

**COLLEGE OF VETERINARY SCIENCE & A. H.,
S. D. AGRICULTURAL UNIVERSITY
S.K. NAGAR -- 385506**

Tender Notice:- SDAU/DVC/PUR/INSTRU/E-1/2016-17

Online Tenders, as per the schedule given below, are invited from reputed manufacturer / authorized dealers/ distributors for supply of **Veterinary Surgical /Laboratory/Instruments/Apparatus/Equipment etc.**

Separate Tender forms are to be filled in for each Item (As the case may be). A set of all the required documents should be submitted separately otherwise tender will be disqualified.

Tender Notice **Veterinary College No. SDAU/DVC/PUR/INSTRU/E-1/2016-17** on the website <https://au.nprocure.com> or www.nprocure.com may be referred for the Tender Form, detailed terms & conditions etc.

| | | |
|----|---|--|
| 1. | Downloading and online submission of the tender documents | 31/12/2016 to 20/01/2017 |
| 2. | Physical submission of Tender Fee, EMD, Manufacturer/ Authorized Dealership Certificate and relevant documents in separate cover. | Up to 27/01/2017 in the office of the Principal, College of Veterinary Science & Animal Husbandry, S. D. Agricultural University, S.K. Nagar, Dist. - B.K., Gujarat-385506 by Registered Post. / Speed Post / Courier only. |
| 3. | Opening of Primary Bid (Tender Form Fee and EMD Cover) (Physically Received) | 30/01/2016 after 11.00hrs. |
| 4. | Opening of Technical Bid (online) | 03/02/2017 |
| 5. | Opening of Commercial Bid (online) | 10/02/2017 |

Date: 28/12/2016

s/d
Principal & Dean

**COLLEGE OF VETERINARY SCIENCE & A. H.,
SARDARKRUSHINAGAR DANTIWADA AGRICULTURAL UNIVERSITY
SARDARKRUSHINAGAR-385 506**

Tender Notice No. SDAU/DVC/PUR/INSTRU/E-1/2016-17 Date: 22/12/2016

TENDER BRIEF

Online Tenders are invited from reputed manufacturer / authorized dealers/distributors **for supply of Veterinary Surgical/ Laboratory/ Instruments/Apparatus/ Equipment etc.**as mentioned specifically in the tender details.

INSTRUCTION TO BIDDERS FOR ONLINE TENDER PARTICIPATION

1. The tender documents can be downloaded from the website <https://au.nprocure.com>
2. The bids should be submitted online visiting website <https://au.nprocure.com>
3. The bids should be digitally signed. The details regarding digital signature certificate and related training involved will be available on the below mentioned address:

(n)Code Solutions

(A division of GNFC)

301, GNFC Infotower, Bodakdev,

Ahmedabad- 380 054 (India)

Tel : +91 79 26857316/17/18

Fax: +91 79 26857321.

www.ncodesolutions.com

4. The tenderer can get a copy of instructions for online participation from the website <https://au.nprocure.com>
5. The tenderer should get registration, if required on the website through the link “New Supplier” provided at the home page. The registration on the site should not be taken as registration or empanelment or any other form of registration with the tendering authority.
6. The application for training and issue of digital signature certificates should be made at least 72 hours in advance to the due date and time of tender submission.
7. All the queries regarding use of digital signature certificate should be addressed to personnel in (n) Code Solutions, Ahmedabad.
8. All the queries regarding tender specifications and any other clauses included in tender document should be addressed to personnel in tendering office at the address provided below:

Contact Details :

Principal & Dean

College of Veterinary Science & A. H.,

Sardarkrushinagar Dantiwada Agricultural University

Sardarkrushinagar, Gujarat-385 506.

Telefax: 02748-278263/02744-223978

email:deanvety@sdau.edu.in

GENERAL CONDITIONS OTHER THEN INVITATION TO TENDER AND INSTRUCTIONS TO TENDERER (ITIT)

Tender No.:- SDAU/DVC/PUR/INSTRU/E-1/2016-17

Nature of requirements: Veterinary Surgical/ Laboratory/ Instruments/Apparatus/ Equipment

Note:- Separate Tender forms are to be filled in compulsorily for each item. Attach product catalogue along with all documents separately otherwise tender will be disqualified.

The Tender Form fee Rs. 5000/-(Rupees Five thousand Only) of the tender value approximately Rs.50,000,00/- and Earnest Money Deposit (EMD) @ 3% of total value of the tender will be applicable for each company price list. The E.M.D. will be released after completion of the complaint free Guarantee period.

A security deposit @ 5 (Five) % for the total cost of the consignment to be ordered (where as applicable), has to be deposited to the ordering office in form of Demand Draft in favour of 'SDAU Fund Account' drawn on State Bank of India, payable at Dantiwada-2760. The security deposit will be released by the ordering office after completion of the complaint free Guarantee period.

1. Tenderer interested for representing and quoting more than one company price list should fill in separate tender forms and enclose the required documents separately otherwise tender will be disqualified.
- 2 The Sardarkrushinagar Dantiwada Agricultural University (SDAU) **shall in first instance prefer to deal with manufacturer.** However, the manufacturer may effect delivery through it's dealer/distributor mentioned in tender form, if desired.
- 3 Authorized dealers/ distributors can quote their rates provided they attach a valid longevity certificate of authorized dealership issued from the Manufacturer/Principal company.

4 PRIMARY BID (TENDER FEE AND EMD COVER)

The EMD cover should contain Tender Fee and Earnest Money Deposit (EMD) in form of separate demand drafts as mentioned in Tender Form (TF). **It may please be noted that Tender form without Tender fee or EMD will not be considered.**

5 TECHNICAL BID

The Technical Bid should contain copy of **Tender Form (TF)** including **ITIT** along with self attested copies of VAT/CST Registration Certificate, latest company printed price list/catalogue and other relevant documents as per check list (except Commercial Bid document). **Please note that scan copy of any document uploaded by the tenderer must tally with physical submission of original. Further;**

- (a) The envelope should be marked as "**Technical Supporting Documents (Technical Bid)**". **It should be noted that technical bid is to be submitted online as well as physically.**
- (b) If the bidder fails to submit the supporting documents physically within time limit, the bidder may be disqualified.

- (c) The bids should be submitted on or before the time stipulated in Tender notice at the website <https://au.nprocure.com>
- (d) Technical bids should be separate for each company price list. All documents along with General conditions and ITIT must be filled separately otherwise tender will be disqualified.

