. The suppliers will inform the purchaser in writing intimating the reasons for delay in supplying and for installing the equipment. The purchaser in his sole discretion may consider a reduction/waiver of the penalty for a period to be stipulated in writing. The acceptance of the equipment will be based on demonstration of the satisfactory working of all models of the equipment as tested by the Institute. The material/equipment etc. required for demonstration of satisfactory functioning of the equipment shall be arranged by the suppliers.

**XX) Period for which the offer shall remain open:**

The tendering firms should keep their offers valid for acceptance for a period of 365 days from the date of opening of the technical bids. If the firms are unable to keep their offers open for the above said period, they should specifically state the period for which their offers would remain open but they must realise that such a provision may result in the rejection of their offer.

**XXI) Custom clearance**

The equipment requiring import from abroad will be imported under the OGL scheme, for which the tenderer will ensure before filling up the tender form, that the equipment, in question, can be imported under the said scheme.

- a) The equipment will be got cleared from the Custom by the tenderer at their own cost.

- b) It will be the responsibility of the tenderer to pursue any claims with the custom authorities / Insurance company/ cargo operators and transporters, as may arise, at any stage.
- c) The N.M.I.C. (Not Manufactured in India Certificate) and the CDEC (Custom Duty Exemption Certificate) will be provided by the Institute/University.

XXII) The Principal-cum-Professor can increase or decrease the quantity to be purchased at any time and the tenderer whose item has been finally selected after due process shall supply the quantity so ordered at the same rate as mentioned by them in the tender.

XXIII)Contract:

The purchaser will not be responsible for any postal delay or any other cause that may lead to delay in the receipt of the documents in this office beyond the stipulated date and time stated in the tender documents.

XXIV)Arbitration:

If at any time, any question, dispute or difference whatever shall arise between two parties upon or in relation to or in connection with this Agreement, either of the parties may give to the other, notice in writing of the existence of such question, dispute or difference and the same shall be referred to two Arbitrators one to be nominated by the First Party and the other to be nominated by the Second Party/Third Party. Such a notice of the existence of any question dispute or difference in connection with this Agreement shall be served by either party within one year of the beginning of such dispute failing which all rights and claims under this Agreement shall be deemed to have been forfeited and absolutely barred. Before proceeding with the reference the Arbitrators shall appoint/nominate an umpire. In the event of the Arbitrators not agreeing in their award, the Umpire appointed by them shall enter upon the reference and his award shall be binding on the parties. The venue of the arbitration shall be at Chandigarh (India). The Arbitrators/Umpire shall give a reasoned award.

The provision of the Indian Arbitration Act in force and of rules framed there under and any statutory modifications thereof shall be deemed to apply and be incorporated in this Agreement.

Upon every or any such reference, the cost of any incidentals to the reference and award(s) respectively shall be at the discretion of the Arbitrators or in the event of their not agreeing, of the Umpire appointed by them who may determine the amount thereof or direct the same to be fixed as between solicitors and client or as between parties and shall direct by whom and in what manner the same shall be borne and paid.

XXV) Jurisdiction:

The courts at Chandigarh alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this Agreement/contract. It is specifically agreed that no court outside and other than Chandigarh court shall have jurisdiction in the matter.

XXVI) The Institute, in case of requirement may also place repeat purchase order on the selected supplier. In such cases, the supplier shall accept and execute all the purchase order placed on them. The purchaser may raise separate/multiple purchase order for items as and when required till the validity of tender.

XXVII) If the Technical/purchase Committee feels that the items or quantity mentioned is to be modified or withdrawn at any time, it may recommend the same.

XXVIII) Pre bid Conference

Pre bid meeting shall be held on 10.12.2014 at 11.00 a.m. in the Committee room of the Principal-cum-Professor of the Dental Institute.

XXIX) Opening of tender

- (a) The technical bids shall be opened at 20.12.2014 at 10.00 a.m.. The date of opening of the Financial bid shall be notified later. The tenderer is at liberty to be present, in person or through his authorized representative, at the opening of the Technical bid at the time and date as specified in the tender notice. The name and address of the representative who would be attending the opening of the tender on tenderer's behalf should be indicated in statement to be furnished along with the technical bids. The representative should carry due authorization from the tenderer. Institute in its discretion may not allow any representative, who does not carry authorization for being present in bid opening. In the event of the day of receipt and opening of tender being a holiday for Panjab University, then due date of receipt/opening of the tender will be the following working day at the same hour.
- (b) The date and time of opening of the financial bids shall be intimated in due course.

Principal-cum-Professor

## ANNEXURE-A

### **Undertaking from the supplier on Non-Judicial stamp paper worth Rs. 30/- duly attested by Notary.**

#### **(To be put in envelope-A)**

1. I,..... (Name of authorized signatory) the undersigned hereby declare and affirm that I have gone through the terms and conditions governing the tender and fulfill all the terms & conditions. Further I also undertake to comply with all terms and conditions mentioned in the tender document.
2. That the rates quoted by me are valid and binding upon me for the period validity of tender.
3. The rates quoted are not higher than quoted for any other govt. Institution/hospital in India.
4. That the earnest money of Rs. \_\_\_\_\_ deposited by me vide Bank term deposit receipt No. \_\_\_\_ Dt. \_\_\_\_ drawn on \_\_\_\_\_ (Name of the Bank) is attached herewith.
5. That I/We authorize the Principal cum professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh to forfeit the earnest money deposited by me/us if any delay or failure to supply the article within the stipulated time and the items of desired/quoted quality and quantity.
6. That I will be in the position to provide Annual Maintenance Contract/Comprehensive Maintenance Contract (AMC/CAMC), spare parts, accessories attached and its consumables for 5 years from the date of satisfactory installation of the equipment till the AMC/CAMC period is over.
7. That there is no vigilance/CBI case or court case pending against the firm, debarring my firm to supply of items quoted.
8. That I hereby undertake to supply the items as per directions given in supply order within stipulated period.
9. That I undertake to maintain the equipment to the satisfaction of user during the period of warranty and guarantee and AMC/CAMC awarded to me.
10. I have been informed that the Principal cum professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh has the right to accept or reject any or all the tenders without assigning any reason thereof.
11. We (Name of firm) undertake that we will provide a minimum of 4 (four) preventive service on quarterly basis during the warranty and AMC/CAMC period as offered in our tender and any no. of break down calls shall also be

- attended within 48 hours. I also agree that the payment of AMC/CAMC shall be made to me on quarterly basis after satisfactory preventive service.
12. The contract of AMC & CAMC if given to us shall be bound by terms and conditions mentioned at the time by the Purchaser.
  13. The firm was never black listed by any Government authority established by law.
  14. This is to state that we have fully trained technical staff for installation/commissioning of the equipment and efficient after sales service.
  15. That we have quoted for items from the following companies and undertake that we are the manufacturer or their authorized distributor/dealer/agent/stockiest (tick one) and have the authority from the company to sell these goods in India.
    - List of Companies

Signature and address of the Tenderer

## ANNEXURE - 'B'

(To be returned within 30 days of issue of Supply Order)

### PERFORMANCE BOND (BANK GUARANTEE)

In consideration for The Principal-cum-Professor, Dr. Harvansh Singh. Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh (*hereinafter called the purchaser*) having agreed to release the 100% payment of net F.O.B. price as per terms and conditions of a concluded Contract No \_\_\_\_\_ dated \_\_\_\_\_ (*hereinafter called 'the contract'*) for supply of \_\_\_\_\_ (*hereinafter called the goods and services*) to Messrs \_\_\_\_\_ (*hereinafter called 'the supplier'*) on submission of a Bank Guarantee and installation and inspection of the goods and services as per above mentioned contract to the satisfaction of the purchaser for the due performance of the said contract.

We, \_\_\_\_\_ (*hereinafter called 'the Bank'*) at the request of the supplier do, as a primary obliger and not merely as surety, hereby irrevocably, unconditionally and absolutely undertake against any loss or damage caused or suffered by the purchaser by reason of any failure of the supplier to perform or omission or negligence to perform any part of its obligations to the satisfaction of the purchaser in terms of the contract.

We, the Bank, do hereby undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from the purchaser stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the purchaser by reason of any breach by the said supplier of any of the terms and conditions contained in the said contract or by reason of the supplier's failure or omission or negligence to perform the said contract or any part thereof. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee, which shall not be considered as satisfied by any intermediate payment or satisfaction of any part of or obligation hereunder. However, our liability under this Guarantee shall be restricted to an amount not exceeding \_\_\_\_\_ .

We, the Bank, undertake to pay to the purchaser any amount so demanded by the purchaser, notwithstanding,

- a) any dispute or difference between the purchaser and the supplier or any other person or between the supplier or any person or any suit or proceeding pending before any court or tribunal or arbitrator relating thereto or
- b) the invalidity, irregularity or unenforceability of the contract or

- c) any other circumstances which might otherwise constitute discharge of this guarantee, including any act or omission or commission on the part of the purchaser to enforce the obligations by the supplier or any other person for any reason whatsoever.

We, the Bank, further agree that the Guarantee herein contained shall be continued one and remain in full force and effect during the period that would be taken for the performance of the said contract and that it shall continue to be enforceable till all the dues of the purchaser under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the office of The Principal-cum-Professor, Dr. Harvansh Singh, Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh, certifies that the terms and conditions of the said contract have been fully and promptly carried out by the said supplier and accordingly discharges this Guarantee.

We, the Bank, hereby agree and undertake that any claim which the Bank may have against the supplier shall be subject to and subordinate to the prior payment and performance in full of all the obligations of the bank hereunder and the bank will not, without prior written consent of the purchaser, exercise any legal rights or remedies of any kind in respect of any such payment or performance so long as the obligations of the bank hereunder remain owing and outstanding, regardless of the insolvency, liquidation or bankruptcy of the supplier or otherwise howsoever. We, the Bank, will not counter claim or set off against its liabilities to the purchaser hereunder any sum outstanding to the credit of the purchaser with it.

We, the Bank, further agree with the purchaser that the purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the said supplier from time to time or to postpone for any time or from time to time and of the powers exercisable by the purchaser against the said supplier and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said supplier or for any forbearance, act or omission on the part of the purchaser or any indulgence by the purchaser to the said supplier or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the supplier.

We, the Bank, lastly undertakes not to revoke this Guarantee during its currency except with the previous consent of the purchaser in writing.

The disputes relating to this Bank Guarantee shall be resolved as per the terms and conditions of the contract.

Signature and seal of the bank

Place

Date



## ANNEXURE - 'C'

**(Undertaking from the Supplier on a Non Judicial Stamp Paper of Rs. 30/- duly attested by Notary)  
(To be returned within 30 days of issue of supply order)**

### PERFORMANCE BOND / GUARANTEE

In consideration for The Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh (*hereinafter called the purchaser*) having agreed to release the 100% payment of net F.O.B. price as per terms and conditions of a concluded Contract No \_\_\_\_\_ dated \_\_\_\_\_ (*hereinafter called 'the contract'*) for supply of \_\_\_\_\_ (*hereinafter called the goods and services*) to us i.e. Messrs \_\_\_\_\_ (*hereinafter called 'the supplier'*) on submission of a Performance Bond and installation and inspection of the goods and services as per above mentioned contract to the satisfaction of the purchaser for the due performances of the said contract.

We, Messrs \_\_\_\_\_ (*hereinafter called 'the Supplier'*) hereby submit the FDR/TDR No. \_\_\_\_\_ issued by \_\_\_\_\_

(Name of the Bank) for Rs. \_\_\_\_\_ pledged in favour of The Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh as Performance Guarantee amount and hereby irrevocably, unconditionally and absolutely undertake against any loss or damage caused or suffered by the purchaser by reason of any failure of the supplier to perform or omission or negligence to perform any part of its obligations to the satisfaction of the purchaser in terms of the contract.

We, the Supplier, do hereby authorize The Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital, Sector-25, Panjab University, Chandigarh to forfeit this Performance Guarantee amount/undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from the purchaser stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the purchaser by reason of any breach by us of any of the terms and conditions contained in a said contract or by reason of our failure or omission or negligence to perform the said contract or any part thereof.

We, the Supplier, undertake to pay to the purchaser any amount so demanded by the purchaser, notwithstanding,

- a) any dispute or difference between the purchaser and the supplier or any other person or between the supplier or any person or any suit or proceeding pending before any court or tribunal or arbitrator relating thereto or
- b) the invalidity, irregularity or unenforceability of the contract or
- c) any other circumstances which might otherwise constitute discharge of this guarantee, including any act or omission or commission on the part of the purchaser to enforce the obligations by the supplier or any other person for any reason whatsoever.

We, the Supplier, further agree that the Performance Bond/Guarantee herein contained shall be continued one and remain in full force and effect during the period that would be taken for the performance of the said contract and that it shall continue to be enforceable till all the dues of the purchaser under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the office of the, Principal-cum-Professor, Dr. Harvansh Singh Judge Institute of Dental Sciences, Panjab University, Chandigarh certifies that the terms and conditions of the said contract have been fully and promptly carried out by us and accordingly discharges this Performance Bond/ Guarantee.

We, the Supplier, further agree with the purchaser that the purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by us from time to time or to postpone for any time or from time to time and of the powers exercisable by the purchaser against us and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to us or for any forbearance, act or omission on the part of the purchaser or any indulgence by the purchaser to us or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This Performance Bond / Guarantee will not be discharged due to the change in the constitution of the Supplier.

We, the Supplier, lastly undertakes not to revoke this Performance Bond / Guarantee except with the previous consent of the purchaser in writing.

The disputes relating to this Bank Performance Bond / Guarantee shall be resolved as per the terms and conditions of the contract.

