

**BID SOLICITATION DOCUMENTS (BSD)
Under National Competitive Bidding (NCB)**



Revised Bidding Documents after Pre-Bid Meeting held on 13th, 14th & 15th June 2022.

Bid Opening: 5th July 2022 at 11:00 hours in Conference room of DGHS KP

Bid Submission: 5th July 2022 at 10:30 am in Procurement Cell DGHS KP

**SELECTION & RATE CONTRACTING FOR MACHINERY &
EQUIPMENT FOR THE FINANCIAL YEAR 2022-23 UNDER
FRAMEWORK AGREEMENT.**

Health Department
Government of Khyber Pakhtunkhwa.

PART ONE (UNCHANGEABLE)

- o Instructions to Bidders (ITB)
- o General Conditions of Contract (GCC)

PREFACE

These Bidding Documents have been prepared for use by Procuring Entities and their implementing agencies in the procurement of Goods through National Competitive Bidding (NCBs) under Rule (06) KPPRA Rules 2014. These SBDs are prepared for Rate Contract under Government of Khyber Pakhtunkhwa District Govt Rules of Business 2015, 2nd Schedule Rule 3 (2), and Serial No.11 (Health) Sub-rule xiii for procurement of Equipment and will result in Framework agreement with the successful bidder.

In order to simplify the preparation of bidding documents for all procurement, the Bidding Documents are grouped in two parts based on provisions, which would remain the same for all the related procurements and that which are specific for each procurement Provisions, which are intended to be used un-changed are in **Part one**, which includes

Section I, Instructions to Bidders (ITB), and
Section II, General Conditions of Contract (GCC).

Data and provisions specific to each procurement and contract are included in **Part Two** which is further organized into six sections. **Sections I, II, III, IV, and V**, respectively contain Invitation for Bids; Bid Data Sheet; Special Conditions of Contract; Schedule of Requirements; Technical Specifications; and the forms to be used, while **Section VI** is about Sample Forms. This is Part one, which is fixed and contains provisions, which are to be used, unchanged. Each section is prepared with notes intended only as information for the Procuring agency or the person drafting the bidding documents. They shall not be included in the final documents.

Table of Contents - Part One

S.No	Contents	Page No
1	PART ONE - SECTION I. INSTRUCTIONS TO BIDDERS	5
2	Notes on the Instruction to Bidders	5
3	Table of Clauses	6
4	Instructions to Bidders	8-21
5	PART ONE – SECTION II. GENERAL CONDITIONS OF CONTRACT	22
6	Notes on the General Conditions of Contracts	22
7	Table of Clauses	23
8	General Conditions Of Contracts	24-32

Part One – Section 1

Instructions to Bidders

Notes on the Instructions to Bidders:

This section of the bidding documents provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring agency. It also provides information on bid submission, opening, and evaluation, and on the award of contract.

Part One Section I contains provisions that are to be used unchanged. Part Two Section II (Bid Data Sheet) consists of provisions that supplement, amend, or specify in detail information or requirements included in Part One Section I and which are specific to each/every procurement

Matters governing the performance of the Supplier, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are not normally included in this section, but rather under Part one Section II, General Conditions of Contract, and/or Part Two Section III, Special Conditions of Contract. If duplication of a subject is inevitable in the other sections of the document prepared by the Procuring agency, care must be exercised to avoid contradictions between clauses dealing with the same matter.

These Instructions to Bidders will not be part of the contract.

Table of Clauses

A.	Introduction	8
1	Source of Funds	8
2	Eligible Bidders	8
3	Eligible Goods and Service	9
4	Cost of Bidding	9
B.	The Bidding Document	9
5	Content of Bidding Documents	9
6	Clarification of Bidding Documents	10
7	Amendment of Bidding Documents	11
C.	Preparation of Bids	11
8	Language of Bid	11
9	Documents Comprising the Bid	11
10	Bid Form	11
11	Bid Prices	11
12	Bid Currencies	12
13	Documents Establishing Bidder's Eligibility and Qualification	12
14	Documents Establishing Goods' Eligibility and Conformity to the Bidding Documents	12
15	Bid Security	13
16	Period of Validity of bids	14

17	Format and Signing of Bid	14
D.	Submission of Bids	15
18	Sealing and Marking of bids	15
19	Deadline for Submission of bids	15
20	Late bids	14
21	Modification and Withdrawal of Bids	15
E.	Opening and Evaluation of Bids	16
22	Opening of Bids by the Procuring Agency	16
23	Clarification of Bids	16
24	Preliminary Examination	16
25	Evaluation and Comparison of Bids	17
26	Contacting the Procuring Agency	19
F.	Award of Contract	19
27	Post-Qualification	19
28	Award Criteria	19
29	Procuring Agency's Right To Vary Quantities At Time Of Award	19
30	Procuring Agency's Right To Accept Any Bid And To Reject Any Or All Bids	20
31	Notification of Award	20
32	Signing of Contract	20
33	Performance Security	20
34	Corrupt Or Fraudulent Practices	21
35	Integrity Pact	21

Instructions to Bidders

A. Introduction

1. Source of Funds		1.1	The Procuring agency/ies have received/applied for Loan/grant/federal/provincial/local government funds from the source(s) indicated in the bidding data in various currencies towards the cost of the project /schemes specified in the bidding data and it is intended that part of the proceeds of this loan/grant/funds/ will be applied to eligible payments under the contract for which these Bidding documents are issued.
		1.2	The funds referred to above in addition shall be Public Fund which according to 2 (I) of KPPRA Rules 2014 means : (i) Provincial Consolidated Fund; (II) foreign assistance; (III) all moneys standing in the Public Account; and (iv) Funds of enterprises wholly or partly owned or managed or controlled by Government.
		1.3	Payment by the Fund will be made only at the request of the Procuring agency and upon approval by the Government of Khyber Pakhtunkhwa, and in case of a project will be subject in all respect to the term and conditions of the agreement. The project Agreement prohibits a withdrawal from the allocated fund account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Federal Government/ Khyber Pakhtunkhwa Government, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Procuring agency shall derive any rights from the Project Agreement or have any claim to the allocated fund proceeds.
2. Eligible Bidders		2.1	This Invitation for Bids is open to all eligible bidders from eligible source as defined in the KPPRA Rules, 2014 and its Bidding Documents except as provided hereinafter.
		2.2	Bidders should not be associated, or have been associated in the Past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be Purchased under this Invitation for Bids.
		2.3	Government-owned enterprises in the Province of Khyber Pakhtunkhwa may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Khyber Pakhtunkhwa.

		2.4	Bidders shall not be eligible to bid if they are under a declaration of Ineligibility for corrupt and fraudulent practices issued by any government organization in accordance with the Section 44(1) KPP Rules 2014.
3. Eligible Goods & Services		3.1	All goods and related services to be supplied under the contract Shall have their origin in eligible source countries of the world with whom the Islamic Republic of Pakistan has commercial relations and its Bidding Documents and all expenditures made under the Contract will be limited to such goods and services.
		3.2	For purposes of this clause, —origin means the place where the Goods are mind, grown, or produced, or the place from which the Related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
		3.3	The origin of goods and services is distinct from the nationality of the Bidder.
4. Cost of Bidding		4.1	The Bidder shall bear all costs associated with the preparation and Submission of its bid, and the Procuring agency named in the Bid Data Sheet, hereinafter referred to, as —the Procuring agency, will in no case be responsible or liable for those costs, regardless of the Conduct or outcome of the bidding process.

A. The Bidding Documents

5. Content of Bidding document	5.1	The bidding documents include: a) Instructions to Bidders (ITB) b) Bid Data Sheet c) General Conditions of Contract (GCC) d) Special Conditions of Contract (SCC) e) Schedule of Requirements f) Technical Specifications g) Bid Form and Price Schedules h) Bid Security Form i) Contract Form j) Performance Security Form k) Manufacturer's Authorization Form
	5.2	The Bidder is expected to examine all instructions, forms, terms and Specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.

6. Clarification of Bidding document	6.1	An interested Bidder requiring any clarification of the documents may notify the Procuring agency in writing. The Bidding Procuring agency will respond in writing to any request for Documents clarification of the bidding documents which it receives no later than three working days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.
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7. Amendment of Bidding document	7.1	At any time prior to the deadline for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by an interested Bidder, may modify the bidding documents by amendment.
	7.2	All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.
	7.3	In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

B. Preparation of Bids

8. Language of Bid	8.1	The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bid Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.
9. Documents Comprising of Bid	9.1	<p>The bid prepared by the Bidder shall comprise the following Components:</p> <ul style="list-style-type: none"> a) Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12. b) Documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted; c) Documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; d) Bid security furnished in accordance with ITB Clause 15.
10. Bid Form	10.1	The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, and their country of origin, Quantity, and prices.
11. Bid Prices	11.1	The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.
	11.2	Prices indicated on the Price Schedule shall be delivered duty paid (DDP) prices. The price of other (incidental) services, if any, listed in the Bid Data Sheet will be entered separately.
	11.3	The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Procuring agency and will not in any way

		limit the Procuring agency's right to contract on any of the Terms offered.
	11.4	Prices quoted by the Bidder Shall be fixed during the Bidder's performance of the contract and not subject to variation on any Account, unless otherwise specified in the Bid Data Sheet. A bid submitted with an adjustable price quotation will be treated as
		Nonresponsive and will be rejected, In pursuance to ITB Clause 24. If, however, in accordance with the Bid Data Sheet, prices quoted by the Bidder shall be subject to adjustment during the performance of the contract, a bid submitted with a fixed price quotation will not be Rejected, but the price adjustment would be treated as zero.
12. Bid Currencies	12.1	Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet.
13. Documents Establishing Bidder's	13.1	Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its Qualifications to perform the contract if its bid is accepted.
Eligibility and Qualification	13.2	The documentary evidence of the Bidder's eligibility to bid shall establish to the Procuring agency's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined Under ITB Clause 3.
	13.3	The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted, shall establish to the Procuring agency's satisfaction: a) That, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in the Procuring agency's country; b) That the Bidder has the financial, technical, and production capability necessary to perform the contract; c) That, in the case of a Bidder not doing business within the Procuring agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Supplier's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or technical Specifications; and d) That the Bidder meets the qualification criteria listed in the Bid Data Sheet.
14. Documents Establishing Goods' Eligibility and Bidding Documents	14.1	Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services, which the Bidder proposes to Supply under the contract.
	14.2	The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which, shall be confirmed by a certificate of origin issued at the time of shipment.

	14.3	<p>The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:</p> <p>a) A detailed description of the essential technical and performance characteristics of the goods;</p> <p>b) A list giving full particulars, including available e sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of</p>
		<p>the use of the goods by the Procuring agency;</p> <p>c) An item-by-item commentary on the Procuring agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.</p>
	14.4	<p>For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specifications, are intended to be descriptive Only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring agency's satisfaction.</p>
15. Bid Security	15.1	<p>Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid a bid security in the amount specified in the Bid Data Sheet.</p>
	15.2	<p>The bid security is required to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's Forfeiture, pursuant to ITB Clause 15.7.</p>
	15.3	<p>The bid security shall be in Pak. Rupees and shall be in one of the following forms:</p> <p>a) A bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency and valid for thirty (30) days beyond the validity of the bid: or</p> <p>b) Irrevocable en-cashable on-demand Bank call-deposit.</p>
	15.4	<p>Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Procuring agency as non-responsive, Pursuant to ITB Clause 24.</p>
	15.5	<p>Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the procuring Agency pursuant to ITB Clause 16.</p>
	15.6	<p>The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 32, and Furnishing the performance security, pursuant to ITB Clause 33.</p>

	15.7	<p>The bid security may be forfeited:</p> <p>a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or</p> <p>b) In the case of a successful Bidder, if the Bidder fails:</p> <p>i. To sign the contract in accordance with ITB Clause 32; or ii. To furnish performance security in accordance with ITB Clause 33.</p>
16. Period of Validity of Bids	16.1	Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency, pursuant to ITB Clause 19. A bid valid for a shorter period Shall be rejected by the Procuring agency as non-responsive.
	16.2	In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The
		Request and the responses thereto shall be made in writing. The bid security provided under ITB Clause 15 shall also be suitably Extended. A Bidder may refuse the request without forfeiting its bid Security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the bidding Document.
17. Format and Signing of Bid	17.1	The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each —ORIGINAL BID‖ and —COPY OF BID,‖ as appropriate. In the event Of any discrepancy between them, the original shall govern.
	17.2	The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person Or persons duly authorized to bind the Bidder to the contract. The bidder/ person or persons signing the bid shall initial all pages of the bid, except for un -amended printed literature.
	17.3	Any interlineations, erasures, or overwriting shall be valid only if They are initialed by the person or persons signing the bid.
	17.4	The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to the contract execution if the Bidder is Awarded the contract.

C. Submission of Bids

18. Sealing and Marking of Bids	18.1	The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as —ORIGINAL and —COPY. The envelopes shall then be sealed in an Outer envelope.
	18.2	The inner and outer envelopes shall: a). Be addressed to the Procuring agency at the address given in the Bid Data Sheet; and b. Bear the Project name indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: —DO NOT OPEN BEFORE, to be completed with the time and the date specified in the Bid Data Sheet, Pursuant to ITB Clause 2.2.
	18.3	The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared —Late.
	18.4	If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Procuring agency will assume no responsibility for The bid's misplacement or premature opening.
19. Deadline for Submission of Bids	19.1	Bids must be received by the Procuring agency at the address specified under ITB Clause 18.2 no later than the time and date Specified in the Bid Data Sheet.
	19.2	The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and obligations of the Procuring agency and bidders previously subject to the deadline Will thereafter be subject to the deadline as extended.
	19.3	In order to avoid the delays, the Procuring agency will hold a prebid meeting under section 24 (6) of KPPRA Act 2012 as per details given In Bid Data Sheet. The purpose of the pre-bid meeting is to clarify the functional requirements of the Procuring agency and the feedback From the bidders so offered. This is in line with the general principles of procurement as enunciated under section 03 of the KPPRA Act 2012.
20. Late Bids	20.1	Any bid received by the Procuring agency after the deadline
		For submission of bids prescribed by the Procuring agency pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.
21. Modification And Withdrawal Of Bids	21.1	The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of Bids.
	21.2	The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18 by a signed confirmation copy, postmarked no later Than the deadline for submission of bids.
	21.3	No bid may be modified after the deadline for submission of bids.

	21.4	No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity Specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, Pursuant to the ITB Clause 15.7.
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D. Opening and Evaluation of Bids

22. Opening of Bids by the Procuring Agency	22.1	The Procuring agency will open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives Who are present shall sign a register evidencing their attendance.
	22.2	The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may rejected a bid opening, except for late bids, which shall be returned Unopened to the Bidder pursuant to ITB Clause 20.
	22.3	Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.
	22.4	The Procuring agency will prepare minutes of the bid opening.
23. Clarification of Bids	23.1	During evaluation of the bids, the Procuring agency may, at its discretion, ask the Bidder for a clarification of its bid. The Bids request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted. The minor informality as indicated in ITB 24 will be waived of by getting written clarification regarding authenticity/visibility/health of the bids submitted. This communication shall be with the prior approval of chairman T&E committee.
24. Preliminary Examination	24.1	The Procuring agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
	24.2	Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
	24.3	The Procuring agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

	24.4	Prior to the detailed evaluation, pursuant to ITB Clause 25 the Procuring agency will determine the substantial responsiveness of Each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security (ITB Clause 15), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Procuring agency's determination of a bid's responsiveness is to be based on the Contents of the bid itself without recourse to extrinsic evidence.
	24.5	If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity. The bids upon preliminary examinations would be dropped from detailed evaluation by declaring them NON-RESPONSIVE in the first phase, if they lack any of primary/mandatory documents in Their technical bid.
	25. Evaluation and Comparison of Bids	
	25.1	The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.
	25.2	The Procuring agency's evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing duties and will exclude any paid (DDP) price inclusive of prevailing duties and will exclude any allowance for price adjustment during the period of execution of the Contract, if provided in the bid.
	25.3	<p>The Procuring agency's evaluation of a bid will take into account, in addition to the bid price quoted in accordance with ITB Clause 11.2, one or more of the following factors as specified in the Bid Data Sheet, and quantified in ITB Clause 25.4:</p> <ul style="list-style-type: none"> a. Incidental costs b. Delivery schedule offered in the bid; c. Deviations in payment schedule from that specified in the Special Conditions of Contract; d. The cost of components, mandatory spare parts, and service; e. The availability Procuring agency of spare parts and after – sales services for the equipment offered in the bid; f. The projected operating and maintenance costs during the life of the equipment; the performance and productivity of the equipment offered; and/or. g. Other specific criteria indicated in the Bid Data Sheet and/or h. In the Technical Specifications.