6. COMMERCIAL BID

- (a) The Commercial Bid should contain rates/price (as per company printed price list) of items with or without taxes, with a mention of discount percentage, if desired along with Tax Declaration Certificate duly filled in and signed. The bid not accompanying this certificate is liable to be ignored.
- (b) **Sardarkrushinagar Dantiwada Agricultural University is entitled for exemption of Customs Duty as per Government Notification No.51/96- Customs dated 23rd July 1996 and Central Excise Duty exemption as per Government Notification No.10/97-Central Excise dated 1st March 1997. Therefore, the rates may be quoted considering the exemption of custom duty and central excise.**
- (c) FOR destination delivery should be **inclusive of insurance charges**. However, Central Sales Tax, Excise duty, VAT and other prevailing taxes as per government rules & regulations should be mentioned separately on the items quoted. **In case the bidder fails to provide such separate details in its bids, offers will be considered as inclusive of all taxes.** VAT applicable against form 'P' to be mentioned separately. If the bidder is exempted from payment of VAT, then it shall have to mention it in the Commercial Bid, otherwise offer will be treated as inclusive of VAT.
- (d) The Commercial Bid should be submitted on or before the time stipulated in tender notice **online** only on the website <https://au.nprocure.com>

7. VALIDITY OF TENDER

The rate quoted shall initially be valid up to **31st March, 2017**. However, it may be extended by the university.

8. DELIVERY PERIOD

- (a) **For Indigenous Items** : The maximum delivery period will be six weeks from the date of order in case of ordinary purchases and two weeks in case of the emergency/urgent purchase.

9. PAYMENT

No advance payment shall be made. The final payment shall be made by respective offices after satisfactory receipt of goods/installation and training of staff, wherever applicable.

10. AUTHORISATION

If the Tenderer is not a manufacturer, he should submit a letter from the manufacturer authorizing him to submit quotation on his behalf or attested copy of authorized dealership. Authority letter whenever submitted should be in original on letter head of the manufacturer with necessary seal and signature. Failing which the tender may be rejected.

The manufacturer should preferably have track record of supply for at least last two years to any Govt. Department / Educational / Agricultural University in the country (Attach relevant list or certificate pertains to client satisfaction in this regard).

11. INSPECTION

- (a) The place of inspection to be mentioned clearly in the bid, failing which the offer may be rejected and no correspondence will be entertained after opening of the tender.
- (b) SDAU Indenter/consignee or authorized representative may do inspection, if needed.
- (c) Inspection charges shall be inclusive of traveling expenses and daily allowances of the inspecting staff. Hence, inspection fees shall be charged as per actual expenditure by the inspection staff or the actual amount worked out on the basis of percentages, whichever is less. Similarly, testing charges may also be charged as per actual amount to be worked out on the basis of above percentages whichever is less.

12. TERMS OF SUPPLY

- (a) The packing and the labels of all the items, to be supplied under the order, should be well labelled. If the items are packed in packets which are then placed or repacked within a box/carton/bottle/foil, these details shall be printed/ marked on both the internal/external packs and labels. The retail price must not be printed or shown any where either on external or internal pack/ box/carton/foil.
- (b) The **Accepted Tender (A.T.) / Rate Contract (R.C.)** holder should have to supply the material in the original company's packing which shall indicate packing details and other particulars as required under the statutory provisions. Inner and outer packing of boxes / cartons should be of standard design. The final packing of cartons of corrugated boxes shall be complying with ISS 9313: 1979 of November, 1980. Packing should be in such a way that instrument remaining in good condition up to the destination point. A packing slip of 10" x 8" shall indicate clearly and legibly the name of the product, batch number, quantity, date of manufacture, date of expiry gross & net weight, and consignee's name & address and other particulars as required.
- (c) In the event of breakages or loss of stores during transit against requisition order the said quantity will have to be replaced by the A.T. / R.C. holder. The purchaser will not pay separately for transit insurance and the supplier will be responsible for the intact supply as soon as possible but not later than 15 days from the date of arrival of stores at destinations.

13. OTHER CONDITIONS

- (a) The conditional offer is liable to be rejected
- (b) The statutory price increase clause.
 - (i) The Tenderer who wants to avail the benefit of statutory price increase, clause should clearly mention in the tender accordingly. In absence of such a specific statement no claim for the same will be entertained.
 - (ii) The Tenderer who want to avail the benefit of statutory price variation clause should also clearly mention the break-up of the net price of the store and the amount of taxes separately in tender. The increase in the price of store due to variation in taxes at the time of supply is not considerable.
 - (iii) No variation in price shall be allowed in case the goods are offered ex-godown.
 - (iv) The increase in price would also not be permissible where delivery period is within one month of the date of statutory increase.

- (c) No tender will be accepted after prescribed closing time for submission of the same. The delay will not be condoned for any reason whatsoever including postal / transit delay. However, if the last date of submission of tenders is declared as a holiday by the Government, the last date of submission of tenders will be considered as extended to the next working day.
- (d) The tenderer should read this document and the instructions / terms / conditions therein very carefully. Any tenderer who does not confirm with the instruction / terms / conditions herein is liable to be rejected without any reference.
- (e) No modification should be done by the tenderer in the name of item, and in the specifications grade / quality / packing of the item given in the enquiry document.
- (f) If tenderer's quoted prices for any other institution/university/ government organization found less than our university/institution or discount to any other institution/university/government organization found more than our university/ institution, the rate contract will be cancelled and the firm will be put in blacklist.
- (g) The Accepted Tender (A.T.) holder / Rate Contract (R.C.) holder should supply the, equipments/ items in fresh and sound condition meeting with the specification and packing approved. Refurbished or second-hand equipment / stores will not be allowed under any circumstances. If such case is noticed, than the store will be rejected out rightly and penal action will be taken against the A.T./R.C. holder.
- (h) All supply orders issued by the indenting officers on or before the last date of the expiry of the R.C. will have to be accepted by the R.C. holder and the delivery for all such orders will have to be effected as per the schedule specified in the order, even though the date of actual supply may fall beyond the last date of the R.C.
 - (i) In case of any disputes, the decision of the SDAU in this regard shall be final and binding.

I/We.....(Name of the Tenderer/Proprietor/Partner /Director) hereby undertake to supply stores conforming to the Tender Enquiry specification and abide all terms and conditions of the tender enquiry as well as invitation to tender and instructions to tenderers.