Signature and seal of the Supplier

Place

Date

## TECHNICAL SPECIFICATIONS

### ANNEXURE D-1 - COMMON ITEMS

Sr. No.	Item Name	Specification	Qty. required
1	Digital Panoramic x-ray with Dicom printer	<ul style="list-style-type: none"> <li>• Facility to adjust the size &amp; shape of the focal layer and trough based on patient's jaw shape &amp; size.</li> <li>• Constant potential microprocessor controlled generator with high frequency 80 – 150 kHz to take care of online voltage fluctuations</li> <li>• Equipment should possess motorized automatic positioning programs to facilitate the exposures for Tomography imaging of high diagnostic value.</li> <li>• Should have Triple laser beams for accurate alignments of reference anatomical land marks</li> <li>• One 4-blade collimator for any current or future imaging need should be provided.</li> <li>• Automatic Cephalometry with automatic alignment of the unit and aperture selection.</li> <li>• There should be a facility to print information of patient &amp; exposure parameters on the film itself.</li> <li>• The digital systems should have Dicom compatibility with full ADA compliance.</li> <li>• Corrosion-free Aluminium construction</li> <li>• Robotic panoramic arm</li> <li>• Centralized complete control panel on machine, touch screen, Graphical User Interface (GUI) for efficient operations</li> <li>• Side patient entry to allow wheel chair patient</li> <li>• Horizontal and vertical image segmentation</li> <li>• Chin support for edentulous patients</li> <li>• Motorized temple supports, focal layer adjustment and up-down movement</li> <li>•</li> </ul>	01

- Special panoramic programs for x-ray beam to be perpendicular to jaw bone for implantology / traumatology and for zero overlapping of adjacent teeth
- Source image distance not more than 500 mm for minimum magnification (panoramic) and 170 cm for cephalogram
- Space requirements: Approximately 2.5 sq. m. including panoramic and cephalostat
- Upgradeable to 3D / dental CT
- Facility for an optional advanced panoramic program package should be provided in the machine
- Should be able to make -
  - Lateral-PA double TMJ
  - Lateral multiangle TMJ left and right
  - PA multiangle TMJ left and right
  - PA non rotational sinus (straight layer)
  - Lateral non rotational sinus (straight layer)
- Cephalometry
  - Adjustable soft tissue filter through imaging software
  - Carbon fibre ear post material
  - Single movable sensor for both Panoramic and cephalometric
- Focal spot - Not more than 0.5 x 0.5mm,
- Total filtration –minimum 2.5 mm of Al
- Cooling period should be automatically controlled
- AERB approval

<b>Power Supply</b>	115 - 250 Kv or less than 2 KVA
<b>Frequency</b>	50 / 60 Hz $\pm$ 2 Hz
<b>Maximum Line Power Rating</b>	10 A at 250 V, 20 A at 115 V
<b>Anode Voltage</b>	50 - 84 kV
<b>Anode Current</b>	1 - 15 mA DC
<b>Exposure Time</b>	12 -14 s for standard pan, 0.16 - 2.5 s for Ceph
<b>Duty Cycle</b>	1:20 at full power operation
<b>Focal Spot</b>	0.5 mm
<b>Active Area CCD Sensor</b>	minimum of 147 x 6 mm (Standard Pan), 220 x 6 mm (Ceph)
<b>Printing facility for the above with a Dicom printer should be</b>	

		<p><b>provided with following specifications .</b></p> <p>The Imager should be direct thermal. The printer should be Dicom native imager. The printing format can be 8X10 Inch and 10X12 Inch /11X14, 14X14 inch.</p> <p><b><u>Imaging Software Features:</u></b></p> <p>The software of the digital OPG equipment should allow formatting the images and printing the images by altering the sizes–</p> <ul style="list-style-type: none"> <li>- Should allow for faster &amp; easier exposure; no hardware or computer reset should be required between two successive x-ray shots</li> <li>- Automatic acquisition and save mode</li> <li>- No time-out of sensor system while waiting to take x-ray</li> </ul> <p>Rates should be coated with installation and set up.</p>	
2	<b>Dental Chairs</b>	<ul style="list-style-type: none"> <li>• Electrically controlled dental chair with all functional components integrated in the chair</li> <li>• Should have seamless upholstery</li> <li>• Should have multiple programmes with independent up and down movement and back rest movement permit complete supine position of the patient</li> <li>• Should <b>have</b> manufacturer’s name, brand, model, electrical rating, year of manufacture durably marked on the equipment and should have IEC-60601-1-2 certificate</li> <li>• Should have two step articulated head rest for comfortable patient-head positioning</li> <li>• White LED operating light with reflector with at least two intensities and hands free switch on &amp; off facility</li> <li>• Operating light should have autoclavable/removable handle</li> <li>• Spittoon should be made of high finish porcelain/toughened glass with sensor activated cup filler, flush function</li> <li>• Should have high and low vacuum suction with auto start and stop functions</li> </ul>	66+50 Subject to grant of funds by the authority

		<ul style="list-style-type: none"> <li>• Chair side console should have couplings for Airtor, Micromotor, 3 way syringe with under hanging type of chords</li> <li>• Micromotor should have 1:1 direct drive</li> <li>• Stainless steel instrument top</li> <li>• Should have a LED backlit radiographic image viewer</li> <li>• Printer/electronic trouble shooting guideline should be provided to user</li> <li>• Warranty period for 2 years and comprehensive AMC for 3 years after warranty period required, CE/ISO/FDA certification</li> <li>• The model should be in the market for at least three years, the vendor will produce the necessary proof for verification in the technical bid</li> </ul> <p>Accessories</p> <ul style="list-style-type: none"> <li>• Operator stool with five castors and backrest-01 No.</li> <li>• Water bottle and water treatment assembly for spittoon connection (the other functions should be connected to the integrated water reservoir of treated/distilled water)</li> </ul>	
3	<b>Computer</b>	<p>Desktop PC Specifications</p> <ul style="list-style-type: none"> <li>• 4th Generation Intel(R) Core(TM) i5-Processor (6M Cache, up to 3.3 GHz)</li> <li>• Windows 8.1 Single Language (64Bit) English</li> <li>• 8GB Single Channel DDR3 1600MHz - 1 DIMM</li> <li>• 1 TB 7200 rpm SATA Hard Drive</li> <li>• Combo DVD ROM</li> <li>• 22" LED TFT</li> <li>• Key Board &amp; Mouse</li> <li>• 3 years limited (3 years parts, 3 years onsite) warranty with up-and-running phone support</li> <li>• Support Assistant</li> </ul>	05
4	<b>Digital camera SLR</b>	<ul style="list-style-type: none"> <li>• Mid Size Digital SLR</li> <li>• Minimum 14 MP</li> <li>• Manual Focus option</li> <li>• 18-135mm lens</li> <li>• CMOS sensor</li> <li>• Full HD (1080)</li> <li>• 3" LCD with Variangle</li> <li>• Minimum 4 GB SD Card</li> <li>• Compatible Macro Lens for 1:1</li> <li>• Magnification ratio.</li> <li>• Compatible Ring Flash LED</li> </ul>	04

		<ul style="list-style-type: none"> <li>Carry case</li> <li>i) Cannon EOS 600D or equivalent</li> </ul>									
5	<b>Intra-Oral Camera</b>	<ul style="list-style-type: none"> <li>Autofocus technology</li> <li>Wireless camera for cable free connection</li> <li>White LED lighting for uniform and bright illumination</li> <li>Compatible with both computer and video monitors with seamless integration</li> <li>Focus range of 1 mm to infinity</li> <li>USB 2.0 high speed interface</li> <li>Video resolution of 640 (H) *480 (V)</li> <li>Image resolution 1280 (H) * 960 (V)</li> </ul>	02								
6	<b>Ultrasonic Cleaner</b>	<ul style="list-style-type: none"> <li>Should be stainless steel tanks enclosed in a durable aluminium housing, water resistant construction.</li> <li>Should have a heater on/off switch</li> <li>Power balanced circuitary</li> <li>Approx. 60 min countdown timer</li> <li>Ready start-up for instant cleaning power-internal thermal cut-off</li> <li>Tank capacity&gt;10L (with drainage)</li> <li>Adjustable digital timer and heater (20-80 C)</li> <li>Should be supplied with 10 boxes of concentrated ultrasonic cleaning solution</li> <li>Technical Specification :</li> </ul> <table border="1" data-bbox="488 1150 1138 1304"> <tr> <td>Model</td> <td>(Digital Timer &amp; Heater)</td> </tr> <tr> <td>Ultrasonic power</td> <td>360W</td> </tr> <tr> <td>Heating power</td> <td>300W</td> </tr> <tr> <td>Frequency</td> <td>40,000Hz</td> </tr> </table>	Model	(Digital Timer & Heater)	Ultrasonic power	360W	Heating power	300W	Frequency	40,000Hz	04
Model	(Digital Timer & Heater)										
Ultrasonic power	360W										
Heating power	300W										
Frequency	40,000Hz										
7	<b>X-ray Viewer</b>	<ul style="list-style-type: none"> <li>Wall or desk mount</li> <li>Viewing area 15"-18"</li> <li>Light Weight</li> <li>LED based illumination</li> </ul>	08								
8	<b>Air rotor hand pieces</b>	<ul style="list-style-type: none"> <li>Speed 3,00,000-4,00,000 rpm</li> <li>Small head housing</li> <li>Non-slip surface</li> <li>Penta Spray/ 3 nozzle spray/ Quattro Water Spray for optimum cooling</li> <li>Pushbutton chucking system</li> <li>Ceramic ball bearing</li> <li>Sterilisable in autoclaves up to 135°C</li> <li>Thermally disinfectable</li> <li>Quiet operation</li> <li>Preferably along with additional cartridge</li> </ul>	25								





		<ul style="list-style-type: none"> <li>• Revolution : approx 2000-3000 RPM</li> </ul>	
12	<b>Laser Guided Pin Drill System</b>	<ul style="list-style-type: none"> <li>• Heavy duty Pindex system</li> <li>• Precision Laser beam to ensure exact location of drill fit</li> <li>• Manual/Pneumatic drilling procedure</li> <li>• Can accommodate a variety of standard pin drills.</li> <li>• Accessories should include complete saw system and pin system of various sizes along with sleeves.</li> <li>• CE (European conformity) marking or FDA compliance.</li> </ul>	02
13	<b>Vibrator</b>	<ul style="list-style-type: none"> <li>• Should feature cast metal housing construction with a shock absorbing base and easy to clean removable rubber top.</li> <li>• With variable speed vibration control feature</li> <li>• Large suction feet for stability.</li> </ul>	05
14	<b>Magnifying Work Lamp</b>	<ul style="list-style-type: none"> <li>• Easy mounting on table top with adjustable arm</li> <li>• Lens material glass with 5X magnification</li> </ul>	02
15	<b>Circular Saw</b>	<ul style="list-style-type: none"> <li>• The unit should be with diamond blade disc saw</li> <li>• Speed at least 2000 RPM</li> <li>• Should have two hand safety protections</li> <li>• Built in suction with filter</li> <li>• Additional adjustable hand saw with changeable blades.</li> <li>• Easy handling.</li> </ul>	02
16	<b>Wax Heater</b>	<ul style="list-style-type: none"> <li>• Portable</li> <li>• LED display showing actual temperature in degree Celsius</li> <li>• Multiple pots with provision for controlling each pot separately</li> <li>• Built-in thermostat</li> <li>• Sufficient depth of pots to allow dipping of copings</li> <li>• Temperature interval from 45°C-110°C</li> <li>• CE certification</li> </ul>	02
17	<b>Heavy Duty Lathe</b>	<ul style="list-style-type: none"> <li>• Constant torque through the entire speed</li> <li>• Approx. 500-4000 RPM speed range</li> <li>• Quick-change chuck mounted on one side</li> <li>• Standard dental taper shafts with chuck removers</li> <li>• UL recognized and CSA certified for electrical safety</li> </ul>	03
18	<b>Clinical Micromotors</b>	<ul style="list-style-type: none"> <li>• NSK/KaVo/Sirona/W&amp;H/equivalent</li> </ul>	03
19	<b>Vacuum Mixer</b>	<ul style="list-style-type: none"> <li>• Fully automatic process sequence</li> <li>• Utilizes exact water and investment dose</li> <li>• Integrated vacuum pump with adjustable vacuum level</li> <li>• Can be used for mixing dental plaster, investments and silicones</li> <li>• Can be installed as either wall or benchtop unit</li> <li>• Programmed mixing speed for different materials and quantity</li> </ul>	04

		<ul style="list-style-type: none"> <li>Digital display showing parameters</li> <li>CE(European conformity) marking or FDA compliance</li> </ul>	
20	<b>DUPLICATOR (Duplicating Flasks)</b>	<ul style="list-style-type: none"> <li>Made of durable die cast aluminum and finished with a smooth baked-on powder coat.</li> <li>Should have a raised base.</li> </ul>	02
21	<b>Sand Blaster</b>	<p>a) Micro sandblaster (intraoral)</p> <ul style="list-style-type: none"> <li>All stainless steel construction carbide tip</li> <li>Autoclavable nozzle</li> <li>360 degree rotatable and interchangeable nozzles</li> </ul> <p>b) Macro Sand Blaster</p> <ul style="list-style-type: none"> <li>Has direct control with inbuilt internal LED light in hand piece, aspirator, external joint and pressure regulator</li> <li>Rubber gloves for abrasion free work</li> <li>Blasting device should be with filter module</li> <li>Colour coding system on the tanks and in the sandblasting chamber with the aid of LED lights</li> <li>Compressed air connector upto 6 bar.</li> </ul> <p>CE(European conformity) marking or FDA compliance</p>	02  02
22	<b>Magnifying Loops</b>	<ul style="list-style-type: none"> <li>Multi-Coated optics for crisp, bright images.</li> <li>Super-compact lightweight (17g).</li> <li>Water-resistant.</li> <li>Independent adjustment of left and right optics for perfect PD adjustment.</li> </ul> <p>Mounting Option: Frame</p> <ul style="list-style-type: none"> <li>Maximum comfort with a modern, ergonomic design.</li> <li>Malleable temples and nose pad can be customized to fit any face perfectly.</li> <li>Innovative materials – Carbon-Kinetium reduces weight (24g).</li> <li>Tough polycarbonate protective lenses.</li> <li>Optional clip-in correction frame for prescription lenses.</li> </ul> <p>LED loupelights:</p> <ul style="list-style-type: none"> <li>Advanced LED Technology. White, homogenous light, ideal for all surgical and dental applications.</li> <li>Coaxial Shadow-free Illumination. Compact, lightweight (24g). Ensures perfect comfort.</li> <li>Aluminium housing. Compact and long lasting with advanced heat management. Reduces heat build-up.</li> <li>Waterproof design. Easy to clean.</li> </ul>	05

		<ul style="list-style-type: none"> <li>• Individual adjustment of the angle of view.</li> <li>• Optional yellow filter reduces blue light.</li> <li>• Precision multiple lens optical system consisting of four high-quality lenses.</li> </ul> <p>Technical Specification:  Illumination: 40,000 Lux at a working distance of 250 mm  Colour Temperature: 6,250 Kelvin  LED Operating Life: 1W Super-High Output LED rated at 50,000 hours operating life  Spot Size: The illuminated field is designed to complement the HR/HRP loupes. 81mm dia. at 420mm, 95mm dia. at 500mm  Angle of Declination: Individually-adjustable for every examination  Operating Time: 17 hours (with mPack LL)</p>	
23	<b>Spot Welder</b>	<ul style="list-style-type: none"> <li>• Spot welders with current pulse up to 2000 Amps.</li> <li>• Variable welding settings.</li> <li>• Provision for continuous soldering</li> <li>• Stand-by mode with power saving device.</li> <li>• Provision for foot switch control as well as hand operation</li> </ul> <p>i. Dentaurem ii. RMO or Equivalent</p>	02
24	<b>Heavy Duty Lathe with Suction</b>	<ul style="list-style-type: none"> <li>• 1HP, high speed motor with approx 3000 rpm rotation</li> <li>• Built in high power dust suction behind the chuck</li> <li>• Dust collection bag</li> <li>• Table mounted base</li> </ul>	02
25	<b>LCD projectors</b>	<p>Brightness: 2500 ANSI Lumens (Max)  Contrast Ratio: 2200:1 Typical (Full On/Full Off)  Native Resolution: SVGA (800x600)  Aspect Ratio: 4:3  Uniformity: 90% Typical (Japan Standard - JBMA)  Projection Lens: F-Stop: F/ 2.41-2.55  Focal length, f=21.8~24mm  Zoom Lens: Manual 1.1x  Throw ratio: 1.95 (wide) - 2.15</p> <p>(tele)  Diagonal Screen Size: 22.9" ~ 303" (0.58m ~7.69m)  Projection Distance: 3.28 ft ~ 39.37 ft (1m ~ 12m)  Displayable Colors: Up to 1.07 billion  3D-Capable: Yes  LAMP  Lamp Life Cycle<sup>1</sup>: Up to 4500 hrs in Normal Mode  Up to 5000 hrs in Eco-Mode  Lamp Type: Philips 190W user-replaceable  Lamp Warranty: 1-year  Vertical: Auto- 35°/+40° to +37°/-40°</p>	06