	25.4	<p>For factors retained in the Bid Data Sheet pursuant to ITB 25.3, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:</p> <p>a.Incidental costs provided by the bidder will be added by Procuring agency to the delivered duty paid (DDP) price at the final destination.</p> <p>B.Delivery schedule.</p> <p>1. The Procuring agency requires that the goods under the Invitation for Bids shall be delivered at the time Specified in the</p>	
		<p>Schedule of Requirements, which will be treated as the base, a delivery—adjustment will be calculated for bids by applying a percentage, specified in the Bid Data Sheet, of the DDP price for each week of delay beyond the base, and this will be added to the bid price for evaluation. No credit shall be given to early delivery</p> <p>OR</p> <p>II. The goods covered under this invitation are to be delivered (shipped), within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as non-responsive. Within this acceptable range, an adjustment per week, as specified in the Bid Data Sheet, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements. OR</p> <p>III.The goods covered under this invitation are required to be delivered in partial shipments, as specified in the Schedule of Requirements. Bids offering deliveries earlier or later than the specified deliveries will be adjusted in the evaluation by adding to the bid price a factor equal to a percentage, specified in the Bid Data Sheet, of DDP price per week of variation from the specified delivery schedule.</p> <p>Specified under the relevant provision in the Technical Specifications to be considered responsive. Evaluation shall be based on the cost per unit of the actual productivity of goods offered in the bid, and adjustment will be added to the bid price using the methodology specified in the Bid Data Sheet or in the Technical Specifications.</p> <p>h. Specific additional criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.</p> <p>The relevant evaluation method shall be detailed in the Bid Data Sheet and/or in the Technical Specifications.</p>	
Alternative	25.4	Merit Point System:	
		The following merit point system for weighing evaluation factors can be applied if none of the evaluation methods listed in 25.4 above has been retained in the Bid Data Sheet. The number of points allocated to each factor shall be specified in the Bid Data Sheet.	
		[In the Bid Data Sheet, choose from the range of]	
		Evaluated price of the goods	60 to 90
		Cost of common list spare parts	0 to 20
		Technical features, and maintenance & operating costs	0 to 20

		Availability of service and spare parts	0 to 20
		Standardization	0 to 20
		Total	100
		The bid scoring the highest number of points will be deemed to be the lowest evaluated bid.	
26. Contacting the Procuring Agency	26.1	Subject to ITB Clause 23, no Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid Opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.	
	26.2	Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.	

E. Award of Contract

27. Post-qualification	27.1	In the absence of prequalification, the Procuring agency will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.	
	27.2	The determination will take into account the Bidder's financial, Technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Procuring agency Deems necessary and appropriate.	
	27.3	An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to make a similar Determination of that Bidder's capabilities to perform satisfactorily.	
28. Award Criteria	28.1	Subject to ITB Clause 30, the Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the Highest Ranking fair bid/ Best evaluated bid under Section 2 (c)(i) of the KPPRA Act 2012, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.	
29. Procuring agency's Right to Vary Quantities at Time of Award	29.1	The Procuring agency reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.	

30. Procuring agency's Right to Accept any Bid and to Reject any or All Bids	30.1	The Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring agency's action.
31. Notification of Award	31.1	Prior to the expiration of the period of bid validity, the Procuring agency will notify the successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
	31.2	The notification of award will constitute the formation of the Contract..
	31.3	Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid Security, pursuant to ITB Clause 15.
32. Signing of Contract	32.1	At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, Incorporating all agreements between the parties.
	32.2	Within twenty (20) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.
33 Performance Security	33.1	Within ten (10) days of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding Documents, or in another form acceptable to the Procuring agency.
	33.2	Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

34. Corrupt or Fraudulent Practices	34.1	<p>The Government of Khyber Pakhtunkhwa requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the KPPRA, in accordance with the KPPRA Act, 2012 and Rules made there under:</p> <p>a. Defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>i.—Corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and ii. —Fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non - competitive levels and to deprive the Procuring agency of the benefits of free and open competition;</p> <p>b. Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;</p> <p>c. Will forfeit the bid security for that particular bid/proposal in due course if the bidder could not establish his plea for not being involved in the corrupt or fraudulent practices.</p> <p>d. Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a Government -financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government-financed contract..</p>
	34.2	Furthermore, Bidders shall be aware of the provision stated in sub - clause 5.4 and sub-clause 24.1 of the General Conditions of Contract.
35. Integrity Pact	35.1	The Bidder shall sign and stamp the Integrity Pact provided at Form - 7 to Bid in the Bidding Document for all Provincial Government procurement contracts exceeding Rupees ten million. Failure to such Integrity Pact shall make the bidder non - responsive.

Part One - Section II.

General Conditions of Contract

Notes on the General Conditions of Contract (GCC)

The General Conditions of Contract in Part One Section II, read in conjunction with the Special Conditions of Contract in Part Two Section-III and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

The General Conditions of Contract herein shall not be altered. Any changes and complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract in Part Two Section III.

Table of Clauses

1	Definitions	24
2	Application	24
3	Country of Origin	24
4	Standards	25
5	Use of Contract Documents and Information; Inspection and Audit by the Bank	25
6	Patent Rights	25
7	Performance Security	25
8	Inspections and Tests	26
9	Packing	26
10	Delivery and Documents	26
11	Insurance	27
12	Transportation	27
13	Incidental Services	27
14	Spare Parts	27
15	Warranty	28
16	Payment	28
17	Prices	28
18	Change Orders	29
19	Contract Amendments	29
20	Assignment	29
21	Subcontracts	29
22	Delays in the Supplier's Performance	29
23	Liquidated Damages	30
24	Termination for Default	30
25	Force Majeure	30
26	Termination for Insolvency	31
27	Termination for Convenience	31
28	Resolution of Disputes	31
29	Governing Language	32
30	Applicable Law	32
31	Notices	32
32	Taxes and Duties	32

General Conditions of Contract

1. Definitions	1.1	<p>In this Contract, the following terms shall be interpreted d as indicated: a——The Contractll means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.</p> <p>b.—The Contract Price means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.</p> <p>c.The Goods means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to the Procuring agency under the Contract.</p> <p>d.The Services means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.</p> <p>e.GCC means the General Conditions of Contract contained in this section.</p> <p>f.SCC means the Special Conditions of Contract.</p> <p>g.The Procuring agency means the organization purchasing the Goods, as named in SCC.</p> <p>h. The Procuring agency’s country is the country named in SCC.</p> <p>i.The Supplier means the individual or firm supplying the Goods and Services under this Contract.</p> <p>j.The Project Site, where applicable, means the place or places named in SCC.</p> <p>k.Day means calendar day.</p>
2. Application	2.1	These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.
3. Country of Origin	3.1	All Goods and Services supplied under the Contract shall have their Origin in the countries and territories eligible under the rules and Further elaborated in the SCC.
	3.2	For purposes of this Clause, —origin means the place where the Goods were mined, grown, or produced, or from, which the Services are supplied. Goods are produced when, through manufacturing, Processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its Components.
	3.3	The origin of Goods and Services is distinct from the nationality of the Supplier.
4. Standards		The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.

5. Use of Contract Documents and Information; Inspection and Audit by the Government	5.1	The Supplier shall not, without the Procuring agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for Purposes of such performance.
	5.2	The Supplier shall not, without the Procuring agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
	5.3	Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring agency and shall be returned (all copies) to the Procuring agency on completion of the Supplier's performance under the Contract if so required by the Procuring agency.
	5.4	The Supplier shall permit the Procuring agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the procuring agency, if so required.
6. Patent Rights	6.1	The Supplier shall indemnify the Procuring agency against all third - party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.
7. Performance Security	7.1	Within ten (10) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the Performance security in the amount specified in SCC.
	7.2	The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
	7.3	The performance security shall be denominated in the currency of the Contract acceptable to the Procuring agency and shall be in one of the following forms: a. A bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency; or b. A cashier's check or certified check.
	7.4	The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified Otherwise in SCC.

8. Inspections and Tests	8.1	The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring agency requires and where they are to be Conducted. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
	8.2	The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall
		be furnished to The inspectors at no charge to the Procuring agency.
	8.3	Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.
	8.4	The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring agency or its representative prior to the Goods' shipment from the country of origin.
	8.5	Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.
9. Packing	9.1	The Supplier shall provide such packing of the Goods as is required to Prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
	9.2	The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring agency.
10. Delivery and Documents	10.1	The Supplier in accordance with the terms specified in the Schedule of Requirements shall make delivery of the Goods. The details of shipping and/or other documents to be furnished by the Supplier are Specified in SCC.
	10.2	Documents to be submitted by the Supplier are specified in SCC.

11. Insurance	11.1	The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been Delivered; hence insurance coverage is seller's responsibility.
12. Transportation	12.1	The Supplier is required under the Contract to transport the Goods to a specified place of destination within the Procuring agency's country, transport to such place of destination in the Procuring agency's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.
13. Incidental Services	13.1	<p>The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:</p> <ul style="list-style-type: none"> a. Performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. Furnishing of tools required for assembly and / or maintenance of the supplied Goods; c. Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; d. Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any
		<p>warranty obligations under this Contract; and</p> <ul style="list-style-type: none"> e. Training of the Procuring agency's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
	13.2	Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged for other parties by the Supplier for similar services.
14. Spare Parts	14.1	<p>As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:</p> <ul style="list-style-type: none"> a. Such spare parts as the Procuring agency may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and b. In the event of termination of production of the spare parts: <ul style="list-style-type: none"> i. Advance notification to the Procuring agency of the pending termination, in sufficient time to permit the Procuring agency to procure needed requirements; ii. Following such termination, furnishing at no cost to the Procuring agency, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty	15.1	<p>The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising</p> <p>From design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.</p>
	15.2	This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
	15.3	The Procuring agency shall promptly notify the Supplier in writing of any claims arising under this warranty.
	15.4	Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring agency.
	15.5	If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract.
16. Payment	16.1	The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
	16.2	The Supplier's request(s) for payment shall be made to the Procuring agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.
	16.3	Payments shall be made promptly by the Procuring agency, but in no case later than sixty (60) days after submission of an invoice or claim by the Supplier
	16.4	The currency of payment is Pak. Rupees.
17. Prices	17.1	Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Procuring agency's request for bid validity extension, as the case may be.

18. Change Orders	18.1	The Procuring agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following: a. Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring agency; b. The method of shipment or packing; c. The place of delivery; and/or d. The Services to be provided by the Supplier.
	18.2	If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring agency's change order.
19. Contract Amendments	19.1	Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties. However the covenants of the contract shall be qualified in SCC relating to the issues arriving out in contract Administration phase in line with GCC at the time of award of contract
20. Assignment	20.1	The Supplier shall not assign, in whole or in part, its obligations to perform Under this Contract, except with the Procuring agency's prior written consent.
21. Subcontracts	21.1	The Supplier shall notify the Procuring agency in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.
	21.2	Subcontracts must comply with the provisions of GCC Clause 3.
22. Delays in the Supplier's Performance	22.1	Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring agency in the Schedule of Requirements.
	22.2	If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of Supplier's notice, the Procuring agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.
	22.3	Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon

		Pursuant to GCC Clause 22.2 without the application of liquidated damages.
23. Liquidated Damages	23.1	Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 24.
24. Termination for Default	24.1	<p>The Procuring agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:</p> <p>a. If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 22; or</p> <p>b. If the Supplier fails to perform any other obligation(s) under the contract.</p> <p>c. if the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this clause:</p> <p>—Corrupt practice, means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.</p> <p>—Fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.</p>
	24.2	In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Procuring agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.
	25.1	Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under
25. Force Majeure		

	25.2	For purposees of this clause, —Force Majeurell means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events mayinclude, but are not restricted to, acts of the Procuring agency in itssovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
	25.3	If a Force Majeure situation arises, the Supplier shall promptly
		notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agencyin writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
26. Termination for Insolvency	26.1	The Procuring agency may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or Otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or Will accrue thereafter to the Procuring agency.
27. Termination For Convenience	27.1	The Procuring agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its Convenience. The notice of termination shall specify that termination be for the Procuring agency’s convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
	27.2	The Goods that are complete and ready for shipment within thirty (30) days after the Supplier’s receipt of notice of termination shall be accepted by the Procuring agency at the Contract terms and prices. For the remaining Goods, the Procuring agency may elect: to have any portion completed and delivered at the Contract terms and prices; and/or to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.
28. Resolution of Disputes	28.1	The Procuring agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
	28.2	If, after thirty (30) days from the commencement of such informal negotiations, the Procuring agency and the Supplier have beenunable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed manner and/or arbitration.

29. Governing Language	29.1	The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the Specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the same language.
30. Applicable Law	30.1	The Contract shall be interpreted in accordance with the laws of the Procuring agency's country, unless otherwise specified in SCC.
31. Notices	31.1	Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.
	31.2	A notice shall be effective when delivered or on the notice's effective date, whichever is later.
32. Taxes and Duties	32.1	Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.

Standard Bidding Documents

Under National Competitive Bidding



SELECTION & RATE CONTRACTING FOR MACHINERY & EQUIPMENT,
INSTRUMENTS & OTHER HOSPITAL SUPPLIES ETC FOR THE YEAR 2022-23.

Health Department
Government of Khyber Pakhtunkhwa

PART TWO (PROCUREMENT SPECIFIC PROVISIONS)

- Invitation for Bids (IFB)
- Bid Data Sheet (BDS)
- Special Conditions of Contract (SCC)
- Schedule of Requirements
- Technical Specifications
- Sample Forms
- Eligibility

NOTE

The forms provided in Section VI should be completed by the Bidder or the Supplier; the footnotes in these forms should remain, since they contain instructions, which the Bidder or the Supplier should follow.

Table of Contents - Part Two

Contents	Page No.
Section I. Invitation for Bids	37
Section II. Bid Data Sheet	38-40
Section III. Special Conditions of Contract	41
Table of clauses	23
Section IV. Schedule of Requirements	49-50
List of Equipments	51-57
Section V. Technical Specifications	58-174
Technical Evaluation Criteria	175-185
Section VI. Sample Forms	188
1 Bid Cover sheet Form-1	189-190
2.Letter of Intention Bid Form 2	191
3.Affidavit Form -3	192
4.Price Schedule Format Form -4	193
5. Integrity Pact	194
6.Rate Contract Agreement	195-200

Part Two

Section I. Invitation for Bids

Notes on the Invitation for Bids

The Invitation for Bids (IFB) has been issued as an advertisement in leading newspapers of general circulation in the Province of Khyber Pakhtunkhwa as well as on the web site of the Health Department (www.healthkp@gov.pk) , www.dghskp.gov.pk by allowing at least fifteen days for NCB for bid preparation and submission.

The Invitation for Bids provides information that enables interested bidders to decide whether to participate. Apart from the essential items listed in the Standard Bidding Documents (SBD), the Invitation for Bids also indicates the important bid evaluation criteria or qualification requirement (for example, a requirement for a minimum level of experience in manufacturing a similar type of goods for which the Invitation for Bids is issued) so that the bidders should give their best and final prices as no negotiations are allowed.

The Invitation for Bids is incorporated into these Standard Bidding Documents (SBDs). The information contained in the Invitation for Bids (IFB) conforms to the bidding documents and in particular to the relevant information in the Bid Data Sheet.

INVITATION FOR BIDS

DIRECTORATE GENERAL HEALTH SERVICES KHYBER PAKHTUNKHWA, PESHAWAR. SELECTION & RATE CONTRACTING FOR MACHINERY & EQUIPMENT FOR F.Y 2022-23.

1. Directorate General Health Services, Khyber Pakhtunkhwa Peshawar invites sealed bids under National Competitive Bidding from Manufacturers and/ or Importers and/ or authorized agents of Machinery & Equipment to Select & Rate Contract the same for framework agreement for various Purchasing Entities of Health Department, Government of Khyber Pakhtunkhwa for F.Y. 2022-23.
2. Bidding shall be conducted through **Single Stage –Two Envelopes Bidding Procedure** comprising a single package containing two envelopes as per KPPRA Rules-2014. Each envelope shall contain Technical and financial bid separately clearly marked in bold & legible letters. The firms are expected to provide complete information of the bid along with its postal as well as valid email address and phone number/s on each respective envelope.
3. Interested Manufacturers and/ or Importers and/ or authorized agents of manufacturer must obtain an application form at Rs.2000/- along with complete set of bidding documents from the Procurement Cell at the Directorate General Health Services, Old FATA Secretariat Warsak Road Peshawar during office hours on any working day till **27th June, 2022**, The Bidding Documents may be downloaded from the following official websites:, www.healthkp.gov.pk, and www.kppra.gov.pk.
4. The bidders are required to submit their inputs/reservations on Bidding Documents including Specifications, Criteria etc. to Procurement Cell in writing before **10th June 2022**, as category wise pre-bid meetings with the interested bidders will be held on **13th June 2022** for category-A equipment, **14th June 2022** for category-B equipment's and **15th June 2022** respectively for rest of the categories, in this Directorate starting at 10.00 AM sharp.
5. Interested Bidders must submit sealed bids to the Procurement Cell at the Directorate General Health Services, Warsak road Peshawar on or before 10:30 AM sharp, **27th June 2022**, which will be opened on the same day at 11:00 AM in the presence of those bidders or their representatives, who choose to attend the process. Bid submitted after 10:30 AM shall not be entertained.
6. Financial bid must be accompanied with irrevocable Bid Security in the name of the undersigned which shall be from bank account of the prospective bidder. Ordinary cheque and Payment Order (PO) in the form of bid security will result in disqualification of bidder as per KPPRA Act and Rules.
7. Technical bids must be accompanied with a photocopy of the bid security (not showing the amount) and an Affidavit on Judicial Stamp paper to the effect that bid security as per Bid data Sheet is attached in the financial bid, failing which the technical bid will be considered as non-responsive.
8. Bids must be computer typed & printed; and the offered bid prices must be written both in words & figures. Bid prices/ quotations with cutting and over-writing shall not be accepted to the extent of that particular quoted item. An authorized person of the bidder/firm shall sign & stamp all pages of the bid having numbers on each page. Firms shall submit bids in hard binding, and bids submitted in box file/ loose file will be considered non-responsive.
9. The technical proposal shall contain all the details in accordance with standard specification of the items/goods mentioned in the Schedule of Requirements (SOR) which must be supported by catalogue/Brochures. Bids will be submitted on the format mentioned in BSD. All bidders are also required to submit the relevant detail of technical proposal and required documents in soft copies on Computer USB and official email of procurement Cell in PDF format, duly labeled by a permanent marker with the name of bidder/ firm.
10. Bidders are required to offer the most competitive rate of their items, as negotiations on quoted rates are not allowed under the rules.
11. The undersigned reserves the right to reject any or all the bids as per provisions contained in Rule 47 of KPPRA Rules 2014.