Place :
Date :

Signature:
Name:
Designation:
Stamp of the firm:

Invitation to Tender and Instructions to Tenderer (ITIT)

1. Tenderers or their authorize representative are at liberty to remain present at the opening time of the tender.
2. The **tender fee is Rs.5000/- (Rupees Five thousand Only, non refundable) of the tender value approximately Rs.50,000,00/-**. The EMD will be @ 3% of total value of the tender for **each brand/ company price list**. Separate tenders are to be filled in for **each item. Each tender must have a set of all the documents separately, otherwise tender will be disqualified.**

The Demand drafts should be in favour of 'SDAU Fund Account' and drawn on **State Bank of India, Dantiwada-2760**. The **drawee bank** should also be **State Bank of India**. A Tender without proper Tender Fee and Earnest Money Deposit shall not be considered. The Earnest money Deposit/Security Deposit will be liable to forfeiture if the tenderer fails to complete the contract. EMD/ Security Deposit shall be returned after completion of warranty/guarantee period of the equipments.

Incorrect / fraudulent information submission may lead to disqualification / debar. Please ensure that the data be furnished correctly.

- 3 (a) The Tenderer should quote rate for F.O.R./Free Delivery to the indenting office of SDAU. The SDAU has its Research Stations spread over North Gujarat and Kutchh. The tenderer should state the earliest and clear delivery period. The offerer has to confirm receipt of supply order and acceptance thereof immediately. In absence of this no claim shall be considered.
 - (b) Tenderer may also quote on Ex-Godown and/or F.O.R. destination of dispatch indicating charges towards packing forwarding, railway freight or the charges under the parcel scheme of the Gujarat State Road Transport Corporation, insurance etc. so as to compare the rates with those of others who have quoted as per tender condition.
 - (d) When the analysis or testing of the supplied stores has to be undertaken in Laboratories / Test house inside/outside Gujarat State, inspection charge not exceeding 0.5 / 1.0 %, respectively of the total value of stores to be inspected will have to be paid by the offerer.
4. No charges other than customs duty shall be affected by the change in the F.O.B. price. This clause shall remain in operation only up to the date of shipment corresponding to the delivery period specified in the schedule to the agreed terms and notwithstanding any extension of time, if any, unless it proves to the satisfaction of the SDAU that the delay in shipment was due to the causes entirely beyond the control of the foreign principal / manufacturer. The decision of the SDAU in this regard shall be final and binding.
- 5 (a) Ex-stock offer of those on tenderer's own import license will be preferred. It will be tenderer's responsibility to inform this office within the validity period of the quotation in the event of the stores offered ex-stock being sold elsewhere. Failure to comply with this instruction shall be construed to mean that the stores are available ex-stock during the validity period. No cognizance shall be taken of the intimation that the store have been sold out prior to receipt of order if such intimation is received after acceptance of order at the tenderer's end.
 - (b) Taxes, if leviabale and same are being claimed extra should be clearly stated, failing which the ates quoted in the tender will be construed as inclusive of all taxes. Break -up showing the rate and element of taxes should be shown when rates are quoted inclusive of taxes.
 - (c) Party or their representative may remain present at the time of the opening of Technical Bid.

6. (a) The tenderer should indicate the rates in metric system of weight and measures or in any equivalent weights and measures, thereof showing conversion rates. Non-compliance in this respect will render the tender liable for rejection.
 - (b) Rates should be quoted per "unit" as specified in the schedule. Non-compliance will render the tender liable for rejection.
 - (c) The prices should not be negotiable. If needed parties quoting lowest shall be invited or the negotiations/clarifications. However, the lowest price is not the criteria and emphasis is placed on quality and specifications of the material.
7. The SDAU does not pledge himself to accept the lowest or any tender and reserves the right to consider or reject any or all tenders and invite fresh quotations if need arise or to accept the tender in full or part or divide the quantity amongst one or more tenderers without assigning any reasons. Further, the SDAU reserves the right of selecting the brand and accepting or otherwise any of the conditions stipulated in the tender.
 8. In the event of an order being placed against this tender and if tenderer fail to supply any stores in accordance with the terms and conditions of Acceptance of Tender or fail to replace any stores rejected within such times as may be stipulated, the SDAU shall be entitled to purchase such stores, without notice to the tenderer, from any other source and at such price as the university shall in the sole discretion think fit. If such price exceeds the rate set out in the schedule to acceptance of tender, the tenderer shall be responsible to pay the difference of the price at which such store have been purchased by the SDAU, and the price calculated at the rate set out in the schedule.

9. **Sample:**

- (a) Tender samples are not required unless specifically called for at later date when need arise.
 - (b) The tender without samples, where samples are specifically called for will not be considered.
 - (c) Sealed samples should be submitted with a mention of (i) Name and address of the firm (ii) Tender No. (iii) Opening date of Tender (iv) Item Name (v) Sr. No. / Code No.
 - (d) The samples submission for any reason shall be supplied without charge and freight paid and without any obligation on the SDAU as regards safe custody.
 - (e) In the past, it has been the practice with certain tenderers to submit a sample of a quality that the rate quoted does not permit of strict adherence to the sample, thereby causing numerous rejections. Tenderers are therefore cautioned that sample should not be submitted of a quality that they are not able to produce or maintain the quantity in ultimate supplies. The samples submitted are preserved for comparison with supplies and rejection will be made if supplies are not reasonably in accordance with the approved samples.
 - (f) Tenderers are hereby cautioned that the quality will be one of the chief deciding factor in the matter of deciding tenders.
- 10 Warranty/Guarantee, if any, for the stores offered should invariably be stated in the tender, failing which standard clause to this effect adopted by SDAU i.e. minimum for twelve months shall apply. Further,
 - (a) The tenderer shall guarantee regular and timely supply of all the spare parts required for the normal working of the machinery tendered for, for a period of three years. Tenderer, shall also guarantee that the rate of such spare parts will not be exceeding those you might be charging to the Director General of Supplies and Disposals. New Delhi or any other Government department.
 - (b) Tenderer shall further guarantee that "after-sale service" will be provided as and when required.

11. Termination of contract:

Should the tenderer fail to deliver the stores or any part thereof, within the contract period of delivery or the stores are not found in accordance with the prescribed specifications and / or approved sample, SDAU shall exercise its discretionary power either:

- (a) To purchase elsewhere on tenderer's account and at his risk store so undelivered or others of a similar description without canceling the contract in respect of the consignment not yet due for delivery, or
- (b) **To cancel the contract:**
In the event of action taken under clause (a) above, the tenderer shall be liable for any loss which the SDAU may sustain on that account but he shall not be entitled to any saving on such purchases made against default.