	<p>Horizontal: N/A</p> <p>AUDIO and Speaker</p> <ul style="list-style-type: none"> <li>• Multimedia Audio: 2W Speaker</li> </ul> <p>CONNECTIVITY</p> <ul style="list-style-type: none"> <li>• Power: 1x AC power socket (3-pin - C14 inlet)</li> </ul> <p>VGA input: 2x 15-pin D-sub connectors (Blue), VGA-A &amp; VGA-B, for analog RGB/Component input signals.  VGA output: 1x 15-pin D-sub connector (Black) for VGA-A loop through.  S-Video input: 1x standard 4-pin min-DIN S-Video connector for Y/Csignal.  Composite video input: 1x Yellow RCA jack for CVBS signal.  Analog Audio input: 1x 3.5mm stereo mini phone jack (Green).  Fixed audio output: 1x 3.5mm stereo mini phone jack (Blue).  USB port: 1x USB-B slave for remote support.</p> <p>VIDEO COMPATIBILITY</p> <p>Composite Video / S-Video: NTSC (M, 3.58, 4.43), PAL (B, D, G, H, I, M, N, 4.43), SECAM (B, D, G, K, K1, L, 4.25/4.4)  Component Video via VGA: 1080i/p, 720p, 576i/p, 480i/p</p> <p>Power:  Universal 100-240V AC 50Hz-60Hz with PFC input  Power Consumption Operational:  Normal mode: 225W ± 10% @ 110Vac  Eco mode: 200W ± 10% @ 110Vac  Power saving mode: ≤14W (fan speed at minimum)  Standby mode: ≤0.5W</p> <p>Noise Output:  37 dB(A) Normal Mode  35 dB(A) Eco-Mode</p>	
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## ANNEXURE- D-2- DEPARTMENT OF PERIODONTICS

Sr. No.	Name of Item	Specifications	Reqd qty
	<b>Diagnostic Instruments</b>		
		<ul style="list-style-type: none"> <li>• Either as single ended or double ended instrument.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Manufacturer should have cGMP certified facilities.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Hollow handled with textured surface</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shall meet safety standards as per EN ISO 13485 quality system standard compliance.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Product should have international quality approval of CE and FDA</li> </ul>	
	1. W.H.O Probe		01
	2. Naber's Probe		01
	3. Williams probe Thin Color coded		01
	4. Newman's Probe		01
	5. Goldman Fox probe		01
	6. Marquis color coded probe		01
	<b>Oral Prophylaxis Instruments</b>		
		<ul style="list-style-type: none"> <li>• Either as single ended or double ended instrument.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Hollow handled with textured surface</li> </ul>	
		<ul style="list-style-type: none"> <li>• Manufacturer should have cGMP certified facilities.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shall meet safety standards as per EN ISO 13485 quality system standard compliance</li> </ul>	

		• Product should have international quality approval of CE and FDA	
	<b>i) Supragingival Scalers</b>		
	7. Sickle scalers		02
	8. Cumine		02
	9. Hygienist		02
	10. Towner		02
	11. Jacquette (set of 5)		02
	12. IUFW		02
	13. Springfield (set of 2)		02
	14. Remington		02
	15. Taylor		02
	16. Morse		02
	17. Nebraska		02
	18. Whiteside		02
	19. Younger-good		02
	20. Ball (set of 2)		02
	21. Crane Kaplan (set of 2)		02
	22. Mc Call (set of 2)		02
	23. Goldman Fox (set of 8)		02
	24. Cattoni (set of 4)		02

	25. Disk Scalers (set of 5)		02
	26. Gracey Propphy curettes(set of 4)		02
	27. Rule 3/4		02
	28. Darby- Perry (set of 4)		02
	29. Mitchell Osteo trimmer		02
	30. Welliger		02
	31. Mc Farlane (set of 2)		02
	32. Hoe scalers		02
	33. Orbans (set of 2)		02
	34. U15/30		02
	35. Towner		02
	36. File scalers		02
	37. Orbans (set of 2)		02
	38. Hirschfeld (set of 3)		02
	39. Diamond coated		02
	40. Nabers		02
	41. Mesial/distal		02
	42. Chisel scalers		02
	43. Cushing's (set of 2)		02

	44. Zerfing		02
	45. Instrument sharpening unit	<ul style="list-style-type: none"> <li>• Cordless</li> <li>• Should have a guide plate to work as templates for precise positioning of the instruments.</li> <li>• Kit should contain: <ul style="list-style-type: none"> <li>▪ Cordless unit</li> <li>▪ Guide plate</li> <li>▪ Ceramic stone</li> </ul> </li> </ul>	02
	46. Cassettes	<ul style="list-style-type: none"> <li>• Manufactured from medical grade stainless steel</li> <li>• Subjected to corrosion testing</li> <li>• Electro-polished surface</li> <li>• Should possess smooth rounded corners</li> <li>• Positive locking mechanism</li> <li>• 35-40% flow through hole pattern</li> <li>Should not possess rivet welds or hinge</li> </ul>	02
	<b>ii) Subgingival Scalers</b>		
		<ul style="list-style-type: none"> <li>• Either as single ended or double ended instrument.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Hollow handled with textured surface</li> </ul>	
		<ul style="list-style-type: none"> <li>• Manufacturer should have cGMP certified facilities.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shall meet safety standards as per EN ISO 13485 quality system standard compliance.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Product should have international quality approval of CE and FDA</li> </ul>	
	47. Mc Call's curettes (set of 4 )		02
	48. Langer curette (set of 4) Regular size		02
	49. Langer curette (set of 3) Elongated shank		02
	50. Langer curette (set of 3) Elongated shank with 50% smaller blade	Anterior and posterior	02
	<b><u>Universal curettes</u></b>		
	51. Indiana University (set of 2)		02



	52. Bunting (set of 2)		02
	53. Younger good		02
	54. Barnhart (set of 2)		02
	55. Columbia (set of 3)		02
	56. Bates		02
	57. Rule		02
	58. Goldman		02
	59. Hutchinson		02
	60. Radcliff		02
	61. Loma Linda		02
	62. Mallery		02
	63. ME-1		02
	<b><u>Area specific curettes</u></b>		
	64. Gracey curettes (set of 11)	Standard size	
	65. Gracey curettes (set of 9)	Elongated shank by at least 3mm)	02
	66. Gracey curettes (set of 9)	Elongated shank by atleast 3mm with 50% shorter blade than the standard size)	02
	67. Gracey curettes (set of 4)	Elongated shank by at least 3mm with 50% shorter blade than the standard size)	02
	68. Turgeon modified gracey curettes (set of 5)	Elongated shank by at least 3mm with 50% shorter and at- least 20% thinner blade than the standard size)	02
	69. Curvettes (set of 4)		02
	70. Debridement curettes (set of 4)		02
	71. Hutchinson curettes		02
	<b><u>Furcation curettes</u></b>		
	72. De Marco (set of 2)		02
	73. Quetin (set of 5)		02
	74. Indiana university curettes (set of 2)		02
	<b><u>Implant curettes</u></b>		
	75. Titanium curettes (set of 7)	Working tip of titanium for implant care use (With 0.9mm and 1.3mm blades)	02
	76. Resin tip curettes (set of 3)	Working tips of resin	02
	77. Instrument sharpening kit	<ul style="list-style-type: none"> <li>• Cordless</li> <li>• Should have a guide plate to work as templates for precise positioning of the instruments.</li> <li>• Kit should contain:</li> </ul>	02

		Cordless unit Guide plate Ceramic stones	
	78. Cassettes (For 16 instruments)	<ul style="list-style-type: none"> <li>▪ Manufactured from medical grade stainless steel</li> <li>▪ Subjected to corrosion testing</li> <li>▪ Electro-polished surface</li> <li>▪ Should possess smooth rounded corners</li> <li>▪ Positive locking mechanism</li> <li>▪ 35-40% flow through hole pattern</li> <li>▪ Should not possess rivet welds or hinge</li> </ul>	02
<b>C.</b>	<b>Routine Surgical Instruments</b>		
		<ul style="list-style-type: none"> <li>• Manufacturer should have cGMP certified facilities.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shall meet safety standards as per EN ISO 13485 quality system standard compliance.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Product should have international quality approval of CE and FDA</li> </ul>	
	<b>(i) Scalpel handles</b>		
	79. Bard parker style with metric ruler		02
	80. Double bladed scalpel handle (1mm distance between blade)		02
	81. Double bladed scalpel handle (1.5mm distance between blades)		02
	82. Scalpel blade with offset angle design (For posterior and palatal areas)		02
	83. Universal 360 degree blade handle		02
	84. Paquette blade handle		02
	85. Pen like scalpel handle		02
	86. Anaesthetic aspirating Syringe		02
	<b>(ii) Periosteal Elevator</b>		
	87. Benque		02
	88. Molt		02
	89. Allen		02
	90. Howard		02
	91. Hourigan		02
	92. Goldman fox		02

	93. Hirschfield		02
	94. Hoexter		02
	95. Bennett		02
	96. Hopkins (set of 2)		02
	97. Ohl		02
	98. Woodson		02
	99. K-N prichard		02
	100. Buser implant periosteal		02
	<b>(iii)Scissors</b>		
	101. Metzenbaum Straight/ pointed (14.5cms/ 5 ½")		02
	102. Metzenbaum Curved/ pointed (14.5cms/ 5 ½")		02
	103. Goldman Fox straight (13cm/5")		02
	104. Goldman Fox curved (13cm/5")		02
	105. Iris scissors Straight (11.5cm/4")		02
	106. Iris scissors Curved (11.5cm/4")		02
	107. Locklin curved handle (16.5cm/ 6")		02
	108. Kelly straight (16cm/6")		02
	109. Wagner curved (11.5cm/4.5")		02
	110. Wagner angled (11.5cm/4.5")		02
	111. Quinby Curved		02

	(12.5cm/5")		
	112. La Grange double curved (11.5cm/ 4.5")		02
	113. Castrovejo curved (10cm/4")		02
	114. Suture scissor (15cm/6")		02
	115. Straight pointed general surgical scissor (14.5cm/ 5.75")		02
	<b>(iv) Needle Holder</b>		
	116. Hegar- Baumgartner (15cm/6")		02
	117. Webster smooth (14cm/5.5")		02
	118. Olsen Hegar Needle holder scissors (13cm/5")		02
	119. De Bakey (17cm/6")		02
	120. Crile-wood needle holder (18cm/7")  Tungsten carbide inserts		02
	121. Castrovejo needle holder  Spring grip for delicate suturing		02
	122. Fine Swedish pattern needle holder		02
	123. With tungsten		02

	carbide inserts Straight Semkin Taylor Tissue pliers (12.5 cm/5")		
	124. Adson's tissue pliers (12cm/4.75")		02
	125. Fox locking tissue pliers (15cm/6")		02
	126. Adson Brown (12cm/4.75")		02
	127. Kramer Nevins Tissue pliers: curved		02
	128. Corn suture pliers		02
	<b>(V)Other Instruments</b>		
	129. Kirkland periodontal knife		02
	130. Orbans periodontal Knife		02
	131. Orbans knife  Atleast 30% thinner than standard Orbans		02
	132. Goldman fox (set of 4)		02
	133. Bucks periodontal knife(set of 2)		02
	134. Kramer – Nevins perio knives – kidney shaped (set of 2)		02
	135. Kramer – Nevins perio knives – bayonet shaped (set of 2)		02
	136. UNC 15 probe		02

	137. Lucas Surgical curette 86		02
	138. Sugarman surgical curette (set of 3)		02
	139. Goldman fox bone/ soft tissue nipper (4")		02
	140. Mead's Rongeurs		02
	141. Mini Friedman Rongeur (14.5cm)		02
	142. Membrane placement instrument		02
	143. Orban medicament loop		02
	144. Buser modified periodontal chisel (3/5mm)		02
	145. Scalpel blade remover		02
	146. Bishop Cheek retractors		02
	147. Cawood Minnesota Cheek retractor		02
	148. Mouth props		02
	149. Wakefield Gauze packer		02
	150. Backhaus Towel clamps		02
<b>D.</b>	<b>Special surgical Instruments</b>		
		<ul style="list-style-type: none"> <li>• Manufacturer should have cGMP certified facilities.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shall meet safety standards as per EN ISO 13485 quality system standard compliance.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Product should have international quality</li> </ul>	

		approval of CE and FDA	
	151. Kirkland knife 15/16		01
	152. Bucks Knife • 3/4 • 5/6		01
	153. Orban Knife  • 1/2		01
	154. Paquette Blade handle		01
	155. Goldman fox Pocket marker (set of 2)		01
	156. Mc Call's Universal curettes		01
	(i) <b>Gracey curettes</b>		
	157. Gracey curettes (set of 11)	(Standard size)	01
	158. Gracey curettes (set of 9)	(Elongated shank by atleast 3mm)	01
	159. Gracey curettes (set of 9)	(Elongated shank by atleast 3mm with 50% shorter blade than the standard size)	01
	160. Gracey curettes (set of 4)	(50% shorter and at- least 20% thinner blade than the standard size)	01
	161. Tissue Nipper		01
	162. Crane Kaplan		01
	163. Cumine scaler		01
<b>E.</b>	<b>Osseous Surgical Instruments</b>		
	164. Mallet		01
	165. Oschenbain Chisel No. 2 No. 4	• (19cm)/7.5"/7.5oz • nylon facings	01
	166. Schluger's bone file 9/10		01
	167. Bone File		01
	168. Miller's No. 52		01
<b>F.</b>	<b>Bone Regenerative Materials</b>		
	169. Sterile, biocompatible Synthetic bone graft containing $\beta$ - tricalcium		4pkts

	phosphate Available IN 1- 0.8cc sterile syringe Granule size: 0.5- 1mm		
	170. Sterile, biocompatible Xenogenic demineralized bone graft containing collagen type I Available in a pack of two 0.25 gm sterile vial Granule size 250 microns		4 pkts
	171. Osteoconductive, resorbable, highly crystalline material comparable to natural bone Containing no $\alpha/\beta$ tricalcium phosphates amorphous phases, or bone- inhibiting pyrophosphates Synthetically derived non-ceramic bone graft material Available in crystalline form (300-400 microns) 0.75 gm vials.		3 pkts
	172. Osteoconductive, resorbable material Containing Type 1 collagen with calcium sulphate Resorption within 6-8 weeks Cost effective Easy to use, moldable dough like consistency Available in a pack of two 0.25 gm vials		2 pkts
	173. Absorbable collagen membrane containing Type 1 collagen of xenogenic origin		3 pkts



	Purified using a patented American technology Stored at 4-40 degree Celsius 30×40 mm per vial		
	174. 100% Synthetic hydroxyapatite, 1cc		2 pkts
<b>G.</b>	<b>Microsurgical periodontal Instruments</b>		
		• Either as single ended or double ended instrument.	
		• Hollow handled with textured surface	
		• Manufacturer should have cGMP certified facilities.	
		• Shall meet safety standards as per EN ISO 13485 quality system standard compliance.	
		• Product should have international quality approval of CE and FDA	
	<b>(i) Micro Needle Holder</b>		
	175. Microsurgical straight smooth Castroviejo needle holder 14 cm/5.5":1		01
	176. Microsurgical curved smooth Castroviejo needle holder 14 cm/5.5":1		01
	<b>(ii) Micro Scissors</b>		
	177. Microcurved Castroviejo scissor 18cm/7":1		01
	178. Castroviejo scissor 10cm/4":1		01
	179. Straight iris perma sharp scissors 11.5/4.5":1		01
	180. Curved iris perma sharp scissors		01