Director General Health Services
Khyber Pakhtunkhwa, Peshawar
Tel No: 091- 9210269/091-7250736
Fax No: 091- 9210230
Email: pcdghs@gmail.com

Section II. Bid Data Sheet

ITB Re f.	Introduction/Description	Detail
ITB 1.1	Name of Procuring Agency of Government Of Khyber Pakhtunkhwa.	DGHS- KP Peshawar Health Department Government of Khyber Pakhtunkhwa
ITB 1.1	Loan or credit or Project allocation Number. Loan or credit or Project Allocation amount.	Budget allocated or any other Source through which amount is allocated for Health department for the year 2022-23
ITB 1.1	Name of Project	Selection & Rate Contracting under Khyber Pakhtunkhwa District Govt. Rules of Business 2015 through Framework agreement under KPPRA regime
ITB 1.1	Name of Contract	Selection &Rate Contracting through framework agreement for F.Y 2022-23.
ITB 4.1	Name of Procuring agency.	DGHS-KP Peshawar Health Department Government of Khyber Pakhtunkhwa
.ITB 6.1	Procuring agency's address, telephone, Telex, and facsimile, numbers.	Director General Health Services Khyber Pakhtunkhwa Peshawar Tel No: 091- 9210269 Fax No: 091- 9210230 Procurement Cell Office Tel No: 091-9210196 Email: pcdghs@gmail.com
ITB 8.1	Language of the bid.	English
Bid Price and Currency		
ITB 11.2	Price quoted shall be:	Pakistan Rupees (Rs.)
ITB 11.5	The price shall be fixed	The quoted prices will be valid till 30th June 2023.
Preparation and Submission of Bids		
ITB 13.3 (d)	Qualification requirements.	1) Manufacturer/Importer/ Sole agent of manufacture category
10	Spare parts required for period of years of Operation	1) Three Years free of cost provision of services and spare parts under warranty period. 2) Two Years free of cost service without spare parts. 3) Ten Years parts availability in market and will provide certificate for the same.

ITB 15.1	Amount of bid security.	Bid security shall be @ 2% of bid Value for each category. . The Bid security shall be shall be from bankaccount of the bidder. Ordinary cheque and Payment Order (PO) in the form of bid security will result in bid rejection summarily.
ITB 16.1	Bid validity period.	180 days from the date of opening of bids
ITB 17.1	Number of copies.	One (original bid)
ITB 18.2 (a)	Address for bid submission.	Procurement Cell Directorate General Health Services, Ex-FATA Secretariat Warsak Road , Peshawar
ITB 18.2 (b)	IFB title and number.	SELECTION & RATE CONTRACTING FOR MACHINERY & EQUIPMENT, INSTRUMENTS & OTHER HOSPITAL SUPPLIES, ETC FOR THE YEAR 2022-23.
ITB 19.1	Deadline for bid submission.	10:30 AM Sharp. 05 th July 2022
ITB 19.3	Pre-Bid meeting with the bidders	The bidders are required to submit their inputs/reservations on Bidding Documents including Technical Specifications, Criteria etc. to Procurement Cell in writing on or before 10th June 2022. <u>A Category wise pre-bid meetings with the interested bidders will beheld on</u> 1).13 th June 2022 for category-A equipment's, 2). 14 th June 2022 for category-B equipment's and 3). 15 th June 2022 respectively for rest of the categories, in this Directorate starting at 10.00 AM sharp.
ITB 22.1	Time, Date, and Place for bid opening.	11:00 AM Sharp. 5th July 2022, Conference room, Directorate General Health Services KP , Warsak Road,Peshawar.
Bid Evaluation		

ITB 23.1	Clarification of Bids	The Procuring agency may ask the Bidder in writing, only for clarification regarding the received documents in the bid; however no change in the prices or substance of the bid shall be sought, offered, permitted or entertained. This communication shall be with the prior approval of chairman T&E committee.
ITB 25.3	Criteria for bid evaluation	Merit Point Evaluation The items ranked highest in merit points (obtained through and based on technical and financial evaluation) will get unit rate central Contract.
ITB 25.4 (a) ITB 25.4 (b)	One option only Delivery schedule. Relevant parameters in accordance with Option selected.	Not Applicable
Option I Option II Option III	Adjustment expressed as a Percentage, or adjustment expressed in an amount in the currency of bid evaluation, or adjustment expressed in an amount in the currency of bid evaluation.	Not Applicable
ITB 25.4 (c)(ii)	Deviation in payment schedule. Annual interest rate.	Not Applicable
ITB 25.4 (d)	Cost of spare parts.	Not Applicable
ITB 25.4 (e)	Spare parts and after sales service facilities in the Procuring agency's Country.	Not Applicable
ITB 25.4 (f)	Operating and maintenance costs.	Not Applicable
ITB 25.4 (g)	Performance and productivity of Equipment.	Not Applicable
ITB 25.4 (h)	Details on the evaluation method or reference to the Technical Specifications	As in section on Technical Evaluation of bids.
ITB 25.4 alternative	Specify the evaluation factors.	Not Applicable
ITB 28.1	Award Criteria	Section 2 (c)(i)
Contract Award		
ITB 29.1	Percentage for quantity increase or Decrease.	Number of items can be increased and Decreased as per requirement of the PE within permissible limits under the rules.

Section III. Special Conditions of Contract

Table of Clauses

S. No.	Contents	Page
1.	DEFINITIONS (GCC CLAUSE 1)	42
2.	COUNTRY OF ORIGIN (GCC CLAUSE 3)	42
3.	PERFORMANCE SECURITY (GCC CLAUSE 7)	43
4.	INSPECTIONS AND TESTS (GCC CLAUSE 8)	43
5.	PACKING (GCC CLAUSE 9)	43
6.	DELIVERY AND DOCUMENTS (GCC CLAUSE 10)	43
7.	WARRANTY (GCC CLAUSE 15)	43
8.	PAYMENT (GCC CLAUSE 16)	44
9.	PRICES (GCC CLAUSE 17)	45
10.	LIQUIDATED DAMAGES (GCC CLAUSE 23)	45
11.	RESOLUTION OF DISPUTES (GCC CLAUSE 28)	45
12.	GOVERNING LANGUAGE (GCC CLAUSE 29)	45
13.	APPLICABLE LAW (GCC CLAUSE 30)	45
14.	NOTICES (GCC CLAUSE 31) ----- 36	45-47

Special Conditions of Contract

The following Special Conditions of Contract shall supplement & qualify the General Conditions of Contract (GCC).

Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

1. Definitions (GCC Clause 1)

GCC 1.1 (c) The Goods are: Machinery & Equipment, Ambulances with Ambulatory items, Instruments and other Hospital Supplies etc.

GCC 1.1 (g) **The Procuring Agency is:** Directorate General Health Services, Health Department, Government of Khyber Pakhtunkhwa, Peshawar; and

The Purchasing Agency/is /are: District Health Officers, Medical Superintendents, and other Heads of the Primary & Secondary care of the Health Department, Government of Khyber Pakhtunkhwa, and Health Projects with due justification and concurrence from competent forum.

GCC 1.1 (i) The Supplier is: i) Manufacturer and/or Importer and or sole agent of manufacturer registered with relevant sales and income tax authorities and have requisite qualification and eligibility for supply of Goods in the specialized Categories of health sector; and

ii) Manufacture of Medical Equipment/ Machinery, Instruments & Medical Devices in Pakistan; and

iii) Importer of Medical Equipment/ Machinery, Instruments & Medical Devices in Pakistan.

2. Sample Provision:

GCC 1.1 (j)—The Project Site is: Procurement Cell, Directorate General Health Services, Khyber Road, Peshawar

When required, the Focal Person of the bidder will be informed on phone or through email to provide samples of the items in sufficient / required quantity for examination / analysis to the Procurement Cell, DGHS or any other place notified by the procurement Cell, at bidder's own risk and cost at the time and date communicated. The samples will be returnable and no payment shall be made to bidder / Focal Person on this account. Notified technical committee for sample shall evaluate the samples provided.

3. Country of Origin (GCC Clause 3)

All countries and territories as indicated in Part Two Section.VI of the bidding documents Eligibility for the Provisions of Goods, Works, and Services in Government-Financed Procurement. The bidder will provide the details regarding country of origin, Model, Make, manufacturer, along with details of Manufacturing Units and mode of supply, shipment, and any other associated details of the component items and that of the quoted equipment. Bidders are bound to supply the equipment from quoted country of origin only.

4. Performance Security (GCC Clause 7)

GCC 7.1— the amount of performance security, as a percentage of the Contract Price, shall be 10% i.e. of the total value of each individual supply order placed to the successful bidder.

However, the Standard bid security @ 2 percent of the bid value for each category, as elaborated in Section-IV, Statement of Requirement, of this document, from the successful bidders as received at the time of bids submission under GCC Clause 15 shall be retained by the Procurement Cell as Bid Security and will be released back to successful bidders after receipt of 10% performance security on each individual supply order placed by the respective procuring entity and will be retained by procuring entity till completion of warranty period.

5. Standards (GCC Clause 4): As mentioned in GCC clause 4.1.

6. Inspections and Tests (GCC Clause 8 and in accordance with the clauses of contract with the Procuring Agency)

- i. Technical Evaluation shall be conducted by the Technical and Evaluation (T&E) Committee or scrutiny Committee to undertake verification of documents submitted by the bidder/s along with the technical bids as well as to conduct the physical inspection of the various samples &/or relevant premises as per rent agreement or ownership etc. (Section-V -Technical Specification of the Part II of these SBDs)
- ii. Machinery & Equipment and other items supplied for sample tests shall be examined and tested by a panel of experts of the T&E Committee of the Government for submission of technical report to the relevant forum for the needful.
- iii. Sample tests as well as pre-shipment inspections will also be carried out as and when needed before signing of contract agreement with all the successful bidders for Machinery & Equipment, instruments etc.
- iv. Any other appropriate method may be adopted by the T&E Committee, and / or S&RCC to assess and/or assure the quality of goods being purchased. The Procuring Agency reserves the rights to reject the quoted items/equipment at any stage before award of contract in case of any deviation from the standard specifications.

7. Packing (GCC Clause 9)

In accordance with the GCC Clause 9 as well as provided in the relevant clauses of contract agreement of DGHS with the Supplier/s (Section-VI of these SBDs –Rate Contract Agreement).

8. Delivery and Documents (GCC Clause 10)

Applicable Delivery Mode: Delivered Duty Paid (DDP) as per contract agreement of the Successful with the Procuring Agency

9. Warranty (GCC Clause 15)

The Supplier shall provide warranty as per the terms and conditions of the Rate Contract Agreement with Procuring Agency

GCC 15.2—In partial modification of the provisions, the warranty period shall be as per contract terms and conditions. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:

- a. Make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4, or
- b. Pay liquidated damages to the Procuring agency with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be higher than the adjustment price used in bid evaluation.

GCC 15.4 & 15.5—The period for correction of defects in the free warranty period is three years after installation with free parts and free services, including all incidental charges, and for the next two years for free services only without parts but with all incidental charges related to services provision on the site of installation

GCC 10.3—upon shipment, the Supplier shall notify the Procuring agency the full details of the shipment, including Contract number, description of Goods, quantity and usual transport document. The Supplier shall mail the following documents to the Procuring agency:

- i. Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- ii. Original and two copies of the usual transport document (for example, a negotiable bill of lading, a nonnegotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;
- iii. Copies of the packing list identifying contents of each package;
- iv. Insurance certificate;
- v. Manufacturer's or Supplier's warranty certificate;
- i. Inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report.
- ii. Certificate of origin; and Custom clearing documents.

10. Payment (GCC Clause 16):

- (i)GCC Clause 16 as well as under the terms and condition in Rate Contract Agreement with the Procuring Agency, the goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after the goods having been delivered; hence insurance coverage is seller's responsibility, for which they may arrange appropriate coverage. Payment shall be made in Pak. Rupees in accordance with the relevant and applicable government rules and regulations
- (ii)Payment shall not be made for partial and incomplete supply of goods.

11. Prices (GCC Clause 17)

- i. The bidder will not quote price of any item/s which is/are higher than the prices quoted by the bidder across the country to any procuring entity of the quoted item/s through public funding.
- ii. In case the bid price is higher than estimated cost, the Procuring agency has the right to reject the bid and scrap the process without any liability.
- iii. In case of single bid after technical evaluation, the procuring agency may carry out the market analysis before issuing a letter of consent to the successful bidder.

13. Liquidated Damages (GCC Clause 23)

As in relevant clauses of the Rate Contract Agreement signed by the Supplier with the Procuring Agency. Penalties shall be imposed as per contract agreement and notified blacklisting & debarment guidelines of the department if the firm deviates from Rate Contract Agreement.

14. Disputes Resolution (GCC Clause 28)

The dispute resolution mechanism to be applied will be pursuant to relevant clauses of Rate Contract Agreement signed by Supplier with the Procuring Agency under KPPRA grievance redressal mechanism.

If at all required, the jurisdiction of Court shall be of Peshawar, Khyber Pakhtunkhwa.

15. Bid Tie.

In case of tie in the final score of two bidders, and unless otherwise not in contradiction to any of the terms & conditions and specifications of that item, the rate contracting will be offered to the bidder having higher score in its technical bid and the same will be declared as highest fair bid (successful bidder).if technical and financial score are the same, the contract may be awarded to both firms.

16. Governing Language (GCC Clause 29) The Governing Language shall be: **English**

17. Applicable Law (GCC Clause 30)

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan, which includes the following legislation:

- i. The KPPRA Act 2012, KPPRA Rules 2014 and prevailing regulations etc.
- ii. The Contract Act 1872.
- iii. The General Financial Rules of the Govt. of Khyber Pakhtunkhwa and all the relevant laws, rules and regulations pertaining to budgeting & financial management of public fund.
- iv. The Bonded Labor System (Abolition) Act of 1992.
- v. The Factories Act 1934.
- vi. Company Act 2017.

18. Notices (GCC Clause 31)

GCC 31.1—Procuring Agency address for notice purposes: Procurement Cell, Directorate General HealthServices, Khyber Pakhtunkhwa, Khyber Road, Peshawar.

Tel: 091-9210196, Fax:091-9210230, Email: pcdghs@gmail.com

Supplier's address for notice purposes: As mentioned in their bidding document

19. Duties & Taxes (GCC clause 32)

The Unit price quoted by the bidder shall be: **inclusive** of all applicable duties and taxes. All prices shall include relevant taxes & duties, where applicable. The benefit of exemption from or reduction in the GST or other taxes shall be passed on to the Purchasing Agency.

20. Legal Documentary Proof

The bidder must possess valid legal enforceable exclusive authorization from the Foreign/Local Manufacturer; they should have a documentary proof to the effect that they are the original Manufacturer of the required goods. Bidders shall establish all legal documentary proofs where required/ ask by the procurement cell.

21. Ineligibility for Corrupt and Fraudulent Practices

Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices issued by any Government (Federal, Provincial), a local body or a public sector organization.

22. Letter of Authorization

The Authorized agent shall have to produce Exclusive letter of embassy attested authorization / Sole Agency Certificate from Manufacturer and in case of Manufacturer, documentary proof to the effect that they are the original Manufacturer of the required goods shall be provided, or joint venture/ consortium/ alliance of the local Sole agents/manufacturers. In case of imported products, the authorization shall be attested from the embassy of Pakistan in the country of manufacturing or embassy of the manufacturing country in Pakistan. Bidders shall provide letter of authorization from foreign/local Manufacturers whose shall not be in the process of winding up/liquidations.

23. Technical Staff and Tools

The Bidder should have strong engineering background and necessary tools/ testing equipment, trained staff for the goods required after sales services.

24. Minor Deviation

The Procuring Agency may waive off any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation (or changes the substance of the bid), provided such waiver does not prejudice or affect the relative ranking of any Bidder. Any item other than quoted and approved shall not be supplied to procuring entity without intimation to procurement cell and Supply shall be subject to clearance from S&RCC on recommendation of technical experts of procurement Cell notified by chairman T&E.

25. Deviation from critical Provision

Deviations from, or objections or reservations to critical provisions shall be deemed to be a material deviation from technical proposals and thus the bid will be declared as Non-responsive. Any model supplied other than quoted and approved will be considered as deviation/ forgery and will be rejected straightaway at the cost and risk of the supplier.

26. Prevailing Rules, Regulation and Policies

A bid once opened in accordance with the prescribed procedure shall be subject to only those rules, regulations and policies that are in force at the time of issue of notice for invitation of bids.

27. Alternate Bid

Different models/ prices offered for a single item by the same bidder shall be considered as alternate bid and shall be non-responsive.

28. After Sale Service

Certificate from the manufacturer that the after sales services / backup services shall be provided jointly with the local sole agent and in case of change of local agent, they will provide the after sales services themselves or through newly appointed agent for the period mentioned from the date of commissioning.

29. Testing and Calibration

The firm must have all kind of testing and calibration equipment, which is required to maintain the products, which they are dealing. The list of all required testing equipment would be provided along with the bid. The available testing equipment must be calibrated. The successful bidders shall provide complete technical manual and operation manual to the in charge of central workshop Peshawar all regional workshops.

30. Manufacturer Official Website

The quoted model of imported product shall be available on the current official website of the manufacturer; otherwise the quoted product shall be considered obsolete/ redundant and will straight away be rejected.

31. Inspection the Premises

The Procuring Agency has the right to inspect the premises of bidder to inspect the setups ensuring proper after sales services, documents mentioned in technical bids and any other relevant details regarding testing tools, calibration tools, spare parts etc by relevant technical personnel.