The decision of the SDAU shall be final as regards the acceptability of stores supplied by the tenderer and the SDAU shall not be required to give any time for the rejection of the stores.

12. Extension of time:

- (a) As soon as it is apparent that contract dates cannot be adhered to, an application shall be sent to the ordering office of SDAU along with copy to the Dean, Veterinary College before due date.
- (b) Without prejudice to the foregoing rights, if such failure to deliver in proper time as aforesaid shall have arisen from any cause which SDAU may admit as a reasonable ground for an extension of the time (and its decision shall be final) it may allow such additional time as considered to be justified in the circumstances of the case.

- 13. Special conditions, if any in this tender shall also be applicable.
- 14. Non-compliance with any of the above conditions shall construe breach of the same and will render the offer liable for rejection.
- 15. The Tenderers are instructed to specify clearly in their tenders as to in which respect their quotations deviate from the tender enquiry. If deviations are not specified in detail, it will be presumed that the tendered offer is exactly to the specifications of the tender enquiry.
- 16. Tenderers are required to show detailed breakup of all taxes separately with the respective amounts, even if their offers are inclusive of all taxes.
- 17. Tenderers should send descriptive literature (not rates) along with other documents as specified in tender notice.
- 18. Tenderers are advised to indicate in their offer against each item, whether the item is imported or indigenous.
- 19. The SDAU may, if found necessary to do so, consider for extension of Rate Contract beyond the original validity period, subject to the original terms and condition provided in advertised Tender and the tenderer shall accept the same unless specially stipulated to the contrary in the tender.
- 20. In the case, rate accepted on "FOR Destination" the date on which the goods are received at destination shall be considered as the date of delivery.
- 21. Tender should be submitted on line showing legibly the **tender number, due date, name of company/brand of the item.**
- 22. Tender Fee / EMD and other relevant documents of the tenders are to be sent in separate sealed cover to **'The Principal, College of Veterinary Science & A. H., S. D. Agricultural University, Sardarkrushinagar, Dist.-Banaskantha, Gujarat-385506'** by the date and time stated in the notice by **Registered Post/Speed Post/Courier only. Late receipt may**

disqualify the tender and the SDAU will not, in any way responsible in this regard. Scan Photo copy submitted along with original tender, if any, must match with physical copies.

23. On approval of the tender, the tenderer should provide 25 (Twenty) copies of the company printed price list (preferably coloured) within 15 (Fifteen) days, failing which the rate contract may be treated as cancelled.
24. The tender is liable for rejection if goods/ instrument/equipment are not fulfilling as per required specifications.
25. The terms and conditions in any other form than shown in the tender will not be considered.
26. Installation of the machine will have to be made **within 6 weeks of supply**.
27. Payment shall be made only after satisfactory installation and demonstration.
28. Vendor giving wrong information on specification/documents will be **black listed for a period of 5 years**.
29. All questions, disputes or differences arising under, out of or in connection with the contract shall be subject to the exclusive jurisdiction of the court within the local limits of whose jurisdiction the place situated from which Acceptance of Tender is issued.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

TECHNICAL BID SUBMISSION FORM
PART-I
(Tender Supporting Documents)

Current Tender Details:

Tender Notice No.: **SDAU/DVC/PUR/INSTRU/E-1/2016-17**

Type of Tender:

Last Date & Time for submission of Bid:

- 1) Name of **company/brand** :
- 2) Name of the Manufacturer :
- 3) Category (Indigenous / Imported) :
- 4) Required supporting documents :

| Sr.No. | Document / Certificate Page No. Of the Tender Document | Remarks |
|--------|---|---------|
| 1 | C.A. Certificate for the manufacturing showing year wise production sales of the quoted item for the last 3 years. | |
| 2 | Manufacturing License/Product Permission/Registration Certificate with C.S.P.O./C.M.S.O./ S.S.I./K.V.I.C./ N.S.I.C./D.G.S.& D. | |
| 3 | List of Installations/Users/Customers with address,phone No. and email address. | |
| 4 | Higher / Lower Price Certificate | |
| 5 | S.T. Clearance Certificate and Returns | |
| 6 | Tender Fee Amount, D. D. No. and Date | |
| 7 | E.M.D. Amount, D. D. No. and Date | |
| 8 | Letter of Authority of Foreign Principal OR its subsidiary company with copy of agreement (In case of Foreign articles) (MUST BE NOTARIZED) | |
| 9 | IEC Certificate for imported items | |
| 19 | Total Pages of the tender document | |
| 11 | Partnership deed/Memorandum of article/ Registration of firm etc. | |
| 12 | Document of 100% Subsidiary Company | |
| 13 | Affidavit by Subsidiary Company | |
| 14 | Confirmation of Delivery Period | |
| 15 | Confirmation of Place of Delivery | |
| 16 | Confirmation of terms and conditions of Payment | |
| 17 | A.E.R.B. Certificate {if applicable} | |
| 18 | I.S.O. Certificate. | |
| 19 | B.I.S. Certificate. | |
| 20 | Original Company Printed Price List and Product Catalogue | |
| 21 | Copy of valid import license for imported items | |
| 22 | Guaranty/Warranty obligation | |
| 23 | Manufacturer/Authorization certificate showing validity for the current year | |
| 24 | Vendor's Profile / Company details | |
| 25 | Affidavit of non black list | |

- Note: 1) All photocopied documents must be attested by gazetted officer/ self attested.
2) Photocopy of all the documents must be attached physically and scan copy be with e-tender.

DECLARATION

It is verified that all the certificates/permissions/documents are currently valid as on date and have not been withdrawn/cancelled by the issuing authority. It is further verified that the certificates are as per the format and it is clearly and distinctly understood by us that the tender is liable to be rejected if on scrutiny any of these certificates is found to be not as per the prescribed format.

We further undertake to produce on demand the original certificate/permission / document for verification at any stage during the processing of the tender.