	11.5/4.5": 1		
	<b>(iii) Other instruments</b>		
	181. Micro Adson's Tissue pliers 12 cm/4.75": 1		01
	182. Mini blade scalpel handle : 1		01
	183. High Resolution Binocular Loupes 2.5x/420mm with LED loupelights Optics, S-Frame Detachable protective lenses 2 sterilizable swivel levers Retaining cord Cleaning fluid Carrying case.		01
<b>H.</b>	<b>Miscellaneous Instruments</b>		
	184. Iontophoresis Unit	<ul style="list-style-type: none"> <li>• Power Supply: 12V generated from 8 alkaline batteries of 1.5 volt</li> <li>• Recharging voltage: 1.5 watt</li> <li>• Absorbed power: 50W</li> <li>• Fuses : 1* 400 mA</li> <li>• Current output: From 0-5mA</li> <li>• Voltage output: From 0-57Volt CC</li> <li>• Size : W18* L18*H 7.2cm</li> <li>• Weight: 1300 gms</li> <li>• Accessories/consumables <ul style="list-style-type: none"> <li>▪ Autoclavable Dental Tray: 3</li> <li>▪ Acidulated sodium fluoride bottles with different flavours: 6</li> <li>▪ Disposable sponge for dental tray: 100</li> <li>▪ Alkaline batteries: 8</li> </ul> </li> </ul>	01
	185. Prophy JET	<ul style="list-style-type: none"> <li>• Lightweight, compact design and well-considered weight balance to enable easy handling for minimized hand and wrist fatigue</li> <li>• Light weight compact powder chamber</li> <li>• Handpiece with 60° and 80° tips</li> <li>• Smooth, easy 360° swivel twin joints</li> <li>• Easy detachable twin nozzles</li> <li>• Cleaning powder sachets included</li> </ul>	09

		<ul style="list-style-type: none"> <li>• Water supply pressure: 0.2mpa to 0.4mpa</li> <li>• Air supply pressure: 0.2mpa to 0.3mpa</li> </ul>	
	186. Splinting Material	<ol style="list-style-type: none"> <li>1. Fiber splint <ul style="list-style-type: none"> <li>• Made of fibre glass</li> <li>• Thickness app. 0.35mm</li> <li>• Binds to both composite and acrylic</li> </ul> </li> <li>2. Multi-flex orthodontic wire</li> </ol>	20  5 spools
	187. Pulp Tester	<ul style="list-style-type: none"> <li>• Digital pulp tester</li> <li>• Large numeric readout</li> <li>• Various rates of stimulus increase- slow, medium, fast</li> <li>• Should elicit a response from vital teeth without approaching pain threshold</li> <li>• Gentle increase in intensity so that patient senses before it becomes painful</li> <li>• Easy push button activation</li> <li>• Should run on readily available batteries</li> <li>• Five year power unit warranty</li> <li>• Parkell or equivalent</li> </ul>	02
<b>I. Research equipment</b>			
	188. Automated anaerobic jar system	<ul style="list-style-type: none"> <li>• Equipment fully upgraded to produce any gas atmosphere (other than hazardous and inflammable) in transparent jars by programming required O<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>, N<sub>2</sub> (from cylinders of mix gases and pure gases except H<sub>2</sub>)percentage through touch screen and having enough memory to store multiple recipe (more than 30) for future use with reproducibility of &gt;0.5% deviations.</li> <li>• Touch screen display for simple operation</li> <li>• Upgradeable equipment model having facility to accommodate 3 gases or jars if required.</li> <li>• Should have quality assurance features that can identify defective jars, catalysts and non availability of gases before incubation.</li> <li>• All controlled conditions like hypoxia capnophilic anaerobic and micro-aerophilic should be reproducible to stay within 0.5% of the desired value.</li> <li>• Fast enough to produce any environmental conditions in 180 seconds</li> <li>• Provision to fix filter to prevent microbial</li> </ul>	01

		<p>contamination of laboratory equipment.</p> <ul style="list-style-type: none"> <li>• Minimum consumption of gases and low maintenance</li> <li>• Table top model with small footprint</li> <li>• Vacuum pump incorporated in the body of the equipment</li> <li>• The equipment should come with arrangements for supply of Indian items like gas cylinders, pressure regulators.</li> <li>• Anaerobic transparent jar inside dimensions (mm): d-123,h-240 Qty: 3</li> <li>• Petri-dishes 1×6, 9-10cms. Qty: 3</li> <li>• Transparent lid with catalyst clip</li> <li>• Snap shut coupling</li> <li>• Petri-dish holder for 1×6, 9-10cm plates.</li> <li>• Catalyst Dexta Palladium coated aluminium pellets</li> <li>• One additional gas connection (including software updates)</li> <li>• One additional jar connection (including software updates)</li> <li>• New track and trace package containing bar code scanner and registration input screen and data interface.</li> <li>• Dot matrix printer including software and power supply.</li> <li>• Gas cylinders 47 l WC which can contain 7 cubic meter of gas, new tested cylinders with test certificate (2 cylinders for anaerobic gas, 1 for pure Nitrogen &amp; 1 for CO2 as per gas connection capacity)</li> <li>• Gas regulator (2 stage ASHA Brand)</li> </ul>	
	189. Laboratory Centrifuge	<ul style="list-style-type: none"> <li>• Max. Speed-45000-6000rpm</li> <li>• Max. RCP- 3500-4000g</li> <li>• Max. Capacity- 300-500 ml</li> <li>• WxDxH - 300x400x375 mm</li> <li>• Speed Indicator- Digital</li> <li>• Count Timer - Digital</li> <li>• Lid - Lockable</li> <li>• Swing out rotor head-16 Tubes <ul style="list-style-type: none"> <li>○ (100x125 ml )</li> </ul> </li> <li>• Warranty – minimum 2 Years</li> <li>• One Stabilizer should be supplied with the centrifuge machine</li> </ul>	01

	190. ELISA Reader	<ul style="list-style-type: none"> <li>• Description: Fully automated walkaway processor</li> <li>• Architecture: Open architecture</li> <li>• Dimensions: 86 cm W x 51 cm L x 40 cm H, weight: approx 45 kgs</li> <li>• Technology: Enhanced pulse chemiluminescence, acculite and VAST enabled system</li> <li>• <b>Reagent and Sample Dispensing</b></li> <li>• Capabilities: Dilutions, pre-dilutions, dispensing single or multiple reagents</li> <li>• Pumps: two syringe pumps, sized: 50 uL and 2.5mL</li> <li>• Probe: 316 stainless steel for maximum reagent compatibility, level sensing</li> <li>• Min. and max. volume: 2uL-1.95mL</li> <li>• Max. no. of samples (including calibrators and controls): 96</li> <li>• Max. no. of reagents: approx. 40, more can be programmed on the sample rack</li> <li>• Reaction vessel: standard reaction cells, strips or plates</li> <li>• Instrument bottles: 2L wash with low volume warning sensor, 1L rinse (2<sup>nd</sup> wash) with low volume warning sensor</li> <li>• <b>Incubation Timing and temperature control</b></li> <li>• Incubation and timing: Incubation of each row is timed separately</li> <li>• Thermal control: Plate/reaction cell 25<sup>0</sup>c, 37<sup>0</sup>c or remains at ambient temperature</li> <li>• <b>Washing</b></li> <li>• Wash head: 8-probe, automatic prime and rinse</li> <li>• Programs: Washing programs for wash, aspirate, dispense, soak</li> <li>• <b>Reader Module</b></li> <li>• Peripheral attached chemiluminescence PMT unit system: Measure photons by enhanced pulse chemiluminescence</li> <li>• Provisional internal reading module light source for EIA: Tungsten-Xenon lab</li> <li>• 8 position filter wheel: 340, 405, 450, 505, 545, 600, 630, 700 or custom</li> <li>• Inference filters: Long life, hard coat, ion</li> </ul>	01
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		<p>assisted deposition, 10nm typical half bandpass</p> <ul style="list-style-type: none"> <li>• Linear range: --0.2 to 3.0 A</li> </ul> <p><b>Software</b></p> <ul style="list-style-type: none"> <li>• Operating systems: Windows compatible</li> <li>• Interface: LIMS interface</li> <li>• QC options: Storage of patient, QC and calibration data, levy-jennings statistical analysis, point to point, linear, log regressions and log logit modes</li> <li>• Calibrations options: 4 to 6 point calibration, two point calibration and calibration simulation</li> <li>• Self monitoring modes: lamp, bottle volumes, filter pressure, vacuum and mechanical function</li> <li>• Serial port: RS232 output only, 9600 baud</li> </ul>	
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4.	<b>Autoclave for hand piece sterilization</b>  <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• Table Top autoclave specially designed to clean at least 6 dental instruments (hand-pieces &amp; turbines), internally and externally, lubricate &amp; sterilize at a time.</li> <li>• Should have provision of pulse wash with cold water &amp; final wash with hot water</li> <li>• It should have closed-system lubrication process to prevent release of oil fumes</li> <li>• Should work on back-flush mechanism ensuring that saturated steam is forced through the instruments.</li> <li>• It should have various user selectable sterilization processes</li> <li>• Should have in-built water tank, drainage tank &amp; oil can.</li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> <li>• Please offer suitable compressor. (quote as optional)</li> </ul> <p><b><u>Essential Accessories:</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Adaptors for various hand-pieces, please mention list.</li> <li><input type="checkbox"/> Oil Can .</li> </ul>	<b>02</b>
5.	<b>Apex locators</b>	<ul style="list-style-type: none"> <li>• Higher than 4<sup>th</sup> generation</li> <li>• Preferably Ratio based</li> <li>• Accurate measurement</li> <li>• No zero adjustment</li> <li>• Automatic calibration</li> <li>• Large colour LCD display</li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> <li>• Dentsply/ Sybron/ Morita/equivalent</li> </ul>	<b>02</b>



6.	<b>Equipment for injectable thermoplasticized gutta percha obturation system</b>	<ul style="list-style-type: none"> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> <li>• Should include accessories and consumables ( to be quoted separately)</li> <li>• System B Cordless Fill and Cordless pack unit with charger (KaVo) / SuperEndo Alpha and SuperEndo Beta ( B &amp; L) / Calamus Dual (Dentsply) / Elements obturation unit (KaVo) / Obtura ( Spartan) / equivalent</li> </ul>	<b>02</b>
7.	<b>Pressurized local anesthesia system</b>	<ul style="list-style-type: none"> <li>• <b>Computer-controlled local anesthesia delivery consisting of</b> computer-controlled drive unit and a separate single-use disposable handpiece/needle assembly.</li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> </ul>	<b>02</b>
8.	<b>Operating microscopes for endodontics</b>	<ul style="list-style-type: none"> <li>• At least four steps of magnification</li> <li>• Inclinable Binocular</li> <li>• Should accommodate upgrades and retrogrades</li> <li>• <b>Adjustable Eyecups</b></li> <li>• Adjustable Maneuvering handles</li> <li>• Fine focus feature for easy adjustment of objective lens</li> <li>• High Powered LED Technology</li> <li>• Should have feature of light filter</li> <li>• <b>Should have Video Camera and Digital Camera Adapter to</b> integrate digital cameras with the microscope.</li> <li>• Should have <b>Beamsplitter</b></li> <li>• Should have <b>Binocular Extender</b></li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> </ul>	<b>01</b>

9.	<p><b>A. Surgical endodontic kit</b>  <b>Please mention the prices of individual instruments and the collective price of all the instruments separately</b></p>	<ul style="list-style-type: none"> <li>• Should have international quality certification – CE certification (European Conformity) and FDA approval</li> <li>• Should possess cGMP manufacturing compliance</li> <li>• Should follow ISO 13485 quality system standard compliance. <ul style="list-style-type: none"> <li>i. Aspirating anesthetic syringe</li> <li>ii. Aspirator/ irrigation syringe self cleansing- two sizes- 2.0 mm, 2.5 mm</li> <li>iii. Straight steiglitz post and point removal forceps</li> <li>iv. Angulated Steiglitz post and point removal</li> <li>v. Chandler Bibevel bone chisel</li> <li>vi. Howard bone file</li> <li>vii. Weider Cheek and tongue retractor- small and large</li> <li>viii. Gauze packer</li> <li>ix. Straight and curved Mosquito hemostat</li> <li>x. Needle holder</li> <li>xi. Molt’s Periosteal elevator</li> <li>xii. Mead’s Periosteal elevator</li> <li>xiii. Howards Periosteal elevator</li> <li>xiv. Posterior and anterior periotome</li> <li>xv. Surgical retractor</li> <li>xvi. Bone Rongeurs</li> <li>xvii. Straight and curved iris scissors</li> <li>xviii. Endodontic Surgical curette -3 sizes</li> <li>xix. Apical explorer</li> <li>xx. Retro filling endodontic plugger</li> <li>xxi. Anterior and posterior endodontic plugger</li> <li>xxii. Scalpel handle with millimeter ruler - 3No. , 4 No.</li> </ul> </li> </ul>	<b>01</b>
10.	<p><b>B.Surgical Endodontic kit (microsurgical)</b>  <b>Please mention the prices of individual instruments and the collective price of all the instruments separately</b></p>	<ul style="list-style-type: none"> <li>• Should possess cGMP manufacturing compliance</li> <li>• Should follow ISO 13485 quality system standard compliance. <ul style="list-style-type: none"> <li>i. Retro filling pluggers straight – two sizes- approx.0.8 mm, 1.5 mm</li> <li>ii. Retro filling pluggers angulated double ended 2mm/3mm</li> <li>iii. Apical retooling instruments double ended- two sizes</li> <li>iv. Anterior and posterior tissue retractors</li> <li>v. Microsurgical mirrors -three sizes – approx 3mm, 5 mm, 7×2 mm</li> </ul> </li> </ul>	<b>01</b>

		<ul style="list-style-type: none"> <li>vi. Microsurgical explorer -approx 30 mm length</li> <li>vii. Microsurgical Endodontic explorer –double ended</li> <li>viii. Microsurgical curettes two sizes- approx 2.5mm, 4 mm</li> <li>ix. Microsurgical excavators- 3 sizes- approx. 1mm ,2mm, 3mm</li> <li>x. Retro filling carrier</li> <li>xi. Stropko surgical irrigator</li> <li>xii. Ultrasonic tips <ul style="list-style-type: none"> <li>a) CT tips</li> <li>b) Slim Jim prepping tips</li> <li>c) KIS tips</li> <li>d) CPR instruments- CPR 1 , CPR 2 ,CPR 3, CPR 4, CPR 5</li> <li>e) Microdebriders</li> </ul> </li> </ul>	
11.	<b>Torque control hand pieces</b>	<ul style="list-style-type: none"> <li>• 1:128 gear reduction hand piece</li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> </ul>	<b>04</b>
12.	<b>Hu freidy Sterilizer trays</b>	Capacity of 16- 20 instruments	<b>04</b>
13.	<b>Variable intensity light cure units</b>	<p>Light furnace should have combination of light curing with electronically controlled heater</p> <p>Should be able to cure different types of composites</p> <p>Should have viewing window for firing chamber</p> <p>Should have PC connection for software updates and printer connection</p> <p>Lumamat 100/ equivalent</p>	<b>02</b>
14.	<b>Composite kits</b>	3M/ Dentsply/ Coltene/ equivalent	<b>03</b>
15.	<b>Composite polishing kits</b>	Enhance /Soflex/ equivalent	<b>02</b>
16.	<b>Ceramic finishing kits</b>	Shofu or equivalent	<b>02</b>
17.	<b>Metal finishing kits</b>	Shofu or equivalent	<b>02</b>
18.	<b>Amalgam finishing kits</b>	Shofu or equivalent	<b>02</b>