32. Opening of the Financial Proposals

After technical evaluation is completed, the Procuring Agency shall notify the date, time and location for opening of the financial proposals. Bidders' attendance at the opening of financial proposals is optional.

33. Incomplete and Conditional Bids

Incomplete/ Conditional bid shall stand rejected. All items described in the technical proposal must be priced in financial proposal. No conditional bid in term of Technical/Financial bid will be entertained and the bidder will straight away be disqualified.

34. Bidders Influence

Any effort by a Bidder to influence the Procuring Agency in its decisions on bid evaluation, bid comparison, or Contract Award will result in the rejection of the Bidder's bid and subsequent black listing, if Procuring agency so desires. Canvassing by any Bidder at any stage of the Tender evaluation is strictly prohibited.

35. Quantity Variation

The Procuring Agency reserves the right at the time of Contract award to increase or decrease the quantity of goods as per permissible limits under the Rules 2014 originally specified in Schedule of Requirements without any change in unit price or other terms and conditions.

36. **OEM:** The manufacture should have documentary evidence to the effect that they are the original manufacture of the quoted product/s with indication of manufacturing site and its location.
37. **List of Related tools/parts:** The details regarding testing, calibration tools shall be submitted in bid which will be verified during inspection. The list is attached in this document and marks will be awarded after verification & recommendation by relevant technical personnel during inspection stages.
38. **PERIODIC PREVENTIVE MAINTANCE (PPM):** The successful bidders are bound to provide PPM report quarterly till warranty period duly signed from end user / Medical Superintendent / DHO. PPM procedure shall be performed as per guidelines of services manual.
39. **Details of Kits/reagent Prices for Laboratory Items.**
The firms are required to provide the prices of reagent/ kits, till warranty period of equipment as for laboratory items along with the price of machine, which will be evaluated by the committee for approval or disapproval of award of contract.
40. **Technical Bid Submission Vis-à-vis Format.**
The bidders will quote the technical bids on the format/ Form given in the sample form.

Technical Bid Quotation Form / Vis-à-vis

Name of Equipment / Item:	
Model:	
Make:	
Country of Origin:	
Category of equipment / item:	
S. No in SBDs:	
Comparative of Required Specification and Quoted Specification	
Required Specification (Procurement Cell DGHS)	Quoted Specification of the bidder

Section IV. Schedule of Requirements

Instructions relating to Category A, B, E, F, G equipment / items:

- As detailed elsewhere in this document, 2 % of bid security of the total bid value of equipment / items for each category shall be submitted by each bidder on the total quantity of items for which bid is being submitted. The mode of provision of bid security shall be in accordance with the modalities as laid down in the relevant KPPRA Rules and these Revised Standard Bidding Documents.
- All the bidders must submit the quotations for category equipment / items on the below format / form.
- Registration with Drug Regulatory Authority of Pakistan (DRAP) as manufacturer of Medical Devices for local manufacturer of equipment / items.
- In case of imported items of category A & B, the quoted items shall be registered for use in their country of origin, for which the Importers should provide valid authorization Certificate for the quoted products duly attested by the embassy of the country of origin in Pakistan or the embassy of Pakistan in the country of origin of the quoted items or where the commercial office is located for the quoted items. Non-provision of valid embassy attested authorization for imports will lead to disqualification of firm in Category A & B. The bidder shall provide a documentary evidence / proof in technical bid in case the bidder/s has applied for embassy attested authorization. The bidder shall provide the embassy attested authorization during inspection of the committee and non-provision of valid embassy attestation shall lead to disqualification.
- All certifications (i.e Manufacturer authorization, ISOs, CE MDD, USFDA, MLHW, and DRAP) and data/ documents shall be valid. Committee may carry out the verifications on or before award of contract and in case of any fraudulent practice; legal action will be taken against the bidder concerned. Any certificate expires before bid opening will not be entertained.
- Non-Provision of mandatory documents mentioned in these SBDs shall lead to disqualification of the firm / quoted items.
- The bidder is bound to provide local training for at least 5 persons including the technical persons of Procurement Cell & Workshops Persons.
- After sale satisfactory performance certificate must be recognized from relevant forums having dispatch number, signature of the officer and date on letter head of procuring entity. The satisfactory performance certificate of non-recognized institution with relevant forums will not be considered.
- The bidding is carried out for Rate Contract through Framework Agreement and hence the quantity is not mentioned. The order may increase / decrease as per requirement / decision of the purchasing entity and in this connection no claim shall be entertained.
- The Procuring Agency, at any stage of the procurement proceedings, having credible reasons for or prima facie evidence of any defect in Supplier's capacities may require the Suppliers to provide information concerning their professional, technical, financial, legal or managerial competence.
- The Procuring Entity has the right to inspect or (if needed) the premises of bidder to inspect the setups ensuring proper after sales services, verify documents (if needed) mentioned in technical bids and any other relevant details. Premises (office/workshop) of bidder shall be insured through ownership/or Rent agreement.
- The bidder shall provide the shipment trail of the quoted item from the manufacturing site till destination.

- The Bid security shall be from bank account of the bidder. Ordinary cheque and Payment Order (PO) in the form of bid security shall result in bid rejection.
- The Unit price quoted by the bidder shall be **inclusive** of all applicable duties and taxes. All prices shall include relevant taxes & duties, where applicable. The benefit of exemption from or reduction in the GST or other taxes shall be passed on to the Procuring Agency.
- Different models/ prices offered for a single item by the same bidder shall be considered as alternate bid and shall be non-responsive.
- Any reservations on BSD including criteria, specifications etc (if any) shall be submitted in writing in the Pre-bid meeting by authorized person/representative of the firm during the period of Pre Bid.
- **The schedule for supply of goods shall be as under:**
 - Within 90 days from the date of issuance of supply order by the Purchasing Agency for items to be imported.
 - Within 60 days from the date of issuance of supply order by the Purchasing Agency for items to be locally manufactured.

List of Equipment/Items

Note: While referencing to category A & B equipment, a second stage handing over of equipment after the expiry of the (3+2) years standard warranty shall be carried out along with handing over of relevant service manual, CDs and software etc required for smooth running of supplied equipment.

S.No	Name of equipment	Category
1.	Air Purification System	A
2.	Anesthesia Machine with Cardiac Monitor having two vaporizers	A
3.	Argon Laser	A
4.	Auto Refractor with Karatometer	A
5.	B. Scan	A
6.	Bronchoscope Flexible full set with all accessories	A
7.	Bronchoscope Rigid	A
8.	Cardiac Monitor for Category C & low level Hospitals	A
9.	Cardiac Monitor for Higher level Hospital	A
10.	Cardiac Monitor with Defibrillator	A
11.	High End Color Doppler Machine	A
12.	Color Doppler Machine	A
13.	CR System (computerized radiography system) with compatible UPS	A
14.	Cystoscope flexible set with light source complete	A
15.	Digital Fluoroscopy Unit	A
16.	Digital OPG X Ray	A
17.	DR system for existing X-ray machines with compatible UPS	A
18.	High End Echo Machine	A
19.	Echo Machine	A
20.	Elisa Machine (Reader, incubator shaker and Washer) Programmable with UPS	B
21.	Fully Automated Immunoassay Analyzer	B
22.	Endoscope Gastro duodenal	A
23.	Esophagoscopes instruments set	A
24.	ETT Machine	A
25.	Fully Automated Chemistry Analyzer with UPS	B
26.	Grey Scale Portable / Mobile Ultrasound Machine	A
27.	Hematology Analyzer 3 Part differential with UPS	B
28.	Hematology Analyzer 5 Part differential with UPS	B
29.	ICU Central Station for cardiac monitors	A
30.	ICU Ventilator (Neonatal& Pediatric & Adult) Turbie	A
31.	ICU Ventilator (Neonatal& Pediatric & Adult) Compressor	A
32.	Laparoscope machine for Gynea /OBS and General	A
33.	Mobile C-Arm/ Image Intensifier (Fluoroscopy)	A
34.	Mobile X-Ray plant 300 mA/125KV AC & Battery Operated	A
35.	Nasopharyngo scope with suction	A
36.	Operating Microscope for ophthalmology	A
37.	Semi-Automated Chemistry Analyzer with UPS	B
38.	Sigmoido scope with universal lighting	A
39.	Sinus Endoscopy set with proof puncture needles	A
40.	Slit Lamp	A
41.	Transport / Portable Ventilator for Ambulance	A
42.	Ultrasound machine (General purpose) within built trolley mounted	A
43.	X-Ray Plant 300mA in built or external AVR and UPS	A

44.	X-Ray Plant 500mA With inbuilt or external AVR and UPS	A
45.	X Ray Plant 500mA (3-Phase)	A
46.	Yag Laser	A
47.	CT Scan Machine 128 Slice	A
48.	Mammography System	A
49.	Phacoemulsification Machine	A
50.	24 Hour BP Monitoring machine	A
51.	Vessel Sealing System	A
52.	Dialysis Machine	B
53.	Temperature Controlled Bath Tub	B
54.	Dehumidifier	B
55.	Air Drill with Cylinder/Orthopedic pneumatic drill with cylinders.	B
56.	Arterial Blood Gas Analyzer with UPS	B
57.	Autoclave Automatic 100 Liters	B
58.	Autoclave Automatic 150 Liters	B
59.	Autoclave Automatic 200 Liters	B
60.	Autoclave Automatic 100 Liters Sliding door	B
61.	Autoclave Automatic 150 Liters Sliding door	B
62.	Autoclave Automatic 200 Liters Sliding door	B
63.	Automated Electrolyte Machine with UPS	B
64.	Automated ESR Analyzer	B
65.	Automatic Blood Bag Shaker	B
66.	Automatic Film Processor	B
67.	Baby Incubator	B
68.	Baby Suction Machine	B
69.	Binocular Microscope	B
70.	BIPAP	B
71.	Blood Bag Tube Sealer	B
72.	Blood Bank Refrigerator/ Blood storage cabinet	B
73.	Pharmacy /medicine /Vaccine Refrigerator	B
74.	Centrifuge (Bench Top)	B
75.	Cervical and Lumbar Traction Table	B
76.	CPAP	B
77.	CPR Machine	B
78.	CTG Machine	B
79.	Defibrillator	B
80.	Deionizer	B
81.	Delivery table/ D&C Table	B
82.	Dental Unit with Chair and regulator (10 KVA)	B
83.	Dental X-ray	B
84.	Distillation water Assembly	B
85.	Dry Heat Sterilizer/ Hot air oven	B
86.	ECG Machine 12 channels	B
87.	ECG Machine 3 channels	B
88.	ECT Machine	B
89.	EEG 32 Channels	B
90.	Electric Amalgamator	B

91.	Electric cautery (Dental)	B
92.	Electric Ripple mattress	B
93.	Electric surgical unit Diathermy	B
94.	Electro Mechanical Operation Table	B
95.	EMG 4 Channels	B
96.	ENT workstation (Examination +treatment)	B
97.	Fracture Operation Table with Ortho Traction Attachment	B
98.	Glucometer	B
99.	Gynae Vacuum Suction Apparatus/vacuum extractor with trolley	B
100.	Head Light with Cool Illumination	B
101.	HFNC	B
102.	Humidifier	B
103.	Hydraulic Operation Table	B
104.	Indirect Ophthalmoscope	B
105.	Infant Warmers (Radiant Warmer)	B
106.	Infra-Red Radiator Large	B
107.	Infra-Red Radiator Small	B
108.	Infusion pump	B
109.	Laboratory Incubator	B
110.	Microtome Machines	B
111.	Microvent	B
112.	Mini Autoclave For dental	B
113.	Nebulizer	B
114.	Ophthalmoscope	B
115.	Ophthalmoscope + Retinoscope Rechargeable	B
116.	Orthopedic Drill Battery operated	B
117.	Oxygen Concentrator	B
118.	Paraffin Wax Bath For Foot	B
119.	Paraffin Wax Bath For Hand	B
120.	PH Meter	B
121.	Phototherapy Unit	B
122.	(POCT) analyzer for Coagulation, ABGs, Electrolytes, Hemoglobin, Hct, Glucose, creatinine.	B
123.	Point of care Testing(POCT) analyzer	B
124.	POP cutter / Plaster Cutting Saw	B
125.	Portable lamps AC/DC or Emergency light with single reflector AC/DC Or Examination light AC/DC	B
126.	Pulse Oximeter	B
127.	Pure Tone Audiometer	B
128.	Resuscitation Trolley / ICU Trolley / CPR Trolley	B
129.	Shadow less lamp (Ceiling type) or Ceiling OT light for minor OT or Ceiling OT light for post mortem	B
130.	Sonic Aid Machine/Fetus Heart Detector	B
131.	Spirometer/ Pulmonary function unit	B
132.	SS Filtration Assembly	B
133.	Suction machine Heavy Duty/ Electric suction Machine	B
134.	Syringe Destroyer	B
135.	Syringe Pump	B

136.	Therapeutic Ultrasound	B
137.	Three Channel Holter monitor	B
138.	Transcutaneous Electrical Nerve Stimulators (Tens)/Electric Stimulator	B
139.	Ultra Violet Lamp Large	B
140.	Ultra Violet Lamp Small	B
141.	Ultrasonic Nebulizer	B
142.	Urine meter	B
143.	Vein Detector	B
144.	Vortex mixer	B
145.	Water Bath	B
146.	Electric Dermatomes	B
147.	Electric Autopsy Saw	B
148.	Temporary Pacemaker (Single Chamber)	B
149.	Temporary Pacemaker (Dual Chamber)	B
150.	Plasma and Lab Deep Freezer(-40oC)/ Plasma storage cabinet	B
151.	Blood warmer	B
152.	Dialysis chairs	B
153.	Electro-therapy unit	B
154.	Dental cabinet	B
155.	Short Wave Diathermy	B
156.	Shoe Covering machine	E
157.	Ergometer Cycle	E
158.	Treadmill	E
159.	2 Ton air conditioners (Cabinet Type)	E
160.	4 Ton air conditioners (Cabinet Type)	E
161.	LED TV 50"	E
162.	Refrigerator with double Glass-door	E
163.	Refrigerator with Glass Single-door	E
164.	Ceiling Fans 56"	E
165.	Bracket Fans 18"	E
166.	AC 1 tone Split unit inverter type	E
167.	AC 1.5 tone Split unit inverter type	E
168.	AC 2 tones Split unit inverter type	E
169.	Door Air Curtain	E
170.	Electric Geysers 10 Gallons	E
171.	Electric Geysers 15 Gallons	E
172.	Electric Water Cooler 40 Litters with Filter	E
173.	Electric Water Cooler 60 Litters with Filter	E
174.	Electric Water Cooler 80 Litters with Filter	E
175.	Gas Geyser 30 Gallon	E
176.	Gas Geyser 50 Gallon	E
177.	ILR/Deep Freezer	E
178.	Refrigerator 12 CFT	E
179.	Refrigerator 14CFT	E
180.	Refrigerator 18 CFT	E
181.	Photocopier	E
182.	Heavy Duty Photocopier Machine	E
183.	Printer	E

184.	Scanner	E
185.	Computer	E
186.	Laptop	E
187.	Multimedia Projector	E
188.	Generator 40 KVA	F
189.	Generator 50 KVA	F
190.	Generator 100KVA	F
191.	Generator 200KVA	F
192.	Incinerator plant	G
193.	Three Bodies Refrigerator	G
194.	Lifters	G
195.	R.O water purification plant for dialysis Machine	G
196.	60KVA three phase Automatic voltage regulator	G
197.	30 KVA single phase Automatic voltage regulator	G
198.	5 KVA UPS	G
199.	5KVA Solar Off Grid Hybrid Inverter	G
200.	10 KVA Solar Off Grid Hybrid Inverter	G

S.No	Nomenclature	Specifications	Category
1.	Air Purification System	<ul style="list-style-type: none"> Automatic air purification system Air purification system for the removal of bacteria, viruses, and Hazardous gases from indoor areas of hospitals, OT/ICU/dental/labs, and Wards. Air Cleaning capacity 2000 Cubic feet per hour or more Minimum particle removal size 0.001um or less. Should have filter less technology. Cleaning efficiency 99.99 %. Unit should be wall mounted. Input Power 220VAC, 50Hz 	A
2.	Anesthesia Machine with Cardiac Monitor having two vaporizers	<p><u>Anesthesia unit with 2 Vaporizers and inbuilt ventilator</u></p> <p>Unit shall be comprised of the following components.</p> <ul style="list-style-type: none"> Non interchangeable pipeline inlets. Pipeline and cylinder gauges for O2 and N2O. Pin index cylinder yokes for at least one or more cylinders of O2 and N2O each. N2O cut off device in case of O2 failure. O2 failure alarm. Gas out let and O2 flush control. Lockable anti-static casters. Monitor shelf. Bar assembly for mounting of at least 2 vaporizers. Impact resistant and easy to clean frame. Cleanable works surface. Absorber support arm. Three gas flow meter unit electronic/ manual. O2, N2O and Air (4-bar) hoses. Isoflurane and Sevoflurane vaporizer (models of the vaporizers must be mentioned). Should support future upgrade for AG, Paramagnetic oxygen monitoring and EtCO2. One or more drawer's unit power outlets with 4 or more sockets. Auxiliary O2 outlet. Writing shelf/platform. Soda-lime absorber with CO2 bypass function ,1-2 Kg complete with valve for bag/ventilator, manometer, 3 liter breathing bag, breathing tube, mouth, and Y piece. <p>Ventilator:</p> <ul style="list-style-type: none"> Ventilator must be inbuilt with the anesthesia unit. Ventilator to be complete with manometer display. The ventilator shall be capable of ventilating pediatric patients. The ventilator shall have the following features as a minimum requirement. Ventilation mode: VCV, PCV, SIMV-VC, SIMV-PC, PSV Electronic Microprocessor controlled. On/Off switch. Breathing mode selection. (Standby/Volume/Spontaneous and pressure). Built in monitor 12" or better color screen to display all the mentioned parameters. Inverse I: E Ratio Capability. 	A

- Able to display P-V, F-V lung function loop and store up to 2-3 lung function loops.
- 3 waveform and lung function loop can be displayed simultaneously in one screen.
- Gas specific input connectors (Air/Oxygen ISO)
- **Tidal Volume from 20 ml to 1400ml or better on either side**
- Rate or frequency 4 to 80bpm or better on either side
- I:E ratio from 4 : 1 to 1 : 8 or better on either side
- PEEP off from 4 to 20 cmH₂O or better on either side.
- Inspiratory pressure limits from 10 to 60 cmH₂O or better.
- Adult bellows graduated from approximately 20ml to 1400ml.
- **Battery backup (90 minutes or more).**

Audio Visual Alarm for the following:

- Alarm mute.
- Low/High FiO₂ Alarms (18% to 100%).
- Low Supply Pressure
- High Airway Pressure.
- High Continuous Air Pressure
- Low Pressure
- Incorrect rate or Ratio
- Main failure.
- Low Battery.
- The ventilator shall be supplied complete with drive hose, cylinder connector and power cable.