We solemnly declare that we have attached all the documents mentioned here in above and in the tender. We also understand that non-compliance of any documents will be treated as nonrespective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

**TECHNICAL BID SUBMISSION FORM
PART-II**

Current Tender Details:

Tender No.: **SDAU/DVC/PUR/INSTRU/E-1/2016-17**

Type of Tender:

Last Date & Time for submission of Bid:

- 1) Name of **company/brand** :
- 2) Name of the Manufacturer :
- 3) Category (Indigenous / Imported) :
- 4) (A) Basic facilities/infrastructure such as power supply, installation and commissioning of equipment required mentioned as hereunder:
(B) Details of after sales services in Gujarat (Mandatory).

| | | |
|---|--|--|
| 1 | Address of nearest Manufacturer's Service Centre. | |
| 2 | Name of Service Engineer (With Office, Residence Phone/ Cell No. and Email address.) | |
| 3 | Address of nearest depot for parts and other consumable stores (With Office, Residence Phone/ Cell No. and Email address.) | |

Note:

1. The specifications available in the item offered shall be mentioned clearly against each tender specification.
2. Details specifications chart, design drawing etc. for equipment offered are to be provided along with original literature.
3. For any imported equipment part of equipment, valid documentary evidence regarding foreign make as well as import of goods is to be provided by the Tenderer along with consignment.
4. Any item, material, consumable required for installation and commissioning of equipment to be brought by supplier at the time of installation of equipment.

Remarks if any:

DECLARATION

We solemnly declare that we have attached all the documents mentioned here in above and in the tender. We also understand that non-compliance of any documents will be treated as non-respective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

**COMMERCIAL BID FORM
(Online Submission Only)**

Option –I

INDIGENOUS ARTICLES

Current Tender Details:

Tender No.: **SDAU/DVC/PUR/INSTRU/E-1/2016-17**

Type of Tender:

Last Date & Time for submission of Bid:

- 1) Name of the **company/brand**:
- 2) Name of Manufacturer:
- 3) i) Company/Brand Price (Prices as printed in the Company Price List = 100 %)

| | Company/Brand Printed Price | Prices as printed in the Company Price List = 100 % |
|---|--|---|
| A | Discount in % (on company printed price list) | |
| B | Price in % after discount | |
| C | Excise and other duties if applicable in % (at concessional rate to Educational Institute) (Enter '0' if not applicable) | |
| D | Packing Forwarding, Insurance and Installation charges in % (Enter '0' if not applicable) | |
| E | CST in % (Enter '0' if not applicable) | |
| F | VAT in % (Enter '0' if not applicable) | |
| G | Other Charges in %, if any (Enter '0' if not applicable) | |
| H | Total F.O.R.D. price in % (C to H, as applicable) | |

ii) Optional Items:

| | Company/Brand Printed Price | Prices as printed in the Company Price List = 100 % |
|---|--|---|
| A | Discount in % (on company printed price list) | |
| B | Price in % after discount | |
| C | Excise and other duties if applicable in % (at concessional rate to Educational Institute) (Enter '0' if not applicable) | |
| D | Packing Forwarding, Insurance and Installation charges in % (Enter '0' if not applicable) | |
| E | CST in % (Enter '0' if not applicable) | |
| F | VAT in % (Enter '0' if not applicable) | |
| G | Other Charges in %, if any (Enter '0' if not applicable) | |
| H | Total F.O.R.D. price in % (C to H, as applicable) | |

Remarks if any:

DECLARATION

We solemnly declare that we have attached all the documents mentioned here in above and in the tender. We also understand that non-compliance of any documents will be treated as nonrespective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm:

COMMERCIAL BID FORM
(Online Submission Only)
Option –II

IMPORTED ARTICLES

Current Tender Details:

Tender No.: **SDAU/DVC/PUR/INSTRU/E-1/2016-17**

Type of Tender:

Last Date & Time for submission of Bid:

1) Name of the **company/brand of the price list**:

2) Name of Manufacturer:

3) **i) C.I.F. Port Price :**

(Prices as printed in the Company Price List with standard accessories = 100 %)

Select Currency:

Specify Conversion Rate 'C' (Selected Currency = C x INR):

Enter '0' in above fields if not applicable.

| | C.I.F. Port Price (Prices as printed in the Company Price List with standard accessories) | Prices as printed in the Company Price List = 100 % |
|---|--|---|
| A | Discount in % (on company printed price list) | |
| B | Price in % after discount | |
| C | Custom duty / CVD in % (at concessional rate to Educational Institute) (Enter '0' where not applicable) | |
| D | Additional custom duty in % (Enter '0' if not applicable) | |
| E | Excise and other duties in % (at concessional rate to Educational Institute) (Enter '0' if not applicable) | |
| F | Packing Forwarding, Insurance and Installation charge in % (Enter '0' if not applicable) | |
| G | Total price in % (C+D+E + F+G) | |
| H | Other Charges in %, if any (Enter '0' if not applicable) | |
| I | Total F.O.R.D. price in % (H+I) (In Foreign Currency) | |
| J | Total F.O.R.D. price in INR after applying conversion rate in % | |

ii) Optional Items

| | C.I.F. Port Price (Prices as printed in the Company Price List | Prices as printed in the Company Price List = 100 % |
|--|--|---|
| | Discount in % (on company printed price list) | |
| | Price in % after discount | |
| | Custom duty / CVD in % (at concessional rate to Educational Institute) (Enter '0' where not applicable) | |
| | Additional custom duty in % (Enter '0' if not applicable) | |
| | Excise and other duties in % (at concessional rate to Educational Institute) (Enter '0' if not applicable) | |
| | Packing Forwarding, Insurance and Installation charge in % (Enter '0' if not applicable) | |
| | Total price in % (C+D+E + F+G) | |

| | | |
|--|---|--|
| | Other Charges in %, if any (Enter '0' if not applicable) | |
| | Total F.O.R.D. price in % (H+I) (In Foreign Currency) | |
| | Total F.O.R.D. price in INR after applying conversion rate in % | |

Letter of credit opened in favour of :

Country of Shipment :

Remarks if any :

Note:

| | |
|---|---|
| 1 | Prices with breakup (in %) must be quoted in above format only online. Quoting of consolidated price without breakup may not be considered. |
| 2 | All terms and conditions of supply shall be applicable as per the tender Document. Any terms and condition intended with Commercial Bid shall be ignored or in such a case offer is liable to be rejected. |
| 3 | Tax declaration certificate may be enclosed, if applicable. |
| 4 | Sardarkrushinagar Dantiwada Agricultural University is entitled for exemption of Customs Duty and Central Excise Duty as per Government Notifications no.51/96-Customs dated 23 rd July 1996 and No.10/97-Central Excise dated 1 st March 1997, respectively. Therefore, considering the exemption of custom duty and central excise the rates may be quoted. |
| 5 | Local agency commission, if any will not be allowed. |
| 6 | If required, custom exemption certificate issued by the concerned authority shall be provided by the consignees. |
| 7 | The rates of Custom Duty / C.V.D., transport charges from port to place of consignees, transit insurance within India, installation charges, bank / custom clearance charges, if applicable, should be quoted in Indian currency only. |