19.	<b>High Speed Alloy Grinder With Suction</b>	<ul style="list-style-type: none"> <li>• Fully adjustable, heavy duty motor, Having self-contained dust collector.</li> <li>• UL-recognized and CSA-certified for electrical safety.</li> <li>• Equipped with precision high speed automatic spindle</li> <li>• Provided with the feature of different rpm belt controlled speeds</li> <li>• Should have international quality certification – CE CERTIFICATION (EUROPEAN CONFORMITY) / FDA APPROVAL</li> </ul>	<b>01</b>
20.	<b>Electric carver</b>	<ul style="list-style-type: none"> <li>• Digital with temperature control, dual pencil with at least 6 different tips</li> </ul>	<b>01</b>
21.	<b>Induction casting machine</b>	<ul style="list-style-type: none"> <li>• User friendly, compact , bench top casting machine with high-performance induction heating.</li> <li>• It should have featured as of with high output at low power consumptions.</li> <li>• Casting temperature upto 1550 C.</li> <li>• Ideal of all available dental alloys with the feature of heating-level switch, direct cooling with automatic shut-off system, fast adjustment for use of different casting, movable counterweight.</li> <li>• It should provide along with Ceramic melting crucible, graphite inserts ceramic insert and base socket mould former &amp; melting powder.</li> </ul>	<b>01</b>
22.	<b>Magnifying work lamp</b>	<ul style="list-style-type: none"> <li>• Easy mounting on table top with adjustable arm</li> <li>• Lens material glass with 5X magnification</li> </ul>	<b>01</b>
23.	<b>Cast duplicator</b>	<ul style="list-style-type: none"> <li>• Programmable brushless agitator motor</li> <li>• Digital Temperature controls for warm-up and cool-down phases</li> <li>• The time at which the gel is required to be ready should be pre-programmeable .</li> <li>• The number of required melting cycles can be entered separately .</li> <li>• Drive shaft with stirring arms</li> </ul>	<b>01</b>

		<ul style="list-style-type: none"> <li>• Pouring spout with open lever</li> <li>• Capacity:3-6Kg</li> </ul>	
25.	<b>Pneumatic Chisel</b>	<ul style="list-style-type: none"> <li>• Stainless steel body with automatic oil feeder &amp; provision of controlling Incision power by handpiece</li> <li>• Air pressure maximum up to 5/6 bar</li> <li>• Noise level should not exceed 90 db</li> </ul>	01
26.	<b>Instrument retrieval kit</b>	<ul style="list-style-type: none"> <li>• Kit should include various sizes of Retrievers and/or Drills to reach various parts of the root canal</li> <li>• Made up of titanium or stainless steel</li> <li>• Please mention the price of refills separately.</li> </ul>	01
27.	<b>Chairside Bleaching unit</b>	<ul style="list-style-type: none"> <li>• Full mouth exposure lamp</li> <li>• Lamp should be compact and easy to position</li> <li>• Registration guide to align mouth and lamp</li> <li>• Minimum heat emission</li> <li>• Accessories like chair side procedure trays( specify number), lip and tongue retractor, protective eyewear for patient and operator,</li> <li>• Should have international quality certification – CE certification (European Conformity) / FDA approval</li> <li>• Please quote for optional vaccum former</li> </ul>	01
28.	<b>Amalgamator</b>	<ul style="list-style-type: none"> <li>• Digital amalgamator</li> <li>• Auto proportioning and auto dispensing mechanism.</li> <li>• Noiseless, stable operation</li> <li>• Controlled by a microprocessor</li> </ul>	03

## ANNEXURE-D-4- DEPARTMENT OF ORTHODONTICS

Sr. No.	NAME OF THE ITEMS	SPECIFICATIONS	QUANTITY REQUIRED
1	<b>SOLDERING TORCHES</b>	<p>Portable, lightweight, hand-held torch                      Flame adjusts from a pinpoint(for soldering )to a wide flame (for heating wax Rims) minimum 15 minutes                      With Gas refill</p> <p><b>i) Microtorch or equivalent</b></p>	4
2	<b>HYDRO-SOLDERING AND WELDING UNIT</b>	<ul style="list-style-type: none"> <li>• Should be able to generate high quality oxy- hydrogen fuel.</li> <li>• Should have option for minimum two separate power stages</li> <li>• Should be provided with front panel switches with separate work pressure switch and a safety pressure switch.</li> <li>• Should have micro torch with adjustable flow control and changeable nozzles for precise control of flame and temperature activated auto gas cut off for safety.</li> </ul> <p><b>The unit should include the following:</b></p> <ul style="list-style-type: none"> <li>• Torch with nozzle and hand piece with flow adjustment.</li> <li>• Gas tube</li> <li>• Electrolyte solution</li> <li>• Lighter for starting flame</li> <li>• Stand for the torch</li> </ul> <p><b>i. Hydroflux (Wehmer )    ii. Sumax    or equivalent</b></p>	1
3	<b>MODEL TRIMMER (DOUBLE DISC)</b>	<ul style="list-style-type: none"> <li>• Heavy duty, capacitor start ball bearing motor (preferably certified for electrical safety)</li> <li>• Approx 2000-3000 RPM,</li> <li>• 12” diameter, ¼ thick grinding wheel with ½ HP motor</li> <li>• wide and high cutting surface</li> <li>• adjustable work table and full radius water spray.</li> <li>• A reversible grinding wheel</li> <li>• hinged door secured by a single knob.</li> <li>• optional automatic water valve</li> <li>• An Orthodontic Angulator (ability to set up desired angle up to 120 degrees from mid-line in 5 degree increments) attachment for precise grinding of angles onto plaster or stone models.</li> </ul> <p><b>i) Wehmer Dual Disk    ii) Dentaoram Or equivalent</b></p>	2

4	<b>TRACING TABLES</b>	<ol style="list-style-type: none"> <li>1. Illumination TFT LED technology Flicker free</li> <li>2. Bluish uniform light</li> <li>3. Table made of Ply wood with sun mica</li> <li>4. Standard Dimension w24" x h36" x l26".</li> </ol>	3
5	<b>COMPUTER WITH ALL ACCESSORIES AND SOFTWARE FOR ORTHODONTIC IMAGE MANIPULATION ( COMPUTER SOFTWARE FOR CEPHALOMETRICS)</b>	<p><b>A) SPECIFICATIONS FOR COMPUTER AND ACCESSORIES:</b></p> <ol style="list-style-type: none"> <li>a) PC or Mac</li> <li>b) Windows XP, 2003 Server/2008 Server/Windows 7</li> <li>c) Intel Core i7 processor</li> <li>d) 2GB or higher RAM</li> <li>e) 200GB or higher hard drive</li> <li>f) Resolution: 1024x768 at 24-bit colour</li> <li>g) 17" or higher monitor</li> <li>h) Broadband connection</li> <li>i) Virus protection coverage</li> <li>j) Archive/backup-required</li> <li>k) DVD-ROM Drive-required</li> <li>l) 3MP Digital camera</li> <li>m) 1440dpi color inkjet printer</li> <li>n) 150dpi for x-rays. 300 dpi for photos-scanner</li> <li>o) MS-Word 2003 or higher word processor</li> </ol> <p><b>B) TECHNICAL SPECIFICATIONS OF ORTHODONTIC TRACING SOFTWARE:</b></p> <ol style="list-style-type: none"> <li>a) Provisions for complete lateral/frontal/cast analysis with linear and angular measurements</li> <li>b) Provisions for customization of own ceph analysis, new points, planes etc.</li> <li>c) Provisions for creation of movies of intra oral photographs</li> <li>d) Provisions to demonstrate pre and post treatment plans</li> <li>e) Provisions for high precision, advanced zoom, and should have image enhancement technology including colorization</li> <li>f) Provisions for precise superimposition of photograph over tracing</li> <li>g) Provisions for precise superimposition of any number of tracing over tracing with provision of changing color of each tracing</li> <li>h) Provisions to allow image export to other applications including power point, word, email, etc.</li> <li>i) Provisions to complete patient record facility and archival facility</li> <li>j) Provisions to demonstrate different profile photographic views with gradual changes at different stages</li> </ol>	1

		<p>k) Able to exchange patient data from one computer to other</p> <p>l) Provisions for creating different treatment plans for the same patient in the same series</p> <p>m) With 3D Imaging</p> <p>n) Not controlled through internet</p> <p>o) Able to work independently with multiple computers at the same time</p> <p><b>i. DOLPHIN 3D or Equivalent</b></p>	
6	<b>SCANNER WITH TRANSPARENCY ADAPTER</b>	<p>1. Provision to scan photos and intra oral and extra oral x-rays (lateral cephalogram, PA View (8"x10") and OPG ( 6"x 12") size)</p> <p>2. Provision to scan multiple photos at the same time</p> <p>3. Easy to use</p> <p>4. Able to scan pictures and x-rays without distortion</p> <p>5. Windows/ Mac compatible</p> <p>6. 4800x9600 dpi resolution</p> <p>7. 48-bit or more resolution</p> <p>8. Provision to copy, scan, scan to email, scan to PDF</p>	1
7	<b>DRY HEAT STERLIZER</b>	<ul style="list-style-type: none"> <li>• Horizontal fan assisted</li> <li>• Should have minimum two detachable perforated shelves</li> <li>• Should have door window and equipped with interior lighting</li> <li>• Temp. upto to 250°C</li> <li>• Heater capacity 500-750 w x 2 heater -1500 watts Autocut</li> </ul>	1
8	<b>ORTHODONTIC IMPRESSION TRAYS</b>	<p>o AUTOCLAVEABLE HIGH QUALITY STAINLESS STEEL Or ALUMINUM WITH HIGH FLANGES WITH RETENTION RIM</p> <p>o ANATOMICALLY CONTOURED PERFORATED ORTHODONTIC IMPRESSION TRAYS</p> <p>o EACH SET SHOULD HAVE TRAYS OF XS, S, M, L, XL , XXL, SIZES</p> <p><b>i) TP ORTHO      ii) RMO OR Equivalent.</b></p>	04 sets



9	<b>TYPODONT WITH FULL TEETH SET</b>	<p>A) ORTHODONTIC TYPODONT ARTICULATORS (06)  SPECIFICATIONS: Should be compact and with fully functional movements having provision for fitting mental/ acrylic teeth and wax forms in different Mal-Occlusions for Orthodontics Training.</p> <p>B) ORTHODONTIC TYPODONT METAL TEETH [ 06 SETS OF (28 Nos) EACH]  SPECIFICATIONS: teeth must be well casted and well furnished to simulate the normal anatomy of human dentition with roots with provision for banding and / or bonding various orthodontic brackets/ molar tubes or other attachments.</p> <p>C) ORTHODONTIC TYPODONT ACRYLIC/ PLASTIC TEETH [ 06 SETS OF (28 Nos) each]  SPECIFICATION: teeth must be well carved and well furnished to simulate the normal anatomy of human Dentition with provision for banding and/ or bonding various Orthodontic Bracket/ Molar Tubes or other attachments.</p>	06 SETS
10	<b>ANATOMICAL ARTICUALTOR WITH FACE BOW TRANSFER</b>	<ul style="list-style-type: none"> <li>• Light wt. &amp; robust articulator of standard make, providing perfect handling.</li> <li>• Intercondylar width adjustable or fixed at 110 mm</li> <li>• Closed track condylar guidance which allow upper and lower frames to remain together during excursive movements</li> <li>• Possible lateral adjustment 00 -300 and protrusive adjustment 00 to 750</li> <li>• Progressive side shift capability</li> <li>• Adjustable protrusive retrusive that permits condylar element to protrude 6mm and retrude 3mm from centric</li> <li>• Adjustable incisal guide table that rotates anteroposteriorly (00 to 600) with adjustable lateral wings(00 to 450)</li> <li>• A locking mechanism to hold the upper and lower members of the articulator tightly together and return the upper member to centric position when released from the excursion. It should be easily released to allow separation of the upper and lower member</li> <li>• Should have dual end incisal pin and an extension rod to support the upper member.</li> <li>• Earpiece facebow with nasion attachment for third point of reference</li> <li>• Accessory for indirect facebow transfer preferable.</li> <li>• Additional pair of mounting plates</li> </ul>	1

		<ul style="list-style-type: none"> <li>• Accumount” System of Interchangeability</li> <li>• Mounting platform to help stabilize the bite fork during mounting of maxillary cast.</li> <li>• Should be supplied with a technique manual and demonstration video providing an in-depth examination of the features of the articulator and facebow .</li> <li>• Instrument case/bag</li> <li>• CE (European conformity) marking or FDA compliance</li> </ul>	
11	<b>THREE PLANE ARTICULATOR</b>		1
12	<b>HINGE ARTICULATORS</b>		5
13	<b>ORTHODONTICS BRACKET RECONDITIONER/ POLISHER</b>	<ol style="list-style-type: none"> <li>1) Provision to polish arch wires, recondition bands</li> <li>2) Provision to clean loose hands, polish retainer clasps</li> <li>3) Provision to clean loose brackets and clean soldering flux.</li> <li>4) Easy to use and easy to install.</li> </ol> <p><b>i) ESMADENT E 3762 or Equivalent</b></p>	1
14	<b>CHAIR SIDE SAND BLASTER</b>	<ol style="list-style-type: none"> <li>1. Fully autoclavable</li> <li>2. Featherweight</li> <li>3. Aluminium head and body</li> <li>4. Easy to attach and disconnect</li> <li>5. Easy to use in hard to reach areas with intra oral use</li> </ol> <p><b>i. Danville MicroEtcher CD ii. Danville MicroEtcher II A or Equivalent</b></p>	1
15	<b>ORTHODONTIC PLIERS SETS</b>	<p>Each Set Contains the following Pliers</p> <ul style="list-style-type: none"> <li>• How plier</li> <li>• Distal end cutter ( Tungsten Carbide i.e. TC tip)</li> <li>• Ligature Cutter (TC tip)</li> <li>• Ligature Cutter with 15 degree angled tip</li> <li>• Light wire (139) plier (TP tip)</li> <li>• Mosquito Forcep</li> <li>• Weingart Plier</li> <li>• Omega Loop forming Plier</li> <li>• Arch Forming Turret (Blue)</li> <li>• Arch Forming Turret (Green)</li> <li>• Arch Forming Turret (Black, 016 x 022)</li> <li>• Arch Forming Turret (Gold, 018)</li> <li>• Arch Forming Turret (silver,022)</li> <li>• Torquing Plier with Key</li> <li>• Adhesive Removing Plier</li> <li>• Posterior Band forming Plier</li> </ul>	6 Sets (rates to be quoted for individual instrument as well as for the complete set)

- |  |   |  |
|--|---|--|
|  | <ul style="list-style-type: none"><li>• Twirl on ligature applicator</li><li>• Maitheu Needle holder</li><li>• Lingual debonding plier.</li></ul> |  |
|--|---|--|

**i)Eltee ii) Hu- Friedy iii) Leone or equivalent, and should be CE & FDA compliant.**

## ANNEXURE-D-5-DEPARTMENT OF PROSTHODONTICS AND CROWN & BRIDGE

Sr. No.	Item Name	Specification	Qty. required
1.	<b>Non Arcon type Semi adjustable Articulator with earpiece facebow</b>	<ul style="list-style-type: none"> <li>• Light wt. &amp; robust articulator of standard make, providing perfect handling.</li> <li>• Enclosed track condylar guidance with fixed centric stop.</li> <li>• Intercondylar width fixed at 110 mm</li> <li>• lateral adjustment for 0<sup>0</sup> -30<sup>0</sup> and protrusive adjustment for-20<sup>0</sup> to 0<sup>0</sup> to 60<sup>0</sup></li> <li>• Progressive side shift</li> <li>• Should have adjustable incisal guide table, incisal pin and extension rod.</li> <li>• Should have Orbitale indicator.</li> <li>• Should have Auditory pins mounted on central locking mechanism to secure ear piece face bow to articulator .</li> <li>• Additional pair of metal mounting plates</li> <li>• Mounting platform to help stabilize the bite fork during mounting of maxillary cast.</li> <li>• Should be supplied with a technique manual/CD and instrument case/bag.</li> <li>• CE(European conformity) marking or FDA compliance</li> </ul>	<b>03</b>
2.	<b>Arcon type semiadjustable Articulator with earpiece Facebow</b>	<ul style="list-style-type: none"> <li>• Light wt. &amp; robust articulator of standard make, providing perfect handling.</li> <li>• Intercondylar width adjustable or fixed at 110 mm</li> <li>• Closed track condylar guidance which allow upper and lower frames to remain together during excursive movements</li> <li>• Possible lateral adjustment 0<sup>0</sup> -30<sup>0</sup> and protrusive adjustment 0<sup>0</sup> to 75<sup>0</sup></li> </ul>	<b>03</b>