The following RE-USABLE AND AUTOCLAVABLE accessories shall be supplied with the unit.

- | | |
|---------------------------------------|---------|
| • Reusable Adult Breathing system | 2. No's |
| • Reusable Pediatric Breathing system | 1. No's |
| • Re-breathing bag 0.5l | 3. No's |
| • Re- breathing bag 1L | 3. No's |
| • Re-breathing bag 2L | 3. No's |
| • Forceps Magill adult | 2. Nos |
| • Forceps Magill Child | 2 No's |

Multi Parameter Patient Monitor

(3ch 5 lead ECG, SpO₂, NIBP, Dual IBP, TEMP, Resp., ETCO₂)

- **Display for easy Viewing 12" or better color TFT/LCD/ LED for easy set-up (with all parameters display).**
- ECG, SpO₂, NIBP, 2-IBP, TEMP, and Respiration
- EtCO₂ (Side stream/main stream type with basic accessories)
- 15 or more Arrhythmias analysis should be detected and alarmed.
- Multi-lead ECG algorithm
- S-T/QT Analysis
- Pacemaker detection.
- Save up to 500 Event management and 48 hours waveforms.
- IBP cable and sensor kit
- Up to 72 hours or better of graphic and tabular trend of all parameters,

PERFORMANCE:

Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better

Respiration

- Respiration rate: 2~150bpm or better on either side.

		<p><u>SPO2:</u></p> <ul style="list-style-type: none"> • Range: 30 ~ 100% or better on either side • Neonate and adult probe. <p><u>Temperature:</u></p> <ul style="list-style-type: none"> • Range; 0 -45 (32 - 113F) or better <p><u>NIBP:</u></p> <ul style="list-style-type: none"> • Range: 15-260 mmHg (± 10 mmHg) <p><u>GENERAL:</u></p> <ul style="list-style-type: none"> • Alarm: All parameters on/off selective independently • Power input 220Vac,50Hz • With Battery Backup time: Minimum 03 hours or better • ACCESSORIES: • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds. 20 each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1 • NIBP Reusable Neonate, Paeds & Adult Cuff 2 • NIBP Hose 1 • AC power code 1 • Ground cable 1 • Operation Manual 1 • ETCO2 (Side stream) with basic acc. 2 • IBP Cable 2 • Temperature sensor & cable 2 <p>Note: Patient monitor and Anesthesia Machine must be compatible with each other. Separate price must be quoted for Anesthesia machine and Patient Monitor</p>	
3.	Argon Laser	<ul style="list-style-type: none"> • Wave Length: 532nm • Power: 1.2W or better • Pulse Duration: 0.1sec to 1sec or better • Aiming Beam: 635nm – 650nm • Cooling: Thermoelectric/Air cooling • With Foot Switch • Spot Size: 50um – 500um • Single Spot mode: Single, Repeat • Standard slit lamp • Standard filter • Laser application lenses-One macular grid, one standard PRP and one wide field lens • Laser Probe: Straight: <ul style="list-style-type: none"> 20G Qty 1 23G Qty 1 25G Qty 1 Curved 20G Qty 1 Flexible Curved: <ul style="list-style-type: none"> 23G Qty 1 25G Qty 1 Steerable: <ul style="list-style-type: none"> 23G Qty 1 25G Qty 1 <p>(Price should be quoted separate for laser probe)</p> <p><u>Accessories:</u></p> <ol style="list-style-type: none"> 1. Power Foot Switch 	A

		2. Dual Unit 3. Expansion Box 4. CB top plate attachment unit 5. Safety goggles 6. Goldman four mirror lens 7. Area centralis lens	
4.	Auto Refractor with Karatometer	<p>Technical Specification:</p> <p><u>Refraction measurement,</u></p> <ul style="list-style-type: none"> • Sphere -20 TO 22D or better (VD 10mm) (0.01/0.12/0.25D step). • Cylinder 0 to $\pm 10D$ or better (0.01 / 0.12 / 0.25D step). • Axis Angle 0 to 180° or better (1° step). <p><u>Measurement of Corneal Radius:</u></p> <ul style="list-style-type: none"> • Curvature radius 5.0-10.0 mm or better (0.01mm step). • Cylindrical power 0-$\pm 10D$ or better. • Axis Angle 0-180 degree (1-degree step or better). • Pupil diameter measurement range: \varnothing 2.0mm – \varnothing 8.5mm or better. • Vertex distance: 0, 10, 12, 13.5, 15mm or better. • PD Measurement range 50-85 mm (1mm step) • In built Thermal Printer with automatic cutter • LCD display: color 5.7 Inch or better. • Power saves: OFF, 3, 5, 10 min • (Selectable) Standard Accessories: Test eye; 1No. • Printer paper: 3 Rolls: Chin rest Paper: 1 pack (sheets as per standard). Chin rest pin: 2 No. • Dust Cover: 1 No. • Contact lens holder: 1 No. • Operation manual. • Local Motorized stand 	A
5.	B. Scan	<p><u>Ophthalmic ultra sound for A -scan biometry, B –scan with pachymetry</u></p> <p><u>B-mode:</u></p> <ul style="list-style-type: none"> • Gain adjustable 20 -110db or more. • TGC 0-30db or better. • Dynamic range 25 – 80db or more • Probe: 10 MHz or better. • Scanning angle: 30 to 60 degree or better. <p><u>A scan:</u></p> <ul style="list-style-type: none"> • Probe: 8 MHz or more. • Depth 1 – 50mm or more. • Operating modes cataract, aphakic, phokic and manual. • Calculation: SRK, SRK II, HOLLADAY, SRK/T.,HOOFER-Q ,POST REFRACTIVE ,HAIGIS. <p><u>PACHYMATRY:</u></p> <ul style="list-style-type: none"> • PROB: 20 MHz or more • Measurement range: 110 -1500 micro meters or better on either side. • Operating mode: auto/manual. • Maps: automatic, continuous, scanning and more if any. • With High density scanning sectors • With Axial length measurements and IOL power calculations. • Measurement accuracy for dense cataract and existing hazy media improved by pressing dense cat switch and gate select switch. • Easy data transfer. 	A

		<ul style="list-style-type: none">• With integral or external printer (in case of external printer brand model must be mentioned).• 8" or better color touch screen monitor.• Time gain suspension. '• Image line real time replay function.• With A, B, B+A features.	
6.	Bronchoscope Flexible full set with all accessories	Bronchoscope: <ul style="list-style-type: none">• The working length of the fiber scope should be 60 cm.• The outer diameter should be 5.7 mm or less.• Range of bending at the tip should be minimum 180 degree up and 130 degree down approx.• Working Channel diameter: 2.0mm or better LIGHT SOURCE: <ul style="list-style-type: none">• Compatible light source 150 Watt or better (Xenon / LED) from the same manufacturer,• Automatic light adjustments to maintain optimum brightness/natural color tone. VIDEO SYSTEM <ul style="list-style-type: none">• HD Camera Head compatible with scope, HD Image/ Video processor having capability of image storage and transfer in USB etc. Medical Grade monitor having display size 21 inch or more should be mounted on trolley.• Voltage source: 220 VAC	A
7.	Bronchoscope Rigid	Size: <ul style="list-style-type: none">• 3mm WL 200mm or better• 4mm WL 215mm or better• 5mm WL 245mm or better• 5.5mm WL 265mm or better• 6mm WL 300mm or better• 6.5mm WL 350mm or better (± 10% of size) Forceps: - According to the bronchial / tracheal tubes <ul style="list-style-type: none">• Foreign body forceps, Alligator jaws 1• Grasping forceps, soft foreign body 1• Biopsy Forceps 1• Fenestrated Forceps 1• Peanut Forceps 1• Magnetic Extractor 1• Optical biopsy forceps 1• Optical grasping forceps 1• Aspiration catheter 10 Accessories <ul style="list-style-type: none">• Adapter with sliding glass window plug, sealing cap, notched lens and keyhole opening, movable.• Plug for ventilation attachment of bronchoscope.• Adaptor for Bronchoscope to any type of pediatric respiration equipment. Light Source <ul style="list-style-type: none">• Compatible Light Source (From same manufacturer).• Automatic / Manual Light Adjustment.• Along with fiber optic cable. Video System	A

		<ul style="list-style-type: none"> • HD Camera Head compatible with scope, image processor having capability of image storage and transfer in USB etc. Medical Grade monitor having display size 21 inch or more should be mounted on trolley. • Voltage source : 220 VAC 	
8.	Cardiac Monitor for Category C & low-level Hospitals	<p><u>Multi Parameter Patient Monitor</u> (5ch ECG, SpO2, NIBP, TEMP, Resp.)</p> <ul style="list-style-type: none"> • Display for easy Viewing 12” or better color TFT/LCD/ LED for easy set-up (with all parameters display). <p><u>Advance for high-end-user</u></p> <ul style="list-style-type: none"> • ECG, SpO2, NIBP, 2-TEMP, and Respiration • 16 or more Arrhythmias analysis should be detected and alarmed. • Multi-lead ECG algorithm • S-T/ QT Analysis • Pacemaker detection. • Up to 72 hours of graphic and tabular trend of all parameters <p><u>PERFORMANCE:</u> <u>Heart rate:</u> 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better <u>Respiration</u> <ul style="list-style-type: none"> • Respiration rate: 2~150bpm or better on either side. <u>SPO2:</u> <ul style="list-style-type: none"> • Range: 30 ~ 100% or better on either side • Neonate and adult probe. <u>Temperature:</u> <ul style="list-style-type: none"> • Range; 0 -45C(32 - 113F) or better <u>NIBP:</u> <ul style="list-style-type: none"> • Range; 15-260 mmHg (± 10mmH) <u>GENERAL:</u> <ul style="list-style-type: none"> • <u>Display:</u> 12” or better Color TFT/ LCD/ LED or better • <u>Alarm</u> • Alarm: All parameters on/off selective independently • Power input 220VAC,50Hz • With Battery Backup time: Minimum 02 hours or better <u>ACCESSORIES:</u> <ul style="list-style-type: none"> • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds. 20 each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) cable of minimum 3-meter length.1 • NIBP Reusable Neonate, Paeds & Adult Cuff 1 • NIBP Hose 1 • AC power cord 1 • Ground cable 1 • Operation Manual 1 • Temperature sensor & cable 1 </p>	A
9.	Cardiac Monitor for Higher level Hospital	<p><u>Multi Parameter Patient Monitor</u> (5ch ECG, SpO2, NIBP, Dual IBP, TEMP, Resp.,ETCO2)</p> <ul style="list-style-type: none"> • Display for easy Viewing 15” or better color TFT/LCD/ LED for easy set-up(with all parameters display) • ECG, SpO2, NIBP, 2-IBP, 2-TEMP, and Respiration • EtCO2 (Side stream type / main stream with basic accessories) 	A

		<ul style="list-style-type: none"> • 18 or more Arrhythmias analysis should be detected and alarmed • Multi-lead ECG algorithm • S-T/QT Analysis • Pacemaker detection. • IBP cable and sensor kit • Up to 72 hours of graphic and tabular trend of all parameters, <p><u>PERFORMANCE:</u></p> <p>Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better</p> <p><u>Respiration</u></p> <ul style="list-style-type: none"> • Respiration rate: 2~150bpm or better on either side. <p><u>SPO2:</u></p> <ul style="list-style-type: none"> • Range: 30 ~ 100% or better on either side • Neonate and adult probe. <p><u>Temperature:</u></p> <ul style="list-style-type: none"> • Range; 0 -45C(32 - 113F) <p><u>NIBP:</u></p> <ul style="list-style-type: none"> • Range; 15-260 mmHg (± 10mmHg) <p><u>GENERAL:</u></p> <p><u>Alarm</u></p> <ul style="list-style-type: none"> • Alarm: All parameters on/off selective independently • Power input 220VAC,50Hz • With Battery Backup time: Minimum 02 hours or better <p>ACCESSORIES:</p> <ul style="list-style-type: none"> • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds .20each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) • Cable of minimum 3-meter length. 1 • NIBP Reusable Neonate, Paeds & Adult Cuff 1 • NIBP Hose 1 • AC power cord 1 • Ground cable 1 • Operation Manual 1 • ETCO2 (Side stream) with basic acc. 1 • IBP Cable 1 • Temperature sensor & cable 1 	
10.	Defibrillator with Cardiac Monitor	<ul style="list-style-type: none"> • Multi Parameter Patient Monitor • (3ch 5 lead ECG, SpO2, NIBP, TEMP, Resp.) • Semi-automatic 200 joules or better biphasic defibrillator with monitor and AED mode. • Synchronized output with ECG. • Control of energy charging/ delivering on main panel and paddle. • The energy range should be adjustable for Paeds and adults up to 200Joules. • Charging Time for full energy will be less than 08 sec. • Screen Size of approx. 7 inch or better colored. • Display of Heart Rate: 30 to 300 bpm • ECG through Pads / paddles and 3 Lead ECG patient cable with arrhythmia detection 	

		<ul style="list-style-type: none"> • Built in recorder for printing of full summery on standard paper including waveforms, Frozen Waveforms, Event Summary, Tabular Trends, User test, and Configuration. • Alarms for High and low Heart rate, low battery warning. • AC 220V / 50 Hz operated. • Built-in Rechargeable battery with charger having capacity of 50 Shocks. • At least three hours backup on monitor. • Auto tester/self-check. • External pediatric and adults Paddles, ECG cable with reusable electrodes for adult & Paeds. • AED facility. • AED pads • Pacing facility <p>ACCESSORIES:</p> <ul style="list-style-type: none"> • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds. 20 each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) cable of minimum 3-meter length. 1 • NIBP Reusable Neonate, Paeds & Adult Cuff 1 • NIBP Hose 1 • AC power code 1 • Ground cable 1 • Operation Manual 1 	
11.	High End Color Doppler Machine	<p>Fully Digital Beam Former Having 4,00,0000 or More Digital Processing Channels with Integrated Data Management System Having 1TB Hard Disk Drive for Still and Cine Clips Storage and 128GB or more SSD for operating system and application software.</p> <ul style="list-style-type: none"> • Modes 2D/M-Mode, Doppler, Pw, Hprf Doppler, Color Flow Imaging • System Capability 1.5 – 22 MHz or More • Fusion/Tissue Harmonic Imaging • Viewing Depth: 40cms or better. • Frame Rate: 2000 FPS or better. • Built-In Cine Loop: 2000 Frames/256 MB or better. • Real time freeze & image magnification ability better than 10 x pre & post processing • Sweep Speed: Slow, Medium, Fast • 12” or better touch command screen for easy operation of the system. • System dynamic range: 50 to 220db or better <p>Doppler Mode Specifications:</p> <ul style="list-style-type: none"> • Pulse Repetition Frequency Range; PWD: 1.0 To 22 KHz • Doppler Beam Steering • On Line 4-Ports for Trans-thoracic Probes • Doppler Beam Steering and Bi-Directional Stereo Audio • Color Doppler • PW Doppler must be continuously steerable in color blood flow imaging mode in real time. • Colorized Spectrum Display • Tissue Harmonic Imaging with Two Frequencies • Elastography 	A