DECLARATION

We solemnly declare that we have attached all the documents mentioned here above and in the tender. We also understand that non-compliance of any documents will be treated as nonrespective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name:

Designation:

Seal of firm

Date:

**COLLEGE OF VETERINARY SCIENCE & A. H.,
SARDARKRUSHINAGAR DANTIWADA AGRICULTURAL UNIVERSITY
SARDARKRUSHINAGAR**

SUBJECT:- LIST OF INSTRUMENT SPECIFICATION

| SR. NO. | INSTRUMENT SPECIFICATION |
|----------------|---|
| 1. | DIGITAL RADIOGRAPHY SYSTEM WITH XRAY LASER PRINTER |
| 2. | COMPUTED RADIOGRAPHY SYSTEM WITH XRAY LASER PRINTER |
| 3. | 800mA HIGH REQUENCY X-RAY MACHINE |
| 4. | 600 ma X RAY MACHINE WITH BUCKY TABLE |
| 5. | MOBILE (160ma) X-RAY MACHINE |
| 6. | MOBILE C-ARM WITH IMAGE INTENSIFIER TELEVISION SYSTEM. |
| 7. | FULLY AUTOMATED BIOCHEMISTRY ANALYSER |

1. SPECIFICATIONS OF: DIGITAL RADIOGRAPHY SYSTEM WITH XRAY LASER PRINTER

1. Detector: The fixed flat panel detectors should be able to do all routine Radiography examination. It should have following features.

- Fixed Flat Panel Detector size of at least 43 x 43 cm or more
- The detector should have non tiled CsI scintillator and amorphous silicon photo diode array.
- Image matrix size at least 3k x 3k or more
- Minimum pixel size to be mentioned, should be 140 micron or less
- Grey scale depth of 14 bit / pixel minimum.
- DR system should be supplied with 35KW or more suitable X ray unit from reputed company with bucky table to incorporate detector, X ray unit should be AERB approved.

2. Xray laser printer

- Each tray or Draw of the printer must be able to print the following international standard films sizes 8X10,10X12,11X14 and 14X17 without mechanical alteration
 - Printing resolution must be 325 dpi/ppi or more standard for all type of DICOM image printing.
 - **Laser Printer must use day light film box loading technology**
- **Note:- The party/supplier should have minimum 15 (Fifteen) installation of this instrument in India.**

2. COMPUTED RADIOGRAPHY SYSTEM WITH XRAY LASER PRINTER

1) Image Reading (CR Reader/ Digitizer)

- System must achieve minimum 30 plates/hour or more for the cassette size 35x43 cm.
- System should provides a veterinary interface, to meet vet-specific needs and workflow
- It includes animal-focused information and settings, such as species, breed, body parts and views
- System must be approved by FDA for General Radiology application
- System must be CE marked
- System must be desktop/floor stand solution
- System must be Single Plate Scanning CR solution
- System Should be able to upgrade the cassette scan speed in future
- Imaging plates must be flexible type
- System must offer the capability to read plates 35x35 and 35x43 cm with pixel pitch smaller than 100 microns (<10 pix/mm)
- Gray scale resolution for image acquisition before processing must be 16 bit
- Gray scale resolution for post processed images must be at least 12 bit
- Cassettes and imaging plates must be available in various sizes
- System must be supplied with 2 nos. of cassettes with screen size 14 x 17 and 10 x 12 each one.
- System must be able to remove grid lines from 103 lpi static grids

2) Processing Server/CR workstation

- Monitor can be any of the ones available as std LCD ,LED or Touch screen minimum size of 17"
- Monitor resolution must be at least 1280X1024
- System is capable of reading QR codes to acquire patient ID
- System allows to associate patient ID with cassettes through a barcode reader or RF device
- Image processing algorithms are based on multifrequency processing type
- Software automatically masks the area outside the collimation edges for better productivity.
- Manual adjustments of the masked area should be possible
- System must be capable to connect to PACS through Dicom Store
- System must be capable to print to dry laser printers through Dicom Print
- System must be able to acquire worklist from existing HIS/RIS
- System must be capable of burning patient images on CD/DVD
- System must be capable of running a QA/QC test to verify performance
- A statistical report must be generated to track repeat exams, dose etc
- Images can be freely rotated
- System is fully compliant with Storage Commitment requirements
- Capability to customize the procedures and create customized views
- System must be capable to export images to media such as USB, CD Rom etc
- System must be capable of importing images into the database from various media type such as USB sticks, CD rom etc
- System must allow to create annotations on images
- System must make available Advanced measurement tools such as lengths, angles, Cobb angles , Cardio Thoracic Area ,etc
- System must offers the capability to acquire images from modalities as CT, MR, US etc, review them and store them
- The system does not give any limitation as far as the number of modalities that can receive images from
- System should offer a broad selection of formatted pages while printing including asymmetric templates

- System offers the capability to crop images, zoom and print
- System has the capability to connect to existing RIS/HIS system and communicate through HL7 protocol

3) X-RAY LASER PRINTER

- Laser Printer Should Have Single or Double online supply trays or draws.
- Each tray or Draw of the printer must be able to print the following international standard films sizes 8X10,10X12,11X14 and 14X17 without mechanical alteration
- System must be able to print at least 40 pages per hour for film size 14 x 17
- Printing resolution must be 325 dpi/ppi or more standard for all type of DICOM image printing.
- Printer must use day light film box loading technology

Note:- The party/supplier should have minimum 50 (Fifty) installation of this instrument in Gujarat State