		<ul style="list-style-type: none"> <li>• Progressive side shift capability</li> <li>• Adjustable protrusive retrusive that permits condylar element to protrude 6mm and retrude 3mm from centric</li> <li>• Adjustable incisal guide table that rotates anteroposteriorly (0<sup>0</sup> to 60<sup>0</sup>) with adjustable lateral wings(0<sup>0</sup> to 45<sup>0</sup>)</li> <li>• A locking mechanism to hold the upper and lower members of the articulator tightly together and return the upper member to centric position when released from the excursion. It should be easily released to allow separation of the upper and lower member</li> <li>• Should have dual end incisal pin and an extension rod to support the upper member.</li> <li>• Earpiece facebow with nasion attachment for third point of reference</li> <li>• Accessory for indirect facebow transfer preferable.</li> <li>• Additional pair of mounting plates</li> <li>• Accumount” System of Interchangeability</li> <li>• Mounting platform to help stabilize the bite fork during mounting of maxillary cast.</li> <li>• Should be supplied with a technique manual and demonstration video providing an in-depth examination of the features of the articulator and facebow .</li> <li>• Instrument case/bag</li> <li>• CE(European conformity)marking or FDA compliance</li> </ul>	
3.	<b>Straight handpieces</b>	1:1 speed ratio Non optic Low noise and vibration Up-to 40000 rpm /min Can be used for long and short burs For use with burs that have a 2.35mm bur shaft diameter	06

		Should have ergonomic grip CE (European) or FDA compliance	
4.	<b>Hot Air Oven</b>	<ul style="list-style-type: none"> <li>• Horizontal fan assisted</li> <li>• Should have minimum two detachable perforated shelves</li> <li>• Should have door window and equipped with interior lighting</li> <li>• Temp. upto to 250°C</li> <li>• Heater capacity 750 w X 2heater - 1500 watts</li> <li>• Autocut</li> </ul>	01
5.	<b>Surveyor</b>	<ul style="list-style-type: none"> <li>• Two horizontal joints(double hinged arm)</li> <li>• Vertically adjustable working table</li> <li>• Solid base plate for 360 degrees stability</li> <li>• Model table and tool holding fixture capable of being swiveled 360 degrees.</li> <li>• CE (European conformity) marking/FDA compliance</li> </ul>	01
6.	<b>Pneumatic crown and bridge remover</b>	<ul style="list-style-type: none"> <li>• Frequency of micro-strokes : up to 20 movements per second.</li> <li>• Variable intensity and frequency with slow-speed motor running between 10,000 rpm to 25,000 rpm</li> <li>• Intensity adjustment ring</li> <li>• Wide range of inserts (tips and flexiwire) <b>to suit all prosthesis configurations</b></li> <li>• Fits to all electric and air driven motors</li> <li>• CE (European conformity) marking/FDA compliance</li> </ul>	02
7	<b>Mechanical Press</b>	<ul style="list-style-type: none"> <li>• should accommodate at least 2 flasks</li> </ul>	02
8	<b>Extraoral/ intraoral tracers</b>	<ul style="list-style-type: none"> <li>• Should be compatible with Hanau articulator and face bow</li> <li>• CE(European conformity) marking or FDA compliance must</li> </ul>	2
9	<b>Curing pressure pot</b>	<ul style="list-style-type: none"> <li>• For processing porosity free self curing resins</li> <li>• Heavy gauge aluminium construction with safety valve and pressure and temperature gauge.</li> </ul>	01

		<ul style="list-style-type: none"> <li>• accommodate 10 models curing at a time</li> <li>• Operating pressure – approx. 2 bars</li> </ul>	
10	<b>Acrylic curing unit using microwaves</b>	<ul style="list-style-type: none"> <li>• Microwave with wattage 80-500 W.</li> <li>• Frequency upto 2200 Hz.</li> <li>• Turntable to give even distribution of microwaves</li> <li>• Programmable timer.</li> </ul>	01
11	<b>Casting machine motorcast with safety door closure</b>	<ul style="list-style-type: none"> <li>• Closed door type with protective cover lock</li> <li>• With open flame melting with automatic gas-saving unit</li> <li>• With speed ranges 350-450 rpm</li> <li>• Speed adjustability using key pad on the control element</li> <li>• Power supply 220 volts</li> </ul>	01
12	<b>Gas blow torch</b>	Suitable for acetylene, propane or oxygen, with assorted sized nozzles.	01
13	<b>Stereo Microscope</b>	<ul style="list-style-type: none"> <li>• Three dimensional images with 12:1 zoom range</li> <li>• External touch panel to control functions of magnification, focus, contrast and brightness</li> <li>• Software to measure and document samples reproducibly</li> <li>• CE(European conformity) marking or FDA compliance</li> </ul>	01
14	<b>Magnifying work lamp</b>	<ul style="list-style-type: none"> <li>• Easy mounting on table top with adjustable arm</li> <li>• Lens material glass with 5X magnification</li> </ul>	01
15	<b>Indirect Sinus lift instrument Kit (hand instruments)</b>	<p>-Osteotomes with depth markings, colour coding to distinguish between the different --shapes and diameters including</p> <p>position marker</p> <p>Pilot bone condenser</p> <p>condenser For 3.5 mm diameter implant</p> <p>condenser For 4.5mm diameter implant</p> <p>condenser For 5.5mm diameter implant</p> <p>-Straight for anterior, bayonet shaped</p>	01

		<p>for posterior maxilla</p> <ul style="list-style-type: none"> <li>-Sharp with cutting edges, concave, convex or pointed</li> <li>-CE(European conformity)marking or FDA compliance</li> <li>-With and without security stop screw</li> </ul>	
16	<b>Educating models depicting</b>	<p>Maxillofacial Prosthesis</p> <p>Implant components</p> <p>Implant supported Prosthesis</p> <p>Consequences of missing teeth</p>	01 each
17	<b>Hot water sterilizer(Instrument boiler)</b>	<ul style="list-style-type: none"> <li>• Manufactured From Surgical Stainless steel, Pressed without Welding, With Perforated Internal Tray &amp; Hook to Lift Internal Tray,</li> <li>• Warranted against Rust and Technical Fault</li> </ul>	01



## ANNEXURE D-6 -DEPARTMENT OF ORAL PATHOLOGY

S. NO.	ITEMS	SPECIFICATIONS	QUANTIT Y REQUIRE D
1.	<b>BINOCULAR RESEARCH MICROSCOPE</b>	<p>Infinity Corrected Optical System; Double plate rectangular mechanical stage for durability and ease of use; Quadruple revolving nose piece mechanism with multiple ball bearings, elastic nosepiece grip-ring; Wire movement mechanical stage:120x132mm or better Traveling range: 76mm(X) 30mm(Y) or better; Coaxial coarse/fine focusing with cross roller guide incorporated. 20 mm or better coarse/fine focusing range; High performance aspheric lenses in Abbe condenser (N.A. 1.25) and the light relay system; Window in the arm section to observe the specimen with naked eye &amp; through the natural light by using reflector; Universal power supply (100V to 240V) 50/60Hz volgate imported for 6V 20W illuminator; Anti fungus optics Plan Achromatic objective 4x, 10x, 40x (spring) and 100x (spring oil) with interchangeability; Student proof 10x eyepiece field number 20 or better (antifungus), FN 20 or better) with ergonomic design frame for all main operating controls within easy reach; 30 degree inclined binocular tube, 360 degree rotatable, interpupillary distance adjustment range 48-75mm or better, with abbe type aperture iris diaphragm condenser; Anti Fungus agent to protect the internal lenses from fungal growth ISO 9001:20 certified (TUV), ISO 140001 certified, European CE certified</p>	04 (PG)
2.	<b>RESEARCH MICROSCOPE</b>	<p>Microscope having provision of extra tube for micro photography. head rotatable in 360 degree assembled from imported prism to ensure highly accurate collimation for strain free observation, adjustable interpupillary and dioptric distance. Heavy duty</p>	01

		<p>quintuple or better revolving Nose-piece, fixed co-axial Mechanical stage both sides graduated for slide manipulation, separate coarse and highly sensitive graduage fine focussing knobs, sub-stage field condenser N. A. 1.2 which is centrable in mount, built in base HALOGEN illumination system 6V-30W with variable electronic Transformer, supplied with Five Achromatic objectives: 4x, 10x, 20x 40x (SL) &amp; 100x oil (SL). 30 degree inclination interpupillary distance adjustment range 48-75mm or better, mechanical stage size 188(W) X 134(D) mm or better, movement range 76mm X-direction X 50mm Y-direction or better, Complete with standard optics. Eyepiece Micrometer. With turret type phase contrast and dark field microscope, polarizing attachment consisting of polarizer and analyzer, antifungus treated optics &amp; ergonomic design, 3 way eyepiece tube for simultaneous viewing in binoculars of microscope and on computer screen through camera.</p> <p>2/3 inch CCD, 12 mega pixels ,color cooled , Fire wire based camera for live view on computer with optical 0.5x adapter, easy to use image analysis software, with customizable toolbar for image acquisition, analysis and management. Live zoom preview with panning. 12-bit colour depth with selectable image resolutions. &gt;Levels adjustment: live and post processing. Time-lapse acquisition option. Autofocus aids. Scale bar, annotation and time/date labelling with shade correction. Interface should work with Microsoft applications, Photoshop and other third party software, Computer: Branded i3 Processor, 2 GB RAM, 320GB HDD, Keyboard, Optical Mouse, Multimedia Kit, DVD Writer, 18.5" TFT Colour Monitor along with UPS . ISO 9001/ISO 14001 certified (TUV), European CE certified</p>	
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		Note: Microscope , Camera and Software should be from same manufacturer	
3.	<b>SLIDE WARMING TABLE</b>	15 x 8” black anodized aluminium top. Thermostatically controlled, with an LED temperature display. Temperature range: Ambient to 70° C. With pilot light and power cord. 220-V AC.	01
4.	<b>WAX BLOCK STORING CABINET</b>	Wooden cabinet with dust-proof lockable door. Smooth sliding drawers with puller knobs. Capacity to hold 3000-4000 wax blocks.	03
5.	<b>SLIDE STORING CABINET</b>	Cabinet to hold up to 5000 standard 1” X 3” slides. Smooth sliding drawers with slide holder grooves. Should include spacers and identification labels. Dust-proof door with locking arrangement.	02
6.	<b>ALUMINIUM SLIDE TRAYS</b>	Aluminium slide trays with elevated ridges to separate 76 x 26 mm slides. To hold at least 20 slides. Length 330 mm X Width 190 mm.	25
7.	<b>STEREOMICROSCOPE</b>	A long working distance upto 100mm and a ultra flat field of view with super wide field eyepieces 10x (F.N.22) & Parfocal objectives for one time focus for all zoom magnifications. 6V 10W lamp with adjustable brightness (for Reflected light) and 5W fluorescent lamp (for transmitted light); Objective Zoom Range 0.65x ~ 4.5 x. Magnification range for observation with standard 10x eyepieces 6.5x ~ 45 x. ; parfocal optical system;360 degree Rotatable, 45° inclined optical zoom observation head;; Interpupillary distance adjustment: Left/right interlocked Adjustment range: 52 to 76 mm; beam path: 100% visual; grip: integrated; max. resolution: 170 Lp/mm; Mounting diameter: 76mm; Focusing stroke: 120mm; An Anti-Fungus treated with zoom ratio 1:7 stereo zoom microscope. ISO 9001/ISO 14001 certified (TUV)	01

8.	<b>SEMIAUTOMATIC MICROTOME</b>	<p>Precision orientation, quick clamping system for specimen holders (standard block holder and universal cassette holder), knife holder base with knife holder for high-profile disposable blades, storage tray.</p> <p>Section thickness:</p> <ul style="list-style-type: none"> <li>• Setting range: 0– 100 <math>\mu\text{m}</math></li> <li>• Setting values: 0,25 - 1 <math>\mu\text{m}</math> in 0,25 <math>\mu\text{m}</math> increments <ul style="list-style-type: none"> <li>1 - 10 <math>\mu\text{m}</math> in 1 <math>\mu\text{m}</math> increments</li> <li>10 - 20 <math>\mu\text{m}</math> in 2 <math>\mu\text{m}</math> increments</li> <li>20 - 60 <math>\mu\text{m}</math> in 5 <math>\mu\text{m}</math> increments</li> <li>60 to 100 <math>\mu\text{m}</math> in 10 <math>\mu\text{m}</math> increment</li> </ul> </li> <li>• Trimming section thickness setting range: 1-600 <math>\mu\text{m}</math></li> <li>• Setting values: 1 - 10<math>\mu\text{m}</math> in 1 <math>\mu\text{m}</math> increments <ul style="list-style-type: none"> <li>10 -20 <math>\mu\text{m}</math> in 2 <math>\mu\text{m}</math> increments</li> <li>20 – 50 <math>\mu\text{m}</math> in 5 <math>\mu\text{m}</math> increments</li> <li>50–100<math>\mu\text{m}</math> in 10<math>\mu\text{m}</math> increments</li> <li>100-600<math>\mu\text{m}</math> in 50<math>\mu\text{m}</math> increment</li> </ul> </li> <li>• Horizontal specimen feed: 28 mm</li> <li>• Vertical specimen stroke: 68-70mm</li> <li>• Specimen orientation: Horizontal : <math>\pm 25</math> mm <ul style="list-style-type: none"> <li>Vertical: <math>\pm 20</math> mm</li> </ul> </li> <li>• Maximum specimen size: W 50 x H 66 x D 30 mm</li> <li>• Nominal supply Voltage: 220 V / 125 V</li> <li>• Nominal frequency: 50/60 Hz</li> <li>• Dimensions: <ul style="list-style-type: none"> <li>Width ( including handwell ): 305 mm</li> <li>Depth ( including waste tray ): 445 mm</li> <li>Height: 310 mm</li> </ul> </li> <li>• Weight: 26 Kg</li> </ul>	01
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		<ul style="list-style-type: none"> <li>Power supply: 100-240V / 50/60 Hz</li> </ul> Rocking mode function with automatic feeding and retraction, second hand wheel brake directly on handwheel, separate control wheel, Preferably European CE certified/US FDA certified	
9.	<b>TISSUE STORING CABINET (FROZEN STATE)</b>	Cabinet made out of Duro-board, externally clad in laminated sheet. Dust-proof door lockable. Should have smoothly sliding drawers with sixteen compartments each of size 4x4x2" and have puller knobs. Each compartment should store blocks in two rows.	01
10.	<b>PARAFFIN WAX BATH</b>	Thermostatically Controlled. Capacity 4lt.	01
11.	<b>MICROPIPETTES</b>	10-100 ul 20-200 ul 100-1000 ul	01 01 01
12.	<b>LEUCKHART PIECES (L-MOULDS)</b>		10 pairs
13.	<b>BASE MOULDS</b>	24mm X 24mm 30mm X 24mm 37mm X 24mm	10 10 10
14	<b>STAINING RACKS</b>	Stainless steel racks for staining 25-30 pieces	5
15.	<b>TISSUE CASSETTES</b>	Plastic cassettes with lid for embedding, processing and storage of tissue specimens	25-30
17.	<b>ADEQUATE LABORATORY GLASSWARE</b>	a variety of equipment, traditionally made of glass, includes beakers, flasks, funnels, glass pipettes, jars, tubes, etc.	-
18.	<b>DIAMOND GLASS MARKER</b>	Diamond point marker, Cutting tool, engraving on glass, china etc	2
19	<b>MICROWAVE</b>	-	1