		<p>2D Image with Color Flow</p> <ul style="list-style-type: none"> • Power Doppler • Standard Features • Needle enhancement for biopsy needle visualization • Auto image optimization / quick scan imaging for automatic stc/gain and Doppler spectrum adjustment with optimal image quality by using one touch operation. • B-flow/dynamic flow imaging / e-flow • Trapezoid imaging/virtual convex imaging with linear probe • Compound/x view+/aplature imaging for both frequency compounding and spatial compounding in b/w and color mode • N-sight / adaptive suppression / precision imaging / xflow/ cross beam to enhance b-mode imaging, detailed in layers and boundaries and sharpened outlines of the lesions and reduce cluttering. • 3D imaging for the acquisition of volume data and display of 3D images in b/w as well as color without using a 4D transducer. • B-flow with color XDclear-2/micro v/superb micro vascular imaging with spectral Doppler to clearly show blood flow in tiny vessels, liver capsula, gall bladder wall etc or equivalent. • Live strain rate Elastography with quantification for body organs specially breast to visualize lesions. • Live Shearwave Elastography with quantification and adjustable area based minimum 2 x 3 cm display for body organs especially liver with convex & linear probes to visualize tissue stiffness by generating images through shear wave propagation, speed, and elasticity modes. <p>Measurement Package:</p> <ul style="list-style-type: none"> • To provide comprehensive software package for measurement of distance circumference, area, time, depth etc. <p>System Complete with Following Facilities and Accessories:</p> <ul style="list-style-type: none"> • 23-Inches or better color monitor <p>Standard Probes:</p> <ul style="list-style-type: none"> • 2.0 – 5.0 MHz or More Multi-Frequency Convex Probe • 4.0 – 10 MHz or More Multi-Frequency Linear Probe • 4.0 – 10 MHz or More Multi-Frequency TVS Probe • 5 – 15 MHz High Frequency Linear <p>STD Recording Devices:</p> <ul style="list-style-type: none"> • Built-In CD/DVD Recorder for Digital Image Storage • Built-In / Separate Compatible Imported Online Ups (Minimum Backup Time > 10Minutes) • B/W Thermal Printer. (Model/ Make must be mentioned) 	
12.	Color Doppler Machine	<p>Fully Digital Beam Former Having 150,000 or More Digital Processing Channels with Integrated Data Management System Having 500GB Hard Disk Drive for Still and Cine Clips Storage.s</p> <ul style="list-style-type: none"> • Modes 2D/M-Mode, Doppler, Pw, Hprf Doppler, Color Flow Imaging • System Capability 1.5 – 16 MHz or more • Tissue Harmonic Imaging • Viewing Depth: 30cms or better. • Frame Rate: 1000 FPS or better. • Built-In Cine Loop: 2000 Frames/256 MB or better. • Real time freeze & image magnification ability better than 4x Pre & Post Processing • Sweep Speed: Slow, Medium, Fast 	A

		<ul style="list-style-type: none"> • 8” or better Touch Command Screen for easy Operation of the System. • System Dynamic Range: 50 to 180db or better Doppler Mode Specifications: <ul style="list-style-type: none"> • On Line 3-Ports for Trans-thoracic Probes • Doppler Beam Steering and Bi-Directional Stereo Audio • Color Doppler • PW Doppler Must Be Continuously Steerable In Color Blood Flow Imaging Mode in Real Time • Colorized Spectrum Display • Tissue Harmonic Imaging with Two Frequencies • Built in battery for backup. • 2D Image with Color Flow • Power Doppler • Auto Image Optimization/Quick Scan for Single Button Optimization of All Scanning Parameters Including STC Overall Gain and Doppler Spectrum. • Compound Scanning Using Frequency as Well as Spatial Compounding. • Trapezoid Imaging for Linear Probes Measurement Package: <ul style="list-style-type: none"> • To provide comprehensive software package for measurement of distance circumference, area, time, depth etc. System Complete with Following Facilities and Accessories: <ul style="list-style-type: none"> • 19-Inches or better Color Monitor Standard Probes: <ul style="list-style-type: none"> • 2.0 – 5.0 MHz or More Multi-Frequency Convex Probe • 4.0 – 10 MHz or More Multi-Frequency Linear Probe • 4.0 – 10 MHz or More Multi-Frequency TVS Probe STD Recording Devices: <ul style="list-style-type: none"> • Built-In CD/DVD Recorder for Digital Image Storage • Built-In / Separate Compatible Imported Online Ups (Minimum Backup Time > 10Minutes) • B/W Thermal Printer. (Model/ Make must be mentioned) 	
13.	CR System (computerized radiography system) with compatible UPS	Digitizer Exposure size: 14”x14” / 14”x17” / 11”x14” / 10”x12” / 8”x10” Sampling pitch: <ul style="list-style-type: none"> • 2 Types: 100 µm to 200 µm or better. Digital Gradation level • 4096 Levels (16-Bit) Processing Capability • 50 Plates / hour or better Console <ul style="list-style-type: none"> • Image Processing: • Automatic Body Part recognition • Automatic Processing Parameter study. • Image Output: • Maximum: • Host: 2ch for Normal, 1ch for backup Printer: 1ch for Normal, 1ch for backup. • DICOM Support: • Basic Gray scale Print Management (SCU) Storage (SCU) • Modality work list Management • Modality performed Procedure step • Gray scale Standard Display Function (Print output) 	A

		<p>Computer Desktop (as per OEM manufacturer) Or</p> <ul style="list-style-type: none"> • CPU Core i 7 Processor: 3.4 GHz • Bit Processing: 64 Bits • Cache L1-L2: 8MB • With compatible graphics card • CD/DD/Super Drive Support Installed Processor Core i7 Hard Disk: 1 TB • Memory Ram type: DDR3 • Number of memory /Ram Slots: 2 Slots • Memory Ram Size: 8 Giga Byte, supported up to 16 Giga Byte • USB: 06 USB Ports or better <p>Monitor : Medical grade monitor, color TFT (LCD) (model must be mentioned)</p> <ul style="list-style-type: none"> • Size: 19" or better. • Resolution: 1kx1k or better. • Brightness: 300 Cd/m2 or better. • Contrast Ratio: 2000:1 or better With • Brightness stabilization • Back light sensor. • Power saving mode & • USB Port. • Accessories: AC power cord, Signal Cable, USB cable. <p><u>Cassettes / Imaging Plates system:</u> Total 08 No's of different sizes cassettes/ imaging plates.</p> <ul style="list-style-type: none"> • 14"x17" (2Nos) • 14"x14" (2Nos) as per OEM • 11" x 14" or 12" x 15" (2Nos) as per OEM • 10" x 12" (2Nos) • 8" x 10" (2Nos) <p><u>Laser / thermal printer with dual tray system:</u></p> <ul style="list-style-type: none"> • Films Size: 14"x17", 11"x14" or 12" x 15", 10"x12" 8"x10" • Film: Dry Image recording film • Image Memory: Print Memory (64MB/Standard) Number of Pixels: 50 um or better Image Data Input: 8-Bits /12-Bits. • Output Gradation: 16834 levels (14-Bits) • Image Mode: Pixel Replication / Function Interpolation Process • Processing Capability: 60-Sheets/ hour or better • Protocol: DICOM Print Management. • Compatible UPS (model, make must be mentioned) 	
14.	Cystoscope flexible set with light source complete	<p>CYSTOSCOPE FLEXIBLE SET</p> <ul style="list-style-type: none"> • Working length: as per user • Distal Tip: 4 .8mm to 5.5 mm • Working channel: 2.4mm or better • Active Deflection: 180° to 210°up, 120° down or more • With Passive Deflection. • Light Carriers: 2, • Field of view: 110° to 120° minimum or better on either side. • Depth of focus, 5-50 mm or better. • Complete with grasping forceps, 	A

		<ul style="list-style-type: none"> Fiber optic cable. Instrument lubricant. Biopsy port seals, cleaning brush & carrying case With compatible light source (Xenon / LED) from the same manufacturer. <p>Video System</p> <ul style="list-style-type: none"> HD Camera Head compatible with scope, image processor having capability of image storage and transfer in USB etc Medical Grade monitor having display size 21 inch or more should be mounted on trolley. Voltage source : 220 Vac 	
15.	Digital Fluoroscopy Unit	<p>COMPRISING OF FOLLOWING: -</p> <ul style="list-style-type: none"> Microprocessor Controlled, High Frequency, 01 Tube Rad/Fluoroscopy type X-ray Generator, 1000 mA /150 KV /80 KW. 90/-25 or more Degree Remote Controlled Rad / Fluoro tilting table, 4-way movement of table top, tube column with Motorized collimator. 21 Inch or more LCD Medical Grade monitor on trolley. Overhead rotating anode double Focus x-ray tube 01 pair of H.T Cable <p>X-RAY GENERATOR</p> <ul style="list-style-type: none"> Microprocessor Controlled High Frequency, 01 Tube Radiography / Fluoroscopy Operation. Maximum mA Radiography: 1000mA Maximum KVp Radiography: 150 KV Minimum KV radiography: 40 KV Power Rating: 80 KW Minimum Exposure Time: 1 millisecond Maximum mA Fluoroscopy: 4 mA or more Maximum KVp Fluoroscopy: 100 KV or better Self-diagnostics System with error code reporting for fast troubleshooting. Automatic mains Line compensation Three Point Console Anatomical Programming Automatic Brightness Control Power Requirement: 3 Phase 380/480 V / 50 Hz Integrated Operating console with that of remote-controlled table 90/-25or more Degree Remote Controlled Tilting table for Rad/ Fluoroscopy Diagnostic +90/-25 or more Degree Remote Controlled Rad / Fluoroscopic Table With 4-way movement of table top. 2 No's 21 Inch or more LCD Medical Grade Monitor (Model and Make must be mentioned) on Trolley. Automatic light control <p>Motorized Tilting Table</p> <ul style="list-style-type: none"> Microprocessor controlled for safety, superior reliability, and real time-check of the equipment, including the self-diagnosis function. Rad/ Fluoroscopy Diagnostic table to offers full patient support for all radiographic and fluoroscopic procedures from +90 degree 	A

		<p>vertical through -25 degree Trendelenburg with an automatic stop at the horizontal position.</p> <ul style="list-style-type: none"> • Motor driven collimator • Remote controlled compression, the compression force, adjustable 80 N or more. <p>Flat Panel DEECTOR</p> <ul style="list-style-type: none"> • Detector type: amorphous silicon • Active area nominal: 14 x 14 Inch • Pixel size: not more than 150 um <p>Tube Arm</p> <ul style="list-style-type: none"> • Feature of Longitudinal displacement of Tube arm should be available with longitudinal movement of tabletop. • Focus-film distance: Continuously variable focus-film distance with preset positions at for very high-quality image achieved. • Oblique incidences:- +/-40° or better along a longitudinal displacement of 40 cm or better. • Motorized Collimator <p>Accessories</p> <ul style="list-style-type: none"> • Adjustable height footrest • Shoulder rest • Handgrips • Compression belt • Leg support <p>X-Ray Tube</p> <ul style="list-style-type: none"> • Rotating anode double Focus x-ray tube • Small focus: 0.6 x 0.6 mm • Large Focus: 1.2x 1.2 mm • Anode heat storage capacity: 300KHU or better • Tube Voltage: 150 KV • Pair of HT Cable: Not less than 15 meters • Software: <p>Software must be DICOM supported. Should have the facility to zoom, invert image, contrast adjustment, to export patient diagnostic images to usb and through PACS system, have the facility to show patient ID, name gender, age, and hospital name in the diagnostic image.</p>	
16.	Digital OPG X Ray	<p>Digital panoramic (child, adult), view lateral and Bitewing (child, adult) imaging with Ceph and upgradable to 3D.</p> <ul style="list-style-type: none"> • X-ray generator: High frequency inverter type. • Modes for child and adults. • Anode Voltage: 60-90 kV or better on either side in steps of 1 to 2KV • Anode Current: 4-12 mA or better on either side • Exposure Time: 2-20sec • Focal spot:0.5mm • Filtration:0.5 mm Al or better • Computer Desktop with 19-inch medical grade monitor and single tray Dicom printer • Sensor acquisition of 12-bit images. • Pixel pitch 100 micron or better 	A

		<ul style="list-style-type: none"> • Control: Automatic Exposure (AEC) • Should have TMJ program, Sinus program, Colored display, should have quick short program • Vertical Movement: Motorized and manual Adjustment • Automatic Patient Positioning • Chin rest Centering : Laser Light • 2 No's Ultra-light Lead Apron for patient and operator: with 0.5mm Thick lead sheet • Input power 220VAC, 50Hz • Compatible UPS for computer system back up time at least 30 minutes. • Height Adjustable stool for patients. <p>Computer Desktop (as per OEM manufacturer) Or</p> <ul style="list-style-type: none"> • CPU Core i 7 Processor: 3.4 GHz • Bit Processing: 64 Bits • Cache L1-L2: 8MB • With compatible graphics card • CD/DD/Super Drive Support Installed Processor Core i7 Hard Disk: 1 TB • Memory Ram type: DDR3 • Number of memory /Ram Slots: 2 Slots • Memory Ram Size: 8 Giga Byte, supported up to 16 Giga Byte • USB: 06 USB Ports or better 	
17.	DR system for existing X-ray machines with compatible UPS	<p>Flat panel detector with acquisition software and dry film printer Flat panel detector (model and make must be mentioned)</p> <ul style="list-style-type: none"> • The Flat panel Detector should be wireless. • Pixel size of 150 Microns or better. • The size (active area) of the Flat panel Detector should be at least 14 x 17 inch. • Image's pre-viewing should be available in about less than 3secs after exposure and the cycle time should be less than 10 seconds. • Should have a minimum image depth of 12 bit or better. • Matrix size 2300 x 2800 or better. • KV rang 40 ~ 150kVp • The flat panel detector should be able to Rotate/Tilt for various applications. • The flat panel Detector should be fixed in the vertical Bucky Stand Should be in position to handle Vertical Chest X Ray, Horizontal Abdominal X Rays applications. • AED Mode should be present • A to D conversion: 14 bits or more. • Easy positioning at the time of out of bucky exposures. • The detector should be able to work at normal room temperature and humidity. • The detector system should not require frequent calibrations on daily start-up • Offered detector should have load bearing capacity of 160kgs or more. • Backup time Battery • Life of the battery 120 images @ 90 s cycle • Recharging time less than 3 hours • One extra Lithium Battery with the detector should be provide. <p>IMAGE ACQUISITION IMAGE PROCESSING</p>	A

		<ul style="list-style-type: none"> • PC based computerized IMAGE ACQUISITION IMAGE PROCESSING with window-based software. • 19-inch medical grade TFT monitor with high resolution 1280x1024 or better Brightness: 300 Cd/m2 or better Contrast Ratio: 2000:1 or better With Brightness stabilization • The software has capability to support 2 detectors or more • Image saving in CD/DVD and DICOM format should be possible. • Multi core processor (core i7, 3.4Hz) bit processing 64 Bits, Cache 8MB, special graphic card for medical grade monitor installed in CPU. RAM not less than 4GB and Should have image storage disk of at least 1TB internally • The system should have ready DICOM interface and networking capability with PACS. • Post processing function must be available. Measurement Tools, Window Level, Rotate, Repeat / Reject, Magnify, Zoom , Images elaboration with examination specific algorithms • Filming options should be available • Power Supply – 220V, 50Hz. • Dry film printer with at least 2 online film trays, for printing the digital images (Model and brand must be mentioned) • Compatible UPS (model, make must be mentioned) 	
18.	High End Echo Machine	<p>Fully digital beam former having 4,000,000 or more digital processing channels with integrated data management system having 1TB hard disk drive for still and cine clips storage and 128GB or more SSD for operating system and application software.</p> <ul style="list-style-type: none"> • Modes: • 2d/m-mode, doppler, pw, cw & hprf doppler, color flow imaging • System capability 1.5 – 22 mhz or more, m-mode, tissue/fusion harmonic imaging, • Tissue doppler imaging with pulse wave tdi doppler spectrum. • Viewing depth: 40cms or better. • Frame rate: 2000 or better. • Built-in cine loop: 2000 frames/256 mb or better. • Real time freeze & image magnification ability better than 10 x pre & post processing • Sweep speed: slow, medium, fast • 12” or better touch command screen for easy operation of the system. • System dynamic range: 50 to 220db or better <p>Doppler mode specifications:</p> <ul style="list-style-type: none"> • Pulse repetition frequency range. Pw : 1 – 20 khz Cw : 1 – 50 khz • Doppler beam steering • On line 4-ports for trans-thoracic probes. • Doppler beam steering and bi-directional stereo audio. • Color doppler • Both cw & pw doppler must be continuously steerable in color blood flow imaging mode in real time colorized spectrum display. • Tissue harmonic imaging with two frequencies • 2d image with color flow • Power doppler 	A

		<ul style="list-style-type: none"> • Auto image optimization/quick scan for single button optimization of all scanning parameters including stc overall gain and doppler spectrum. • Compound scanning using frequency as well as spatial compounding. • Trapezoid imaging for linear probes. <p>Measurement package:</p> <ul style="list-style-type: none"> • To provide comprehensive software package for measurement of distance circumference, area, time, depth etc. And separate software for, cardiovascular including venous doppler study, imt (intima medial thickness) <p>System completes with following facilities and accessories:</p> <ul style="list-style-type: none"> • 21-inches or better display (lcd/tft). • Ecg including cables and transducers/electrodes. <p>Standard probes</p> <ul style="list-style-type: none"> • 2-5 mhz or more multi-frequency sector probe for adult. (model and make must be mentioned) • 2-7.0 mhz sector probe for paed. (model and make must be mentioned) • 4.0 – 10 mhz or more sector probe for neonates. (model and make must be mentioned) • 4.0 – 10 mhz or more multi-frequency linear probe <p>Std recording devices:</p> <ul style="list-style-type: none"> • Built-in cd/dvd recorder for digital image storage • Built-in / separate compatible imported ups (minimum backup time > 10minutes) • B/w thermal printer. (model/make must be mentioned) 	
19.	Echo Machine	<p>Fully digital beam former having 150,000 or more digital processing channels with integrated data management system having 500GB hard disk drive for still and cine clips storage.</p> <ul style="list-style-type: none"> • Modes: • 2d/m-mode, doppler, pw, cw & hprf doppler, color flow imaging • System capability 1.5 – 16 mhz or more • Tissue harmonic imaging, • Viewing depth: 30cms or better. • Frame rate: 1000 or better. • Built-in cine loop: 2000 frames/256 mb or better. • Real time freeze & image magnification ability better than 4x pre & post processing • Sweep speed: slow, medium, fast • 8” or better touch command screen for easy operation of the system. • System dynamic range: 50 to 180db or better <p>Doppler mode specifications:</p> <ul style="list-style-type: none"> • On line 3-ports for trans-thoracic probes. • Doppler beam steering and bi-directional stereo audio. • Color doppler • Colorized spectrum display. • Tissue harmonic imaging with two frequencies • 2d image with color flow • Power doppler 	A