3. SPECIFICATIONS OF 800mA HIGH FREQUENCY X-RAY MACHINE

High frequency X-Ray machine suitable for general radiography

1. **X-Ray Generator:** - High Frequency 40Khz or more X-Ray Generator for Radiography.
 - Power output of generator should be 65KW.
 - mA Range (Rad.): 800mA or more
 - KV RANGE (Rad.): 40 to 150KVP.
 - EXPOSURE TIME (Rad.): 1ms to 3 Sec.
 - mAs RANGE (Rad.): 200mAs or more
2. **Control Panel:** A very compact, Soft Touch Control Panel having following functions & indications.
 - The Panel can be supplied in ceiling or Wall mount
 - Following features should be available on the Control Panel.
 - Machine ON/OFF Switch.
 - Digital Display of KV & mAs.
 - KV & mAs increase and decrease switches.
 - Tube focal spot selection Switch.
 - Ready and X-Ray on switch with Indicators
 - Bucky Selection Switch.
 - Anatomical Programming for various programmes.
 - A dual action hand Switch with Retractable cord for Radiation Protection of Operator.
3. **X-Ray Tube**
 - One No. Rotating Anode, Dual focus Thermally protected having focal spot 0.6 & 1.2 mm and output power 27/75 KW.
 - Anode heat storage capacity of the Tube should be 300KHU - A very compact H.V. Tank filled with high dielectric transformer oil.
 - One Pair of 8 meter H.V. Cable compatible with the X-Ray Tube.
 - One No. Motorised collimator.
4. **Tube Stand:** ceiling suspended tube stand, must be actuator based to provide a noiseless and swift up/down movement of the tube head.

The X-Ray tube can be moved to any position of the room.

It should have the following minimum Mechanical Specifications: - Longitudinal movement: 3350 mm or more - Transverse movement: 2400 mm or more - Vertical up/down movement: 1600 mm or more - Tube Head Rotation (along its axis): +90°,a. - Tube head Rotation (along with Column axis): +90°,a. - SID display should be available. - Provision of auto centering table bucky centering. Electromagnetic locks and Collision protection sensor should be available for safety purpose.
5. **TABLE (optional):** - Floating table with 6-way movement of the tabletop should be provided. Tabletop should be of carbon fiber material. - Longitudinal movement of tabletop should be more than 400mm & transverse movement should be more than 160mm. It should have height adjustment facility. - The Table should consists of motorized reciprocating bucky with Imported Grid of size 17 1/4" x 18 7/8" & of Ratio 8:1 V 85 lines/inch. - The Bucky should cover the entire length of the table and should be locked at any desired position by an Electromagnetic lock. - The tabletop should be made of low radiation absorption, waterproof material. - Table Accessories like stainless steel cassette tray,

Compression band should be provided. Vertical Bucky: - Vertical Bucky Stand should be with Reciprocating Grid of Ratio 8:1, 85 lines. The Bucky should move up & down & is equipped with a stainless steel cassette Tray. This stand should be Floor mounted type & can accommodate cassettes up to 14" X 17".

6. Equipment should supply with power fluctuation controlled devices. (i. e. Servo Voltage Stabilizer with spike suppressor 150 KVA.).

7. Other specification

- The unit should be approved by AERB NOC/type Approval.
- Should be supply with radiation protective wares (apron, gloves, goggles, throat and other devices 5 each)
- Supply cassette holder
- The company should have a local Service centre.
- 5 years for comprehensive guarantee for complete system including X-ray tubes.
- All specifications to be provided with original product data sheet. All technical specifications should be supported with original data sheet highlighting the page number in the compliance sheet. Photocopy / computer print will not be accepted.

Note:- The party/supplier should have minimum 10 (Ten) installation of this instrument in India.

4. SPECIFICATION FOR 600 ma X RAY MACHINE WITH BUCKY TABLE

1. **X Ray Generators :**

- Out Put : Max 600 mA & 125 kVP ,40 kW as per IS 7620
- Radiography kv Range: Adjustable from 36 kV to 125 kv
- Lower mA ratings should also be there.
- At least 3 mA stn in Small focus & 3 in Large focus
- Fluoroscopic Voltage Adjustable from minimum 40 KVp and Max 90 kVP.
- Exposure time : Minimum 10 mili secs.
- LED digital display of KVp and mAs should be provided on the control
- Fluoroscopic Time Totalize for indicator with Alarm .
- Full Over load Protection to prevent damages to X-ray tube should be available in the control with indication .
- Tube Filament current must be Stabilized & Guaranteed.
- Rapid Braking of Rotating anode should be provided in the Unit.
- Possibility of Connecting up to 6 Examination Unit should be available.
- machine t should be operated from 440 VAC/3 phase ,50 Hz supply
- The machine should be offered with Suitable 3 to 1 phase conversion transformer.

2. **X Ray Tube :**

- 125/20/40 X Ray Tube should be offered with the unit With pair of HT Cables of Min 8 Meter length.

3. **Examination Table:**

- single position horizontal X-ray Examination Table
- Table top height 82 cm
- Table top 194 x 67.5 cm
- Catapult bucky with electromagnetic locks; moving grid Pb 8/40; 8:1; 40 lines / inch
- Double slot collimator with remote control light field illumination
- Floor to ceiling column stand for mounting X-ray tube assembly

4. **Tube Column Stand:**

- Fully Counter balanced Floor to ceiling column stand for over couch tube with collimator with a 360 degree Swivel Facility.

5. **Accessories**

- Hand Switch with Flexible long cord enables the operator to keep away from the Radiation area during exposure.
- Aluminum Filter. - Light Beam Diaphragm
- Cassettes (Brush Type) with intensifying screens Kg4 blue based, 17"x14",15"x12",12"x10",10"x8"(Qty 4 Each Type)
- Lead apron 2Nos light weight.Bright view Box LED type Lead sheet for shielding the cassette 10"x16" Spare fuse set 1 No. Halogen Lamp 1No.

Note:- The party/supplier should have minimum 25 (Twenty five) installation of this instrument in India

5. SPECIFICATION FOR MOBILE (160ma) X-RAY MACHINE

High frequency 160 mA mobile X-ray

1. Output power: 10 kW
2. Output wave: High frequency
3. kV range: 40 to 125 kV
4. mA range: 60mA to 160mA
5. mAs range: 0.32 to 125 mAs
6. Exposure time: 4 ms to 2.5 sec
7. Exposure technique Two point technique (only kV and mAs to be selected)
8. X-Ray tube: X 22 IAE 0.8/1.3 Rotating anode X-ray tube
9. Anode Speed With Anode braking device 3000 rpm, 50Hz
10. Focal spot: 0.8×0.8 mm
11. Inherent filtration: 0.7 mm Al
12. Tube head angulations: Along X-ray tube axis: $+180^\circ / -30^\circ$
At yoke connection to arm: $\pm 90^\circ$
13. Exposure release: two step switch,
14. Collimator: manually adjustable, Halogen Light source with timer
15. Mains connector: 15A, Single phase 190 – 240V, 50Hz
16. Power consumption 1KVA