## ANNEXURE D-7 -DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY

Sr. No.	Name of Items	Specifications	Qty. Required
	<b>I. Oscillation Saw</b>		1
	• (Electrical Drill Motor)	• Speed 30,000-60,000 rpm	
		• Compact & light weight	
		• Integrated air cooling mechanism (motor should not overheat)	
		• Option for hand control	
		• Bi-directional rotation, controllable from either the system console or foot Pedal	
		Angled swivel elbow for balance & flexibility	
		Quick connect & disconnect assembly	
		Motor should be high powered, able to deliver the high torque	
		Sterilizable through steam autoclave 134 c	
		Motor should be compatible with E type handpiece coupling	
	<b>a. Hand Pieces The Handpiece should be of E type and autoclavable (134 C)</b>		
	• Oscillating Handpiece		1
	• Saggital handpiece		1
	• Reciprocating Handpiece		1
	• Micromotor Handpiece- Straight and Angled		1
	• Handpieces should be compatible with 2.35 mm dental shank burs		
	<b>b. Foot Control Unit</b>	• Large pedal surface	
		• Light weight	
		Should provide variable, accelerator like speed control	
		Button to change rotation direction	
		• Irrigation Switch on & off option	
	<b>c. Console</b>		
		• Electrical driven	







• Sponge holder	
• Allis tissue holding Forceps	
• Adson tissue holding Forceps non tooth	
• Adson tooth forceps	
• Crile Artery Forceps curved 6"	
• Mosquito Artery forceps straight 6"	
• Scissors( Metzenbum )	
• Scissors (Steven's Tenotomy, straight)	
• Scissors (" Health " stitch cutting)	
• Scissors(Mayo, dissecting, curved )	
• Bone Scoop/ Currettes (Angled)	
• Molt periosteal Elevator(Straight)	
• Plastic Cheek Retractor (Small & Big)	
• Legen Beck Right Angles retractor	
• Austin Tissue Retractor(regular)	
• Rubber Mouth Prop (set of 3 different sizes connected to each other with a metallic chain)	
<b>C. Osteotomy kit</b>	
	• For Instruments Steel grade AISI 316 and G10.
	• Instruments should be CE certified.
• Artery forceps – curved (Halsted mosquito 12.5cm)	6
• Artery forceps – curved (Spencer Wells 15 cm)	6
• Artery forceps – curved (Spencer Wells 18-20cm)	6
• Artery forceps – straight (Halsted mosquito 12.5cm)	6
• Artery forceps – straight (Spencer Wells 15 cm)	6
• Artery forceps – straight (Spencer Wells 18-20cm)	6
• Mayo scissors – straight	4
• Mayo scissors – curved	4
• Metzenbaum scissors – straight	2
• Allis forceps	4
• Kocher's forceps – small, straight 6"	4
• Kocher's forceps- large, straight 8"	4
• Sponge Holding forceps (Rampley)	2
• Needle Holder (Mayo-hegar) – small 6"	4
• Needle Holder (Mayo-hegar) – small 8"	4
• Langenbeck's Right Angled retractor (narrow and medium blade)	4 each
• Scalpel handle no 3	5

• Scalpel handle no 4		5
• Set of osteotome of different sizes		2
• Towel Clips ( Mayo's type )		10
• Towel Clips ( Doyen's pinch type )		10
• Kidney tray		10
• Cheatle's forceps		5
• Tongue depressor (Andrew type)		4
<b>D. CLEFT SURGERY KIT</b>	• For Instruments Steel grade AISI 316 and G10.	
	Instruments should be CE certified.	
• BP handle(Single Ended)-size 3'		5
• BP handle (double ended)-size 4		5
• Towel Forceps(Gaurded)-size 4''		
• Howarth periosteal elevator		10
• Chittel Forceps		5
• Sponge holder (size 6'')		2
• Allis tissue holding Forceps (size 6'')		5
• Adson tissue holding Forceps (size 5'')		5
• Adson tooth forceps(size 5'')		5
• Crile Artery Forceps(curved 6'')		5
• Mosquito Artery forceps (curved size 4'')		10
• Scissors( Metzenbum , size 5'')		4
• Scissors (Steven's Tenotomy, straight, size 4'')		4
• Scissors (" Health " stitch cutting)		5
• Scissors(Mayo, dissecting, curved size6.5'')		4
• Bone Scoop/ Currettes (Angled)		4
• Molt periosteal Elevator(Straight)		10
• Plastic Cheek Retractor (Small & Big)		2each
• Legen Beck Right Angles retractor (Smal,Medium Size,10 x 30mm, Big)		4each
• Austin Tissue Retractor(regular)		5
• Rubber Mouth Prop (set of 3 different sizes connected to each other with a metallic chain)		2
• Mastoid suction Cannula (size no 0 to 3 each 1 in number)		4each

<b>E.</b>	<b>A Set of Bone Grafting Kit</b>	<ul style="list-style-type: none"> <li>For Instruments Steel grade AISI 316 and G10.</li> <li>Instruments should be CE certified.</li> </ul>	
	• Artery forceps – curved (Halsted mosquito 12.5cm)		2
	• Artery forceps – curved (Spencer Wells 15 cm)		2
	• Artery forceps – curved (Spencer Wells 18-20cm)		2
	• Artery forceps – straight (Halsted mosquito 12.5cm)		2
	• Artery forceps – straight (Spencer Wells 15 cm)		2
	• Artery forceps – straight (Spencer Wells 18-20cm)		2
	• Mayo scissors – straight		2
	• Mayo scissors – curved		2
	• Metzenbaum scissors – straight		5
	• Allis forceps		2
	• Kocher’s forceps – small, straight 6”		2
	• Kocher’s forceps- large, straight 8”		2
	• Sponge Holding forceps (Rampley)		4
	• Needle Holder (Mayo-hegar) – small 6”		2
	• Needle Holder (Mayo-hegar) – small 8”		4
	• Langenbeck’s Right Angled retractor (narrow and medium blade)		
	• Scalpel handle no 3		5
	• Scalpel handle no 4		5
	• Set of osteotome of different sizes		2
	• Towel Clips ( Mayo’s type )		8
	• Towel Clips ( Doyen’s pinch type )		8
	• Kidney tray		10
	• Cheatle’s forceps		5
	• Tongue depressor (Andrew type)		5
<b>IV.</b>	<b>VENTILATOR</b>	<ul style="list-style-type: none"> <li>One ventilator, for use in the Postoperative ward/ICU.</li> <li>Should be a microprocessor based unit with the following specification: <ul style="list-style-type: none"> <li>Suitable for both adult and pediatric patients.</li> <li>Should operate in IPPV, SIMV, CPAP &amp; NIV modes</li> </ul> </li> </ul>	

		with :	
		• Volume control ventilation should be available in CMV/SIMV mode:	
		• Pressure control ventilation should be available in CMV/SIMV mode:	
		• PSV in SIMV/CPAP mode.	
		• Should operate with pneumatic gas source as well as compressor must be an integrated part of equipment.	
		• UPS back up of at least 1 hour for compressor and ventilator must be provided.	
		• Different color code for different settings/alarms, preferably with knob control.	
		• Patient monitoring	
		• Real Time Curves	
		• Breathe by breath display of at least pressure flow volume Vs time & pressure.	
		• Volume pressure or flow volume loops.	
		• Trending Curves: should be able to give trends of selected parameters for up to 24 hours at least.	
		Display of ventilation/ patient parameter & alarms:	
		• Display should be on colored TFT screen/TFT touch screen.	
		• They should be visible from reasonable distance.	
		• Display should be adjustable for optimal visibility.	
		• Capable of displaying min. of 2 wave forms/curves at a time.	
		• It should be able to display :	
		• Total Breath Rate	
		• Spontaneous breath rate	
		• Exhaled tidal volume	
		• Exhaled minute volume	

		• FIO <sub>2</sub> %	
		• Peak flows	
		• PEEP/CPAP	
		• There must be a provision for calculation and display of respiratory mechanics	
		• like:	
		• Compliance/resistance.	
		• Dynamic mechanical monitoring.	
		• Plateau pressure/ peak pressures	
		• Auto PEEP	
		Sittings machine must have provision for following settings:	
		• Tidal volume: 30 to 200ml	
		• Respiratory rate:1-100cycles/min	
		• Flow:6l/min to 150 l/min	
		• Flow pattern:square, decelerated	
		Inspiratory plateau:0-	
		• 60%inspiratory time	
		• PEEP/CPAP:0 to 35cm H20	
		• Pressure support.:0 to 70 cm H20	
		• O <sub>2</sub> : min/ High oxygen	
		Trigger sensitivity:flow 1-15 Lpm	
		• all patient initiated breath	
		: Pressure: 1 to 10cm below	
		• PEEP	
		• I:E ratio: Inverse ratio up to 4:1	
		• Apnoea backup	
		100% oxygen: For at least 3	
		• minutes for suction	
		Alarms: must have following	
		• alarms	
		• Pressure: Min/Max	
		• O <sub>2</sub> : min/ High oxygen	
		• Low exhaled tidal volume	
		• High respiratory rate	
		• Low PPE/CPAP pressure	
		• Patient disconnection	
		• Apnoea ventilation	
		Main power, air oxygen supply	
		• failure	
		•	
		Machines should have power on self test and extended self test for	

		safety.	
		Following accessory must be provided with the machine:	
		• Reusable patient filter (2) at least (per machine).	
		• Patient's circuits (reusable) Adult & Pediatric (2 adult & 1 pediatric).	
		• Humidifier, water traps and Nebulizer.	
		• Non-invasive CPAP mask with harness (2 Nos.).	
		• Should have facility for software up gradation.	
		• Power supply 220V AC.	
		• 5 year CAMC rates two be quoted separately.	
		• Should be microprocessor controlled, suitable for adult and pediatric patients.	
		• Should have invasive with control, assist /control, SIMV, CPAP and Apnea back up ventilation modes.	
		• Volume control, pressure control and pressure support ventilation.	
		• Should have the range of	
		• Tidal volume 50-2000ml	
		• Respiratory rate 0 to 6/mt.	
		• Flow rate 5-100 lt/mt	
		• Inspiratory time control cycle 0.1sec – 3sec ( Time cycle operation)	
		• Oxygen delivery 21-100% through oxygen blender	
		• Peak inspiratory pressure 0-100cm H20	
		• CPAP/PEEP 0-20cm H20	
		• Pressure support/ASB 0-35cm of H20 or above	
		• Should have automatic adjustment of flow at low airway pressure for delivering set tidal	
<b>a.</b>	<b>TRANSPORT VENTILATOR</b>		



		<ul style="list-style-type: none"> <li>• Membrane type, feather touch, hand control, to adjust all Electro-Hydraulic movements. Shock free, Operating on DC 12V with a flexible cable.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Parallel Operating Switched which is faced to the table.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Raising and Lowering.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Trendelengberg to reverse trendlenberg 30 deg with automatic sensor leveling device which stops table when it reaches 100% level to restart on activating switch again.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Lateral tilt left to right 28deg with central leveling device which stops table when it reaches 100% level to restart on activating switch.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Back rest 80 deg upright to 10 deg downward.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Mechanical &amp; Other adjustments:</li> </ul>	
		<ul style="list-style-type: none"> <li>• Leg rest mechanical movement from parallel to 90 deg downward.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Head Section- moved mechanically, detachable for fixing neuro Head Rest.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Table mounted on Castor wheels. Its movements in the Operation Theatre should be smooth.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Brake for firm and rigid locking of table.</li> </ul>	
		<ul style="list-style-type: none"> <li>• When the Brake is released the table is free to move on its castors.</li> </ul>	
		<ul style="list-style-type: none"> <li>•</li> </ul>	
		<ul style="list-style-type: none"> <li>• The Movement should be controlled by high pressure Electro Hydraulic System to achieve smooth and efficient operation, without the slightest jerk at start/end.</li> </ul>	



		<ul style="list-style-type: none"> <li>• Manifold should have Flow Control Valves for adjusting the desired speed of the table movement to high accuracy.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Hydraulic Motor Pump with long operating life is fitted with Anti-Vibration mountings and Auto Thermal Cut-off.</li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>DIMENSIONS:</u></li> </ul>	
		<ul style="list-style-type: none"> <li>• Length: 1800mm to 1900 mm approx</li> </ul>	
		<ul style="list-style-type: none"> <li>• Width: 500mm to 550 mm approx</li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>ELECTRO-HYDRAULIC MOVEMENTS:</u></li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>Raising &amp; Lowering</u></li> </ul>	
		<ul style="list-style-type: none"> <li>• Minimum height : 700mm to 800mm approx</li> </ul>	
		<ul style="list-style-type: none"> <li>• Maximum height : 1000mm to 1100mm approx</li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>Standard Accessories:</u></li> </ul>	
		<ul style="list-style-type: none"> <li>• Arm Board</li> </ul>	
		<ul style="list-style-type: none"> <li>• Lateral Support</li> </ul>	
		<ul style="list-style-type: none"> <li>• Universal Lateral Support</li> </ul>	
		<ul style="list-style-type: none"> <li>• Knee Crutches Complete</li> </ul>	
		<ul style="list-style-type: none"> <li>• Anesthetic Screen Frame</li> </ul>	
		<ul style="list-style-type: none"> <li>• Shoulder Support Complete</li> </ul>	
		<ul style="list-style-type: none"> <li>• <u>Additional Accessories to be quoted separately:</u></li> </ul>	
		<ul style="list-style-type: none"> <li>• General purpose head Support.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Raised Arm Board.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Cassette Tray with adjustable Rod.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Cassette Holder</li> </ul>	
		<ul style="list-style-type: none"> <li>• Lateral Cassette Holder</li> </ul>	
		<ul style="list-style-type: none"> <li>• Knee rest</li> </ul>	
		<ul style="list-style-type: none"> <li>• Douche Tray-Hanging type</li> </ul>	
		<ul style="list-style-type: none"> <li>• Stainless Steel Stand to mount all attachments.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Orthopedic Attachment</li> </ul>	
		<ul style="list-style-type: none"> <li>• Battery Back Up</li> </ul>	
		<ul style="list-style-type: none"> <li>• Top sliding</li> </ul>	

c.	<b>DEFIBRILLATOR MONITOR/RECORDER</b>	<b>WITH</b>	
		<ul style="list-style-type: none"> <li>• Should be with 5” CRT/TFT display.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be fully integrated, portable defibrillator monitor &amp; recorded.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should operate on rechargeable battery &amp; mains.</li> </ul>	
		<ul style="list-style-type: none"> <li>• The battery should be capable of 50 discharges of maximum joules or 2-4 hours of continuous monitoring when fully charged.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have battery charging indicators and charging time to 90% capacity of not more than 3 hours, must have low battery indicators.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be capable of providing synchronous cardioversion.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have electrodes and paddles for adult and pediatric applications.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be with bi-phasic technology.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have optimum cord length.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have selection range of 1-200 joules and should be capable of delivering energy in increments of 1-2 joules up to 30 joules and increments of 50 joules thereafter.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should compensate for body impedance for range of 25-1500 ohms.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have external paddles with paddles contact in indicator – for good paddle contact.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Charge control on both front panel of machine and paddles.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Charge time should not be more than 5 seconds for maximum energy.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have both manual as well as AED capability.</li> </ul>	