		<ul style="list-style-type: none"> • Auto image optimization/quick scan for single button optimization of all scanning parameters including stc overall gain and doppler spectrum. • Compound scanning using frequency as well as spatial compounding. • Trapezoid imaging for linear probes. • 2D wall motion tracking for strain rate imaging. • Stress echo system. • Upgradeable to contrast harmonic imaging. <p>Measurement package:</p> <ul style="list-style-type: none"> • To provide comprehensive software package for measurement of distance circumference, area, time, depth etc. And separate software for, cardiovascular including venous doppler study, imt (intima medial thickness) <p>System completes with following facilities and accessories:</p> <ul style="list-style-type: none"> • 21-inches or better display (lcd/tft). <p>Standard probes:</p> <ul style="list-style-type: none"> • 2-5 mhz or more multi-frequency sector probe for adult. (model and make must be mentioned) • 3-7.0 mhz sector probe for paed. (model and make must be mentioned) <p>Std recording devices:</p> <ul style="list-style-type: none"> • Built-in cd/dvd recorder for digital image storage • Built-in / separate compatible imported ups (minimum backup time > 10minutes) • B/w thermal printer. (model/make must be mentioned) 	
20.	Elisa Machine (Reader, incubator shaker and Washer) Programmable with UPS	<p>Consisting of The Following Components. For micro plate assay.</p> <p>Plate Reader:</p> <ul style="list-style-type: none"> • Eight channel vertical light path filter photometer • End point and kinetic reading modes • Software for calculation modes • Storage for up to 96 assay protocols • Range 400 to 670nm • Bandwidth up to 10nm • Accuracy $\pm 2\%$ • Precision 0.5% • Reading speed 5 secs/ plate or better • RS232 interface or USB interface <p>Incubator / Shaker:</p> <ul style="list-style-type: none"> • Digitally operated 8-speed or better shaker. • Can hold two 96 well micro plates for mixing and / or incubating • Temperature modifiable from ambient to 40°C with 0.1°C increment • With lid for light protection • Digital timer controls shaking. • With LED display <p>Washer 8/12 channel:</p> <ul style="list-style-type: none"> • Micro plate washer to deliver washer buffer and ensure complete liquid removal. • Minimum plates 96 • Programs for flat, round and V type plates. • Automatic plate detection 	B

		<ul style="list-style-type: none"> • Auto alignment and row detection • Complete with wash, rinse, waste bottles and piping. <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage: 110-260v 50Hz, Output: 220v 50 Hz. <p>The bidder will provide kits for HCV, HBsAg, HIV patients along with the machine free of cost at the time of installation</p>	
21.	Fully-Auto Immunoassay Analyzer	<p>Fully-Auto Immunoassay Analyzer</p> <p>Microprocessor based windows internal or external operated system</p> <p>Minimum 60 or better parameters including: FT3, FT4, T3, T4, TG, TSH, DHEA-S, Estradiol, unconjugated Estriol, FSH,HCG belta Total, inhibinA, LH,progesterone, Prolactin, Tesroterone, cortisol,AFP, CA 12.5,CA15.3, CA19.9,CEA. Free PSA,TPSA,GH, Ferritin,Folate,intrinsic Factor Ab,Solube Trnasferrin Receptor,Vitamin B12, CK-MB,DIGOXIN,Myoglobin, TnI,insulin.Anti-HAV IgM,Ant-HBc,Anti-HBc IgM, Anti-HBs, HBsAg, HBsAg conformity, Toxo IgG, Toxo IgM, Rubella IgG, Rubella IgM, CMV IgG, CMV IgM, IL-6,IgE PAPP-A</p> <ul style="list-style-type: none"> • Test / Hour: 40 or better • Continuous loading. • Regent position 15 or more • Minimum Sample Volume: 2 µL • Regent Probe Sensors: Liquid level detection and collision protection. • Sample Probe cleaning: Disposal tips • Data Storage: 50000 or more (patient results) 50,000 or more (test results) • Port: RS-232. • The machine should have the facility to connect with LIS. • 220 V, 50 Hz AC operated. • With external printer (Model must be mentioned) <p>Accessories</p> <ul style="list-style-type: none"> • Reagent probes 4 sets • Fuse 01 • User manual • Operation Software. <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage: 110-260v 50Hz, Output: 220v 50 Hz. <p>The supplier will provide kits for 100 patients along with the machine at the time of installation</p>	B
22.	Endoscope system	<p>HIGH-DEFINITION ENDOSCOPE SYSTEM (Progressive Scan/ Interlace)</p> <p>HD GASTRO-VIDEO SCOPE</p> <ul style="list-style-type: none"> • Resolution (1920x1080p/i) • Full High definition • Compatible with standard set of accessories. • Field of view: 140mm or more • Working length: 1030mm or more • Outer diameter: 9.8 mm or less • Depth of field 3 to 100 mm or better on either side • Angulation Range Up 210° Down 90° or better on either side Right 100° Left 100° 	A

		<ul style="list-style-type: none"> Channel Diameter 2.8mm HD COLONO VIDEO SCOPE Direction of view forward Insertion tube outer diameter 13.5mm or better <ul style="list-style-type: none"> Field of view: 140mm or more Working length: 1700mm or more Depth of field 3 to 100 mm or better on either side Angulation Range Up 180° Down 180° or better on either side Right 160° Left 160° Channel inner Diameter 3.8mm Complete with standard accessory including biopsy forceps <ul style="list-style-type: none"> Complete with high Standard xenon / LED light source (from same manufacturer) and video processor with USB Port. With medical grade monitor 26" or better Automatic Light Control Back light sensor. Accessories: AC power cord, Signal Cable, USB cable. Along with trolley (Local). Endoscope Disinfector <ul style="list-style-type: none"> Locally Made (Model and make must be mentioned). Note: Video Processor, Video scope and Monitor should be HD. Separate price shall be quoted for Gastro scope and Colono scope	
23.	Esophagoscopes instruments set	<ul style="list-style-type: none"> Esophagoscopes tube, Appr. Size 1, 6x8 mm (h x w) WL: 350mm. Cap with window, proximal illumination insert, Magnifier. Universal Cap, Straight Handle, Double bellows, Foreign Body Forceps, alligator jaws, WL: 450mm. Universal Forceps, WL: 450mm. Biopsy Forceps, spoon shaped, WL: 450mm. Retrograde biopsy forceps, WL: 450mm. Small tumor forceps, cutting WL: 450mm. Rotation forceps for hard foreign bodies WL: 450mm. Grasping forceps, for soft foreign bodies WL: 450mm. Working Length: 700mm, Ultra Slim Instrument Channel: 3.7 mm. Deflection (Up/Down): 180/90 deg. Deflection (Right/Left): 110/110 deg. Depth of focus: 5-100mm. Biopsy Forceps, dia 2.1mm. Injector Cannula. 	A
24.	ETT Machine	Specification: <ul style="list-style-type: none"> PC based computerized stress test machine with window-based software. 12-Channel Stress Test with recording, presentation and Evaluation of ECG. Manual and automatic event memory ST-Trend and ST-Level display of all 12 channels. Display of blood pressure, heart rate and arrhythmia. QRS-Complex show in a superimposed mode. Review function at any time during exercise Standard or individual protocols. 	A

		<ul style="list-style-type: none"> Automatic control of treadmills in speed and elevation in load <p>QRS-Analysis:</p> <ul style="list-style-type: none"> Analysis of the stress Test with control of histograms. ST level and Trend histograms of all leads. Display of QRS complex Manual ECG with time cursor. With built-in calipers for measurement control ECG analysis during exercise <p>Resting software:</p> <ul style="list-style-type: none"> Resting ECG software 12 Leads simultaneous Data management software Rhythm recording in resting mode QT desperation software Interpretation <p>Treadmill (Model and Make must be mentioned):</p> <ul style="list-style-type: none"> Heavy duty whispers quiet even at high speed Speed :0 – 16.0 km/h or better Elevation: 0 ° to 20 ° AC 220V / 50Hz Patient weight :150 kg or better Emergencies stop button Side and front rail <p>Computer system (Model and Make must be mentioned):</p> <ul style="list-style-type: none"> Branded computer system compatible with Unit. 19 Inch TFT monitor with resolution of 1024x1024. Alphanumeric key board and mouse. <p>CPU (Model and Make must be mentioned):</p> <ul style="list-style-type: none"> Intel Core i7 Processor 8Mb cache 3.40GHz 16GB RAM DDR3 1TB internal Hard Disk DVD R/W With Mouse and Keyboard <p>Components:</p> <ul style="list-style-type: none"> ECG Amplifier Patient cable Laser printer (Model and Make must be mentioned) 	
25.	Fully Automated Chemistry Analyzer with UPS	<p>Microprocessor based windows internal or external operated system</p> <ul style="list-style-type: none"> Samples / Hour: 180-200 or better tests, up to 320 or better tests/hr with ISE. Sample Tray with 30 or more sample positions for primary tubes and test tubes. Reagent position 30 or more Sample Volume: 2 µL – 30 µL. Probe Sensors: Liquid level detection and collision protection. Probe cleaning: Automatic washing. Wavelengths: 340nm to 670nm. Absorbance Range: 0.0001 Abs units at 1.0 Abs. Data Storage: 1800 or more (patient results) 50,000 or more (test results) Port: RS-232. 220 V, 50 Hz AC operated. With external printer (Model must be mentioned) <p>Accessories</p>	B

		<ul style="list-style-type: none"> • Tubes 01 set (50 Tubes) • Fuse 01 • Extra Lamp 01 • User manual • Operation Software. <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage: 110-260v 50Hz, Output: 220v 50 Hz. <p>The bidder will provide kits for 100 patients along with the machine free of cost at the time of installation</p>	
26.	Grey Scale Portable / Mobile Ultrasound Machine	<ul style="list-style-type: none"> • Imaging Mode: B, B/B, B/M, M, 4B • 12" or more LCD monitor • Scanning Depth: From 2.0 – 35 cm minimum or more • Hard Disk: 500 GB or more HDD • Cine loop Memory in B/B, M and B/M Mode • Zoom: Pan Zoom in Real Time & Frozen Condition • Measurement Calculation: B-Mode: Distance, Circumference, Area, Volume • Built-in Imaging Archive for storage of Still and Cine Clips • M-Mode, Distance, Time, Velocity, Heart Rate (2 Cycles) • Pulsed Wave Doppler with adjustable gate size • Software Packages: Abdomen, Urology, Gynecology, Obstetrics, Cardiology, Vascular, Small Parts, Orthopedics • Power Supply: 100-240V AC 50/ 60 Hz • TGC: 8-Segment or More • 2 or More Active Probe Connectors in Main Unit • Tissue Harmonic Imaging • USB Ports and BNC Connector for Thermal Printer • Measurement and Calculation Software Package • Electronic Convex Array Transducer: 2.0 - 5.0 MHz or More • Electronic Linear Array Transducer 5.0 - 10 MHz or More • Built-in/external backup of at least 90 minutes or better • Thermal printer • Gel 20 Liters • Carrying Trolley (Local Made) 	A
27.	Hematology Analyzer 3 Part differential with UPS	<p>Consisting of:</p> <ul style="list-style-type: none"> • Hematology Counter with 3 Parts differential automated. • Throughout 40 Samples / Hour or better. • Minimum 18 or better parameters including Hb, WBC, RBC, MCV, Plt, and Derived values. • Flagging of results outside user defined limits. • Micro sampling capability. • Auto Calibration Program. • Reagent level alert. • System monitoring • Automated start up and shutdown • Result storage: up to minimum 500 results. • Patient data entry and specimen recognition by Keyboard. • RS 232 Interface. • Internal Printer. • With inbuilt auto-sampler or external specimen mixer. • Consumables, Reagents, Calibrators, Controls for startup. 	B

		<ul style="list-style-type: none"> The bidder will provide kits for 500 patients along with the machine free of cost at the time of installation. <p>UPS:</p> <ul style="list-style-type: none"> Branded and compatible UPS for at least 30 minutes backup. Input Voltage : 110-260v 50Hz, Output : 220v 50 Hz. <p>Note: The bidder must quote the price / test or reagents pack of 500 tests or 1000 tests price separately.</p>	
28.	Hematology Analyzer 5 Part differential with UPS	<p>Consisting of:</p> <ul style="list-style-type: none"> Hematology Counter with 5 Parts differential automated. Throughout 60 Samples / Hour or better. Minimum 25 or better parameters including: WBC, LYM, MON, NEU, EOS, BAS, LYM%, MON%, NEU%, EOS%, BAS%, RBC, HCT, MCV, RDW-sd, RDW-cv, HGB, MCH, MCHC, PLT, PCT*, MPV, PDW-sd*. Flagging of results outside user defined limits. Micro sampling capability. Auto Calibration Program. Reagent level alert. System monitoring Automated start up and shutdown Result storage: up to minimum 20,000 results. Patient data entry and specimen recognition by Keyboard. RS 232 Interface. With Printer With inbuilt auto-sampler or external specimen mixer. Consumables, Reagents, Calibrators, Controls for startup. The bidder will provide kits for 500 patients tests along with the machine free of cost at the time of installation. <p>UPS:</p> <ul style="list-style-type: none"> Branded and compatible UPS for at least 30 minutes backup. Input Voltage: 110-260v 50Hz, Output : 220v 50 Hz. <p>Note: The bidder must quote the price / test or reagents pack of 500 tests or 1000 tests price separately.</p>	B
29.	ICU Central Station for cardiac monitors	<p>Central Station Monitor for use in intensive and coronary care units.</p> <ul style="list-style-type: none"> Unit shall be capable of monitoring a minimum of 8 beds and a maximum of 32 beds. Shall provide most recent 240 hours of tabular trends and graphic trends for all parameters. Shall allow instant alarm bed viewing. Each bed monitor window shall always be displayed. The user shall be able to easily configure the display. Shall be capable of producing a shift report including graphic trends report, tabular trends. Full patient report. Provide graphical analytic tool for myocardial ischemia which can help to quickly view the ST value changes. <p><u>Shall be supplied with the following:-</u></p> <ul style="list-style-type: none"> Installation Kit including Hub Controller, cabling (according to the need of institution) Laser Printer Interface, Laser Printer (Model and Make must be mentioned) <p>Central Monitor (Model and Make must be mentioned):</p>	A

		<ul style="list-style-type: none"> • Screen size must be 32” or better. • Software from same manufacturer with all certificates <p>Branded CPU (Model and Make must be mentioned):</p> <ul style="list-style-type: none"> • Intel Core i5 or better • Processor 2.40GHz or better • 4GB RAM or better • 1TB internal Hard Disk or better • DVD R/W • With Keyboard and Mouse <p>All the parameters displayed on the monitors should also be displayed on the central station monitor and should be compatible with each other.</p> <p>Multi Parameter Patient Monitor. (Model and Make must be mentioned) (5ch ECG, SpO2, NIBP, Dual IBP, TEMP, Resp.,ETCO2)</p> <ul style="list-style-type: none"> • Display for easy Viewing 15” or better color TFT/LCD/ LED for easy set-up User selective 10 or better traces/ waveform display. • ECG, SpO2, NIBP, IBP, 2-TEMP, and Respiration • EtCO2 (Side stream type with basic accessories) • 18 or more Arrhythmias analysis should be detected and alarmed. • Multi-lead ECG algorithm • ST/QT Analysis • Pacemaker detection. • IBP cable and sensor kit • Up to 72 hours of graphic and tabular trend of all parameters. <p><u>PERFORMANCE:</u> Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better <u>Respiration</u> <ul style="list-style-type: none"> • Respiration rate: 2~150bpm or better on either side. SPO2: <ul style="list-style-type: none"> • Range: 30 ~ 100% or better on either side • Neonate and adult probe. <u>Temperature:</u> <ul style="list-style-type: none"> • Range; 0 -45C(32 - 113F) NIBP: <ul style="list-style-type: none"> • Range; 15-260 mmHg (± 10 mmHg) <u>GENERAL:</u> <ul style="list-style-type: none"> • Display: 15” or better Color TFT/ LCD/ LED or better (with all parameters display) • Alarm • Alarm: All parameters on/off selective independently • Power input 220Vac,50Hz • With Battery Backup time: Minimum 02 hours or better <u>ACCESSORIES:</u> <ul style="list-style-type: none"> • ECG 5 Lead cable. 1 • Disposable Electrodes Adult, Neonate & Paeds. 20 each • SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1 • NIBP Reusable Neonate, Paeds & Adult Cuff 1 • NIBP Hose 1 • AC power code 1 </p>	
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		<ul style="list-style-type: none"> • Ground cable 1 • Operation Manual 1 • ETCO2 (Side stream) with basic acc. 1 • IBP Cable 1 • Temperature sensor & cable 1 <p>Note: Prices of Central Station Monitor and Patient Monitor must be quoted separately.</p>	
30.	ICU Ventilator (Neonatal& Pediatric & Adult) Turbine	<p>Ventilator, electrically operated microprocessor controlled, suitable for adult / Paeds / Neonate use.</p> <ul style="list-style-type: none"> • Tidal Volume: 5 ~ 2000 ml or better on either side. • Frequency: 1 ~ 120b/min or better on either side. • I:E ratio: 1:7- 4:1 or better • Inspiratory Time: 0.2-8s or better • Inspiratory Pressure: 3-60 cmH2O or better • Support Pressure: 0-60 cmH2O or better • Pressure Trigger: -20- -0.5cmH2O, OFF • Flow Trigger: 0.5-20 L/min (neonatal 0.1-5.0L/min), OFF • PEEP: 0-30 cmH2O • FiO2: 21-100% • Patient Circuit: Autoclavable / disinfectible (adult, Paeds & Neonate) • Supplied with pole clamp. • O2 and Air input hoses • With compatible Humidifier. <p>Modes: Invasive and non-invasive ventilation which could be used inside ICU or outside ICU.</p> <ul style="list-style-type: none"> • Volume control: CMV/AC , SIMV, PRVC/APCV • Pressure Control: CMV/AC, SIMV, CPAP, PS • Adaptive ventilation mode, APRV/equivalent, Duo level (Bilevel) <p>Monitoring:</p> <ul style="list-style-type: none"> • Standard parameters • One Hour or more Built-in Battery Backup • TFT / LCD Monitor Size: 12” or more • Display Loops including Pressure-Volume, Flow-Volume, Flow Pressure, show up to 2 loops simultaneously. • Should operate on O2,Air/ or both • Alarms for Gas failure, RR, Pressure, Apnea, Volume, Low Battery • With built-in Turbine (03 Hrs or more backup UPS) • With Trolley. 	A
31.	ICU Ventilator (Neonatal& Pediatric & Adult) Compressor	<p>Ventilator, electrically operated microprocessor controlled, suitable for adult / Paeds / Neonate use.</p> <ul style="list-style-type: none"> • Tidal Volume: 5 ~ 2000 ml or better on either side. • Frequency: 1 ~ 120b/min or better on either side. • I:E ratio: 1:7- 4:1 or better • Inspiratory Time: 0.2-8s or better • Inspiratory Pressure: 3-60 cmH2O or better • Support Pressure: 0-60 cmH2O or better • Pressure Trigger: -20- -0.5cmH2O, OFF • Flow Trigger: 0.5-20 L/min (neonatal 0.1-5.0L/min), OFF • PEEP: 0-30 cmH2O • FiO2: 21-100% 	