Note:- The party/supplier should have minimum 20 (Twenty) installation of this instrument in Gujarat State

6. SPECIFICATIONS FOR MOBILE C-ARM WITH IMAGE INTENSIFIER TELEVISION SYSTEM.

1. Mobile C-Arm image intensifier system for application in all Radiology Interventional procedures, Orthopaedics, Neurological, Urological, Surgical procedures and all other surgical applications.
2. High frequency generator with automatic power line matching adaptation Motor-driven collimation system with iris diaphragm.
3. **Generator:** The X- ray generator of 2.5 kW Capacity, High Frequency wave form with 16.5 KHZ inverter frequency, with single tank construction.
4. **Exposure Voltage range:** 40 to 110KV or more
5. **Fluoroscopy ma Range:** 0.5 to 7 mA.
6. **Cassette exposure:** 13 - 63 mA ; 40 – 100 kV upto 200mAs.
7. **X Ray tube:** Stationary anode with focal spot size of 0.5 mm / 1.5mm with the heat storage capacity of the tube is 35.5 kJ.
8. **Fluoroscopy Duration:** X-Ray tube should with stand longer fluoroscopy continuously for 30 Min.
9. **Collimation system:** Iris controlled Concentric Collimation.
10. **Image Intensifier:** Metal-Enamel Construction with fine detail, high quality input screen and high resolution output screen with Scattered light trap. Nominal input Diameter 23cm (9") Format Change over 23/15cm II tube offered with high resolution Grid 40 lp/cm 8:1. CCD sensor with high resolution TV Standard 625 lines at 50HZ image rotation Continuous ± 220 deg or more.
11. **TV Monitor:** Two no's of at least 17" TFT displays for live and reference image display High-contrast, anti-glare TFT displays for live and reference image display in 256 gray scales. Resolution 1024 x 1024 pixels. Horizontal and vertical viewing angles of 170° each. Luminance max. 550cd/cm²
12. **Digital Image System & Storage Capacity:** storage of 4 images, 1024 X 1024 pixel memory matrix.
13. **Operating Modes:** Radiography and fluoroscopy.
14. **Image Processing:** 1024 X 1024 with 8 bits.
15. **C- Arm Movements:** Orbital Movement - 125° (-35 to +90°), Angulation ± 190 deg Horizontal Travel 20 cm, C Arm Depth. Min 63.5 cm. Swivel range ± 12.5 °, Vertical Travel Motorized 40 cm, Focus to II distance mm. 86cm.
16. **Power requirement:** Single phase 230V, $\pm 10\%$ 50HZ.
17. System to be offered with:

- a. Cassette holder with 2 nos.
 - b. 1 set Sterile Covers for C-arm, X-ray tube and Image intensifier.
18. Systems have AERB approval certificate and International type approval certificate CE and/or CCC.

Note:- The party/supplier should have minimum 20 (Twenty) installation of this instrument in Gujarat State

7. SPECIFICATION OF FULLY AUTOMATED BIOCHEMISTRY ANALYSER

GENERAL

- System should be able to run Veterinary Parameters like Glutathione Peroxidase, Glutathione Reductase, Superoxide Dismutase, Total Antioxidant Status, D-3 Hydroxybutyrate, Fructosamine, Non-Esterified Fatty Acids, Bile Acids along with routine parameters
- On-board automatically washed in Min. 10 step cleaning programme.
- It should have Cuvette check function.
- Emergency Sample function availability.
- System should have Cooled reagent and sample disk.
- Built in inventory management system.
- Levey-Jennings charts, calibration curves, QC statistics, AutoQC interval, User define multi point rules for QC.
- It should have Windows® based software.
- Barcode readers for reagent and sample identification
- Software capable of connecting to LIMS.
- System should be quoted with 2-year standard warranty.
- List of system consumable required should also be quoted along with their prices.
- Must be provided with deionised water systems compatible with this analyser.
- Vendor should be able to provide complete biochemistry package along with hardware including validated barcoded system packs (validation data required), Internal Quality Control, Peer Group Software Subscription and International External Quality Assurance Program Subscription.

PERFORMANCE CHARACTERISTICS

- Throughput: Minimum 150 tests per hour constant speed
- Analyser type: Fully automated, discrete, random access bench-top clinical chemistry analyser
- Assay type: Capable of running rate, end-point and 2-point assays.
- Maintenance: Daily maintenance- probe & mixer wash/ water bath exchange/ cuvette check

REAGENT AND SAMPLE SYSTEM

- Reagent & Sample Capacity: Shared reagent & sample carousel with a total > 60 user defined positions
- System can be opened for all other (company's) Reagents.
- Reagent Cooling: 5-15 °C
- Reagent & sample Identification: Internal barcode scanner and handheld scanner for inner carousel (barcode scanner optional)
- Reagent inventory: Test & report remaining reagent volume, linked to work list.
- Reagent & sample Pipette: Single reagent & sample pipette with digital liquid level detection & collision detection function, rinsed inside & out (warm water rinsing)
- Reagent volume: 10-350 µl (1 µl increments)
- Sample Container: 20ml and 70ml
- Sample Type: Serum, plasma, urine, CSF, ascites & supernatants
- Sample volume: 3-35 µl (0.1 µl increments)
- Sample dead volume: 100 µl for adult or 50 µl for paediatric.
- STAT Sampling: STAT priority function available

REACTION SYSTEM

- Reaction time: 13 minutes
- Reaction volume: 150-550 μ l
- Stirring System: Independent stirring after reagent injection(Teflon coated)
- Water Consumption: Not more than 6 litres per hour.
- Cuvettes: It should have on-board capacity of at least 110-120usable or reusable cuvettes (Optical plastic cuvettes)
- Incubator temperature: 37 °C \pm 0.1 °C

OPTICAL SYSTEM

- Light Source: Long life quartz halogen lamp (water cooled)
- Detection Principal: 12 wavelengths generated via diffraction grating : 340, 380, 405, 450, 480, 505, 546, 570, 600, 660, 700,800nm
- Detector Method: Direct absorbance in cuvette (monochromatic or dichromatic)
- Wavelength accuracy \pm 2nm
- Absorbance range 0 to 3.3 Abs

CALIBRATION AND QC

- Calibration Principal: 1 point, 2 point, multi-point, non-linearity method
- Quality Control: QC interval, monthly QC

OPERATING SYSTEM

- External output: Standard RS- 232C interface