		<ul style="list-style-type: none"> <li>• Should provide ECG input through defibrillator paddles and 5 lead patient cables to monitor.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have facility or printing reports on event summary/configuration softest/battery capacity etc.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Record paper should be with speed of 25mm/sec, with annotation of time, date, ECG lead, heart rate and defibrillation parameters.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have inbuilt recorder with automatic activation during defibrillation.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be provided with external pacemaker.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have audiovisual alarms.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have facility for self test/check before usage and setup function</li> </ul>	
		<ul style="list-style-type: none"> <li>• The equipment shall be displayed at Dr. HSJ Institute of Dental Sciences, for technical evaluation before purchase at the then cost of the company.</li> </ul>	
<b>d.</b>	<b>BAINS CIRCUITS</b>	<ul style="list-style-type: none"> <li>• Length of bains circuit should be at least 180 cm.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have diameter- inner tube =7 cm.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have diameter- outer tube= 22cm.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have APL valve.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have 2 liter reservoir bag.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be convenient to use for manual ventilation by means of either:</li> </ul>	
		<ul style="list-style-type: none"> <li>• 2 meter extension of the inner tube which connects to the common gas outlet of the anesthesia machine.</li> </ul>	
		<ul style="list-style-type: none"> <li>• 1.5-2metres of 22mm ID tube interposed between the machines and of the circuit and the reservoir bag.</li> </ul>	

		<ul style="list-style-type: none"> <li>Should have right angle connector with a port for ETCO<sub>2</sub>.</li> </ul>
		<ul style="list-style-type: none"> <li>Should have a 't' piece.</li> </ul>
<b>e.</b>	<b>ANAESTHESIA MASKS</b>	<ul style="list-style-type: none"> <li>Should be transparent, made of silicon.</li> <li>Should have inflatable air cushion for good seal.</li> <li>Should be suitable for connection to all anaesthesia systems.</li> <li>Sizes :</li> <li>Small (adult) =4 nos.</li> <li>Medium (adult) = 4 nos.</li> <li>Large (adult) =4 nos.</li> </ul>
<b>g.</b>	<b>OXYGEN AND NITROUS OXIDE CYLINDERS IN THE MANIFOLD ROOM{</b>	<ul style="list-style-type: none"> <li><b>OXYGEN CYLINDER (NUMBERS REQD = 4)</b></li> <li>D-type, capacity = 7.1m<sup>3</sup> = 7000 liter.</li> <li>Should be made of steel in order to withstand high pressure.</li> <li>Should be color coded to have white, red and black body.</li> <li>Should have certificate of quality standards from BIS.</li> <li>Should have accompanied certificate of safety from the Department of Explosives, Nagpur, India.</li> <li>Should have essential marks of tank pressure, chemical formula of cylinder content etc. engraved on the cylinder.</li> </ul>
<b>h.</b>	<b>NITROUS OXIDE CYLINDERS (NUMBER REQD = 2)</b>	<ul style="list-style-type: none"> <li>D-type, capacity = 7.1m<sup>3</sup> = 7000 liter.</li> <li>Should be made of steel in order to withstand high pressure.</li> <li>Should be color coded and standard blue.</li> <li>Should have certificate of quality standards from BIS.</li> <li>Should have accompanied certificate of safety from the Department of Explosives, Nagpur, India.</li> </ul>

		<ul style="list-style-type: none"> <li>Should have essential marks of tank pressure, chemical formula of cylinder content etc. engraved on the cylinder.</li> </ul>	
<b>i.</b>	<b>Folding stretcher 4 fold</b>	<ul style="list-style-type: none"> <li>(PRODUCTS SHOULD BE CE , WHO, GMP , ISO 13485 CERTIFIED.)</li> <li>Aluminium folding lengthwise as well as width wise</li> <li>4 fold, provided with bag</li> <li>Overall size 210L*53W*12H cm</li> <li>Folded size 61L*30W*12H cms</li> <li>Load bearing capacity 159kgs</li> </ul>	
<b>j.</b>	<b>Patient trolley –HI –LOW</b>	<ul style="list-style-type: none"> <li>(PRODUCTS SHOULD BE CE , WHO, GMP , ISO 13485 CERTIFIED.)</li> <li>Framwork made of S.S. tubes</li> <li>Overall size 195L*65W*65-85H cms</li> <li>Safety siderailing ,i.v.rod height adjustable by crankhandle 15cms dia castors</li> <li>The surface uses the height quality leather surface intention high density sponge , the back may need to adjust according to the patient</li> <li>Applies the break reliably</li> <li>Finish: pre-treated and epoxy powder coated</li> <li>Also available in MS</li> </ul>	
<b>k.</b>	<b>Stretcher trolley</b>	<ul style="list-style-type: none"> <li>(PRODUCTS SHOULD BE CE , WHO, GMP , ISO 13485 CERTIFIED.)</li> <li>Overall approx. dimension : 2030mm L * 560mmD*820Hmm</li> <li>Strong construction made from MS ERW round tubes</li> <li>Mounted on four metallic body castors 200mm wheel dia ,without break</li> <li>Removable stretcher top made from aluminium sheet supported on MS tubular frame</li> </ul>	

		<ul style="list-style-type: none"> <li>• Pre-treated and powder coated finish</li> </ul>	
		<ul style="list-style-type: none"> <li>• Supplied in knockdown condition</li> </ul>	
<b>b.</b>	<b>ANESTHESIA DRUGS TROLLEY</b> (One each in 2 Ots, recovery.)	<ul style="list-style-type: none"> <li>• Should be a light-weight cart with buffer rails mounted on castors (12cm diameter minimum). Two of the castors should be lockable.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have two vertical rows of five drawers, side by side to hold anesthesia drugs and fluids and I/V access equipment etc. they should be lockable with single lock for topmost drawer on each side</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have at least 8 small bins side by side on the top to hold ampoules of emergency drugs.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be made of rust-proof stainless steel.</li> </ul>	
<b>d.</b>	<b>PATIENT TRANSFER/RECOVERY/RESUSCITATION TROLLEYS</b>	<ul style="list-style-type: none"> <li>• Should be universal procedure trolleys for emergency rooms, patient shifting from OR or ICU.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have patient weight bearing capacity of at least 170kgs</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be made of Stainless Steel and rust proof material.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Dimensions (min required patient surface), length 190cms and width 75cms.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should be convenient to move in all directions with castors (size 180mm) that lock from any corner with central lock mechanism and steering control from all four corners.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have hands free pneumatic/ hydraulic assist positioning for height adjustment (at least 60-80cms).</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have facility for trendelenburg and reverse trendelenburg positions (at least 10 degrees).</li> </ul>	
		<ul style="list-style-type: none"> <li>• Should have pneumatic or manual crank fowler control (9-90</li> </ul>	

		degrees).	
		<ul style="list-style-type: none"> <li>Should have provision for quick release of elevated head end.</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have tuck away / fold down adjustable light weight safety side rails with self locking mechanism</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have detachable head and foot panels. Foot end panels should have holding bracket for transport ventilator and transport monitor. Head end panel should have holding bracket for patient files and record sheets.</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have 1 oxygen cylinder bracket and utility tray beneath mattress base.</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have steel adjustable I/V drip rod with double holding hooks. I/V drip rod holding position should be present at each corner of the trolley.</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have pushing rubberized bumper handles at both ends.</li> </ul>	
		<ul style="list-style-type: none"> <li>Should have P.U. foam mattress with vinyl PVC cover -50mm thick- removable for patient surface.</li> </ul>	
<b>e.</b>	<b>Nursing station equipments</b>	<ul style="list-style-type: none"> <li>(Product should be CE , WHO, GMP , ISO 13485 CERTIFIED.)</li> </ul>	
		<ul style="list-style-type: none"> <li>Instrument cabinet</li> </ul>	
		<ul style="list-style-type: none"> <li>Size 165 H * 61 W * 38 D cms</li> </ul>	
		<ul style="list-style-type: none"> <li>Constructed from MS Steel sheet</li> </ul>	
		<ul style="list-style-type: none"> <li>Upper section with 2 sliding glass door and adjustable glass shells</li> </ul>	
		<ul style="list-style-type: none"> <li>Lower section with 2 MS steel sheet locking doors and 1 shelf.</li> </ul>	
		<ul style="list-style-type: none"> <li>Finish: pre-treated and epoxy powder coated</li> </ul>	
		<ul style="list-style-type: none"> <li>Biomedical waste bins</li> </ul>	
<b>f.</b>	<b>Hospital Beds</b>	<ul style="list-style-type: none"> <li>ICU BED FOWLER(ABS PANELS ABS RAILING)</li> </ul>	2
		<ul style="list-style-type: none"> <li>(Product should be CE, WHO, GMP, ISO 13485 CERTIFIED.)</li> </ul>	

		<ul style="list-style-type: none"> <li>• Framework made of rectangular M.S. Tube</li> </ul>	
		<ul style="list-style-type: none"> <li>• 4 section top made of perforated M.S. sheet</li> </ul>	
		<ul style="list-style-type: none"> <li>• Backrest</li> </ul>	
		<ul style="list-style-type: none"> <li>• ABS moulded head and foot panels</li> </ul>	
		<ul style="list-style-type: none"> <li>• ABS tuck away safety side railing</li> </ul>	
		<ul style="list-style-type: none"> <li>• Telescopic 4 rod with two locations</li> </ul>	
		<ul style="list-style-type: none"> <li>• Bed mounted on 100 mm dia castor-two with breaks</li> </ul>	
		<ul style="list-style-type: none"> <li>• Overall size 210 L *90 W * 60H cm</li> </ul>	
		<ul style="list-style-type: none"> <li>• Finish : Epoxy powder coated</li> </ul>	
		<ul style="list-style-type: none"> <li>• (Product should be CE , WHO, GMP , ISO 13485 CERTIFIED.)</li> </ul>	
		<ul style="list-style-type: none"> <li>• X-ray view box</li> </ul>	
		<ul style="list-style-type: none"> <li>• For three film</li> </ul>	
		<ul style="list-style-type: none"> <li>• Patient stool revolving S.S. Top</li> </ul>	
		<ul style="list-style-type: none"> <li>• Tubular four legs base with chrome plated foot ring</li> </ul>	
		<ul style="list-style-type: none"> <li>• Top of stainless steel</li> </ul>	
		<ul style="list-style-type: none"> <li>• Adjustable of height by an accurately machined screw</li> </ul>	
		<ul style="list-style-type: none"> <li>• Finish in epoxy powder coated</li> </ul>	
		<ul style="list-style-type: none"> <li>• Foot step double</li> </ul>	
		<ul style="list-style-type: none"> <li>• Step size : 505L *305W mm</li> </ul>	
		<ul style="list-style-type: none"> <li>• First step height 230 mm ans second step size 450 mm</li> </ul>	
		<ul style="list-style-type: none"> <li>• Step made of CRCA sheet fitted with aluminium tread flats by pop rivets</li> </ul>	
		<ul style="list-style-type: none"> <li>• Frame made of 1” * 18G CRC tubes fitted with PVC stumps</li> </ul>	
		<ul style="list-style-type: none"> <li>• Finish : pre-treated and epoxy powder coated</li> </ul>	
		<ul style="list-style-type: none"> <li>• Foot step Single</li> </ul>	
		<ul style="list-style-type: none"> <li>• Step size : 505L *305W mm*230 H</li> </ul>	
		<ul style="list-style-type: none"> <li>• First step height 230 mm ans second step size 450 mm</li> </ul>	
		<ul style="list-style-type: none"> <li>• Step made of CRCA sheet fitted with aluminium tread flats by pop rivets</li> </ul>	
<b>VII.</b>	<b>Inpatient Beds With Accessories</b>		



		<ul style="list-style-type: none"> <li>• Frame made of 1” * 18G CRC tubes fitted with PVC stumps</li> </ul>	
		<ul style="list-style-type: none"> <li>• Finish : pre-treated and epoxy powder coated</li> </ul>	
		<ul style="list-style-type: none"> <li>• <b>HOSPITAL FOWLER BED</b></li> </ul>	20
		<ul style="list-style-type: none"> <li>• (Product should be CE, WHO, GMP, ISO 13485 CERTIFIED.)</li> </ul>	
		<ul style="list-style-type: none"> <li>• Framework made of rectangular M.S. Tube</li> </ul>	
		<ul style="list-style-type: none"> <li>• 4 section top made of perforated M.S. sheet</li> </ul>	
		<ul style="list-style-type: none"> <li>• Backrest ,kneerest positions manoeuvred by separate screw from foot end</li> </ul>	
		<ul style="list-style-type: none"> <li>• Detachable S.S. head and footbows fitted with laminated panels</li> </ul>	
		<ul style="list-style-type: none"> <li>• Telescopic 4 rod with two locations</li> </ul>	
		<ul style="list-style-type: none"> <li>• Bed mounted on 100 mm dia castor-two with brakes</li> </ul>	
		<ul style="list-style-type: none"> <li>• Overall size:206L*90W*60H cms</li> </ul>	
		<ul style="list-style-type: none"> <li>• Finish: pretreated and epoxy powder coated</li> </ul>	

TRAUMA SET	PACKING	QTY	SPECIFICATIONS
Instrument Tray For 2.0mm	1	1	<p><b>1.</b> The system should contain instruments for fixing the Titanium Implants of Maxillofacial Plating dia. of (a)1.7mm thickness 0.50 to 0.60 mm (b) 2.0mm (Thickness of 1.0mm).</p> <p><b>2.</b> Implant to be used should be Non-Toxic, Biocompatible and made of Titanium</p> <p><b>3.</b> Instrument should be of adequate strength and should not deform while working under manual pressure.</p> <p><b>4.</b> Instrument should be able to serve the specific function for which it is designed.</p> <p><b>5.</b> Instruments should be autoclavable. It should be able to withstand the temperature of 134 degree C. without losing their property.</p>
3 Prong Bender For Mini Plates	1	1	
Plate Cutting Pliers, With Protecting Shield	1	1	
Screwdriver Handle, Wooden	1	1	
Blade For 2.0mm Mp Screws	1	1	
Blade For 1.2/1.7mm Screws	1	1	
Trocar Handle	1	1	
Trocer	1	1	
Trocar Drill Guide	1	1	
Cheek Retractor		1	
<b>TITANIUM PLATES (PROFILE 1.0MM)</b>			

Titanium Plate, 4 Holes, Regular	1	1	<p><b>6.</b> Instruments should be made of material which are non toxic, non Irritant and non carcinogenic to the tissue.</p> <p><b>7.</b> Screwdriver head should be compatible to the screw head design.</p> <p><b>8.</b> Same Instrumentation should be compatible with Mid face locking Screws and Plates.</p> <p><b>9.</b> The material should be used of high quality and have CE, FDA and ISO Certifications.</p> <p><b>10.</b> Instrument and Implants should be imported and manufactured by a company of International repute.</p> <p><b>11.</b> The quote should quote all the required Instruments.</p>
Titanium Plate, 16 Holes, Regular	1	1	
Titanium L Plate, 4 Holes, 8mm Bar, Right	1	1	
Titanium L Plate, 4 Holes, 8mm Bar, Left	1	1	
<b>2.0 MM BONE SCREWS, SELF TAPPING</b>			
Titanium Bone Screws, Mp, Dia. 2.0mm, Length 8mm, Cross-Pin, Self-Tapping	5	1Pkt	
Titanium Bone Screws, Mp, Dia. 2.0mm, Length 10mm, Cross-Pin, Self-Tapping	5	1Pkt	
Titanium Bone Screws, Mp, dia. 2.3mm, Length 6mm, Cross-Pin, Self-Tapping		2Pices	
<b>TWIST DRILL</b>			
Twist Drill, Dia. 1.5mm, Length 58mm, Stryker Shaft End	1	1	