		<ul style="list-style-type: none"> • Patient Circuit: Autoclavable / disinfectible (adult, Peads & Neonate) • Supplied with pole clamp. • O2 and Air input hoses • With compatible Humidifier. <p><u>Modes:</u> Invasive and non-invasive ventilation which could be used inside ICU or outside ICU.</p> <ul style="list-style-type: none"> • Volume control: CMV/AC , SIMV, PRVC • Pressure Control: CMV/AC, SIMV, CPAP, PS • Adaptive ventilation mode, APRV/equivalent, Duo level (Bilevel) <p><u>Monitoring:</u></p> <ul style="list-style-type: none"> • Standard parameters • One Hour or more Built-in Battery Backup • TFT / LCD Monitor Size: 12” or more • Display Loops including Pressure-Volume, Flow-Volume, Flow Pressure, show up to 2 loops simultaneously. • Should operate on O2,Air/ or both • Alarms for Gas failure, RR, Pressure, Apnea, Volume, Low Battery • With built-in Compressor (02 Hrs or more backup UPS) • With Trolley. 	
32.	Laparoscope machine	<p>High Definition Gynea and General Laparoscopy System (Progressive Scan) High definition three chip (3xCCD) /3xCMOS Camera System</p> <ul style="list-style-type: none"> • Resolution (1920x1080p) • Camera Console 220V with Universal Coupler. • Pure Digital Signal with high-definition video 3 Mega pixel or better (native resolution) • Progressive scan technology both on camera head and console • Brightness Control on Console and camera head • Digital Zoom (should have facility of digital zooming) and White Balance Control on Camera Head • Integrated Gain/Shutter / Enhancement with automatic brightness control <p>Video Output-</p> <ul style="list-style-type: none"> • DVI, HD-SDI, • Automatic light source (From same manufacturer) • 220volt, 300 watts. Xenon/LED Bulb (with one spare bulb) • Light Adjustment • Standby Mode • Universal Jaw Assembly branded <p>FIBER OPTIC CABLE</p> <ul style="list-style-type: none"> • 4.5 to 6.5mm x 240 cm or better Snap fit cable <p>MONITOR (from same manufacturer)</p> <ul style="list-style-type: none"> • Quantity: 2 • 27 inch or better medical grade LED Monitor (from same manufacturer and model must be mentioned) • High-Definition HD Resolution: 1920x1080 or better. • Brightness: 300 Cd/m2 or better. • Contrast Ratio: 2000:1 or better With • Brightness stabilization • Back light sensor. • Power saving mode & Accessories: AC power cord, Signal Cable. 	A

INSUFFLATOR

- 40 Liter of high flow, Microprocessor controlled unit.
- Soft approach pressure control for safe recovery of abdominal pressure
- Gas heating
- LCD based central display monitor.
- Audio visual warning signals
- Smoke evacuation.

Along with stainless steel Trolley (Locally export quality)

Along with compatible cautery / diathermy.

Adult Laparoscopic instruments for general surgery and Gynae

HD TELESCOPES, Fully autoclavable with working length 300 mm or better

- Wide angled distortion free view
- Universal adaptor for other light sources
- 0 degree, 10mm,
- 30 degree, 10mm,
- 0 degree, 5mm
- 30 degree , 5mm

Trocars (Long & Standard):

- 5 mm 03Nos each
- 10 mm 03Nos each

Scissor: As per working length

Grasping forceps 03 No

Grasping and dissecting forceps 02 No

L Hook electrode: 01 No

Universal Monopolar cable: 01 No

Insufflation's needle: 01 No

Suction/irrigation cannula 01 No

Clip applicator: 01 No

Needle Holder: 01 No

Uterus Manipulator 01 No

Knot Pusher: 01 No

Reducing sleeve 5mm to 10mm 02 No

Container system for instrument and telescope

Peads Laparoscopic instruments

HD TELESCOPES, Fully autoclavable with working length 300 mm or better

- Wide angled distortion free view
- Universal adaptor for other light sources
- 30 degree, 4mm,
- 0 degree, 5mm
- 30 degree , 5mm

Trocars (Long & Standard):

- 5 mm 02Nos each
- 3.5mm to 4 mm 02 Nos each
- 10 mm 01Nos each

		<p>Scissors for peads surgery (3.5-4mm)</p> <p>Grasping forceps (3.5-4mm) 03 No</p> <p>Grasping and dissecting forceps (3.5-4mm): 02 No</p> <p>L Hook electrode (3.5-4mm): 01 No</p> <p>Universal Monopolar cable: 01 No</p> <p>Insufflation's needle: 01 No</p> <p>Suction/irrigation cannula (3.5-4mm): 01 No</p> <p>Clip applicator: 01 No</p> <p>Needle Holder 01 No</p> <p>Uterus Manipulator: 01 No</p> <p>Knot Pusher: 01 No</p> <p>Reducing sleeve 5 mm to 10 mm 01 No</p> <p>Reducing sleeve 3.5 mm to 5 mm 01 No</p> <p>Container system for instrument and telescope</p> <p>Note: Prices must be quoted separately for</p> <ul style="list-style-type: none"> • Gynea and General Laparoscopy System • Adult Laparoscopic instruments for general surgery and Gynae • Peads Laparoscopic instruments 	
33.	Mobile C-Arm/ Image Intensifier (Fluoroscopy)	<p>Mobile C-Arm Image Intensifier with microprocessor controlled & High frequency, X-Ray Generator.</p> <ul style="list-style-type: none"> • Output Power : 2 KW or better • Radiography & Fluoroscopy KV : 40-110 KV or better with 0.4-80mAs or better • Technique selector switch for Fluoro & Rad. Mode Selection. • Anatomical Programmed should be provided in radiography mode. • Continuous Fluoroscopy: 5 mA or better • Boost mode mA range: 10mA • System should have ABC control. • System should have auto-Mode and Manual mode for user in fluoroscopy. • 9-inch Image Intensifier (brand model must be mentioned) N=9 inch , M1=as per OEM , M2=as per OEM • Digital CCD/CMOS/FPD Camera with 1Kx1K lines • Stationary Anode Double/single Focus x-ray tube 40 KHU or better • Focal spot 0.6, 1.8 or less / single focal spot • 2 No's medical grade TFT monitors on trolley, Size: 19 inch or better. <p>DIGITAL IMAGE MEMORY SYSTEMS</p> <p>100 images Storage Memory with last image hold, Recursive filter, Negative image & contrast enhancement. Facility Store image in Pen drive</p> <ul style="list-style-type: none"> • Cassette holder tray for radiography <p><u>C-Arm movement</u></p> <ul style="list-style-type: none"> • Orbital rotation should have 120°or better. • Rotation +180° • Horizontal travel 200mm or more • Motorized Vertical Up/Down 400 mm or more. • Wigwag + 10° or better <p>Power Requirement:</p> <ul style="list-style-type: none"> • 220VAC , 50Hz <p><u>Accessories for Protection:</u></p> <ul style="list-style-type: none"> • 3 Apron lead thickness 0.5mm • 2 Thyroid shield lead thickness 0.5mm <p>USP:</p>	A

		<ul style="list-style-type: none"> Compatible online UPS for at least 20 minutes or more backup. 	
34.	Mobile X-Ray plant 300 mA/125KV AC & Battery Operated	<p>Mobile X-ray machine battery operated, and motor driven by the battery system general purpose mobile x-ray unit for radiography.</p> <p><u>X-Ray Generator</u></p> <ul style="list-style-type: none"> KV Range: 40kv to 125 kV in 01 kV Steps. mA Range: Max. 300mA or better mAs range: 1 mAs to 300mAs or better 30KW or better Preset anatomical programs (APR) available for different parts of body. Number of exposures which can be done on fully charged battery should be greater than 80. <p><u>X-Ray Tube Unit</u></p> <ul style="list-style-type: none"> Rotating anode: Single / Double focus Focus Size: 0.7&1.3 mm or better on either side. Anode heat storage capacity : 100 KHU or better <p>X-Ray Beam Limiting Device Projector Lamp: Halogen/LED</p> <ul style="list-style-type: none"> Filtration: 1.2mm Aluminum or better. Colum adjustment facility available Collimator rotation available Independent battery system for exposure and movement Transportation mode Examination mode Big wheel for easy movement Brakes for control of movement Input voltage 100-220VAC, 50Hz Cassette Box: For Storage of at least 3 Cassettes 2 No's lead Apron thickness 0.5mm 	A
35.	Nasopharyngoscope with suction	<p>Flexible Naso-pharyngo-laryngoscope for universal application, Immersible.</p> <ul style="list-style-type: none"> Outer dia: 3.6mm or less Working length: 300mm to 400mm, Total Length: 545mm or better Deflection up/down: 130°/130° Depth of Focus: 5mm to 50 mm, Field of view: 75° -85° or better Complete with compatible light source and fiber optic cable. <p>VIDEO SYSTEM</p> <ul style="list-style-type: none"> HD Camera Head compatible with scope, image processor having capability of image storage and transfer in USB etc Medical Grade monitor having display size 21 inch or more should be mounted on trolley. Voltage source : 220 Vac 	A
36.	Operating Microscope for ophthalmology	<ul style="list-style-type: none"> Inclinable binocular tube with converging optics Paired eye pieces 10xs/12.5 xs Adjustable / continually motorized zoom. Motorized fine focusing with foot control. Objective f=175mm. LED illumination system with variable light intensity control. UV filter, cobalt blue, and green filters. Mobile floor stand with manual height adjustment through counter balanced arm. 	A

37.	Semi-Automated Chemistry Analyzer with UPS	<ul style="list-style-type: none"> • Easy keypad operation with LCD Display / touch screen. • Wavelengths range is 340-670nm ($\pm 10\text{nm}$) • Supports flow cell and cuvette mode. • Analytical models include kinetic, fixed time. Bi-chromatic end point with or without reagent blank or sample blank, linear or non-linear calibration curves. • Up to 1000 test results can be stored. • Excellent QC function, 02 controls per test. <p>Specification: -</p> <ul style="list-style-type: none"> • Absorbance Range: 0.500-3.00 Abs. • Resolution: 0.001 Abs (displayed) • Light sources: Halogen lamp. • Wavelengths: 340-670 ($\pm 10\text{nm}$) • Wavelength Accuracy: $\pm 1\text{nm}$ to $\pm 3\text{nm}$ • Band Width: $< 8\text{nm}$. • Flow Cell: Metal – quartz flow cell. • Temperature Control: 37°C, $\pm 0.1^\circ\text{C}$ and ambient • Output: Internal Printer. • Interface: Rs-232 serial cable. • Two extra Lamp. <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage : 110-260v 50Hz, Output : 220v 50 Hz. <p>The bidder will provide kits for 100 patients along with the machine free of cost at the time of installation.</p>	B
38.	Sigmoidoscope with universal lighting	<p>Features of Sigmoidoscope: Specifications and Qualifications:</p> <ul style="list-style-type: none"> • Angle of view field: 100° or more • Diameter of Distal End: $\phi 13\text{mm}$ or less • Diameter of Insertion Tube: $\phi 12.8\text{mm}$ or less • Range of Tip Bending: 180°U, 180°D, 160°R, 160°L • Depth of View: 3-100mm or more • Diameter of Instrument Channel: $\phi 3.2\text{mm}$ or more • Working Length: 750mm to 950mm or better • Working distance: 56mm or more <p>Light Source:</p> <ul style="list-style-type: none"> • Along with compatible light source (Xenon/LED) power (from the same manufacturer). • Power voltage and frequency ~ 220V/50HZ • Air pump: 0.03MPa= Pressure=0.06Mpa; <p>Video System:</p> <ul style="list-style-type: none"> • HD Camera Head compatible with scope, image processor having capability of image storage and transfer in USB etc Medical Grade monitor having display size 21 inch or more should be mounted on trolley. 	A
39.	Sinus Endoscopy set with proof puncture needles	<ul style="list-style-type: none"> • Flexible Sino scope for universal application also in pediatric, immersible • Outer Dia, 3.5mm. 	A

		<ul style="list-style-type: none"> • WL400mm or better. • Total Length 650 mm. • Dia of Flexible Section 3.6 mm. • Deflection up/down 180°/90° • Depth of Focus 3-50 mm • Field of view 95° or better. • Instrument Channel 1.1 mm Dia. • With proof puncture needles. • With compatible light source (From same manufacturer) and fiber optic cable. <p>Video System</p> <ul style="list-style-type: none"> • HD Camera Head compatible with scope, image processor having capability of image storage and transfer in USB etc Medical Grade monitor having display size 21 inch or more should be mounted on trolley. 	
40.	Slit Lamp	<ul style="list-style-type: none"> • Binocular Microscope. • Magnification Changer: 2 steps. • Total magnification range: x10 to x16 or better. • Papillary Adjustment: 50-80mm or better. • Diopter Adjustment: \pm/-5D or better • Light source: LED <p><u>Slit illumination:</u></p> <ul style="list-style-type: none"> • Slit Width: 0-10 mm or more. • Aperture Diameter: 0, 3, 6, 5, 10 mm. • Slit Length: 0-10mm. • Slit Rotation: \pm/-900. <p><u>Base movement as per manufacture design:</u></p> <ul style="list-style-type: none"> • Vertical Movement: • Longitudinal Movement • Lateral Movement • Fine Base Movement. <p><u>Chin rest:</u></p> <ul style="list-style-type: none"> • Vertical Movement • Local motorized table. 	A
41.	Transport / Portable Ventilator for Ambulance:	<p>Transport / Portable Ventilator for Ambulance:</p> <ul style="list-style-type: none"> • Unit to be used for adult and child ventilation during Cardiopulmonary resuscitation and for ventilation during transpiration, when necessary. • Display size 6 inches TFT touch screen or more • To have frequency control 1 to 100 bpm, • Tidal volume control 20-2000ml • Inhalation pressures monitor 5 to 80 cm H₂O. • Oxygen control 21 to 100%. • Ventilation Modes: V-A/C, P-A/C, V-SIMV, P-SIMV, CPAP, PSV, Apnea, NIV (Non-invasive ventilation) • PEEP facility 1 to 30 cmH₂O or better. • I:E Ratio: 4:1 - 1:10 or better <p><u>Monitoring:</u></p> <ul style="list-style-type: none"> • FiO₂, MV, MVspn, MVleak, TVi, TVe, TVe spn, Ppeak, Pplat, Pmean, PEEP, ftotal, fmand, fspn, R,C • Alarm settings: Tidal Volume, Minute Volume, Air pressure, Frequency, FiO₂, Apnea alarm time 5-60s • Patient circuit silicon Adult and paed type autoclavable. 	A

		<ul style="list-style-type: none"> • With built in battery Backup of 4 hours or more • Input Voltage: 220V, 50 Hz AC /12V DC , • Test Lung Adult/Peads. • With turbine (Built-in) 	
42.	Ultrasound machine (General purpose) within built trolley mounted	<p>Heavy duty U/S machine (inbuilt trolley mounted) with</p> <ul style="list-style-type: none"> • Imaging Mode: B,B/B,B/M,M • Gray Scale: 256 or better • Display: 15” TFT or better • Scanning Depth: From 20 To 25cm or better on either side • Pre-Processing: Signal Processing, Dynamic Range, Frame Correlation, Line Correlation, • Image Enhancement, Scanning Angle Selection, Harmonic Imaging) • Post-Processing Gray Map Y- Correction, Rejection Left-Right • Reverse, Up-Down Reverse • Hard Disk: 500 GB or better • Cine Loop: 256 Frame or better Cine loop Memory In • B/B, M and B/M Mode. • Zoom: Pan Zoom in Real-Time & Frozen Condition • Measurement & Calculation: • B-Mode: Distance, Circumference, Area, Volume, Angle, Ratio. • Built-In Imaging Archive“ Storage : Over 100,000 still Images” Histogram, Profile, • M-Mode, Distance, Time, Velocity, Heart Rate (2 Cycles) • Software Packages. • Abdomen, Urology, Gynecology, Obstetrics, Cardiology, Vascular, Small Parts, Orthopedics. • Power Supply: 220 VAC, 50Hz • Standard Configurations: <p>Main Unit</p> <ul style="list-style-type: none"> • 3 active Probe Connector. • Tissue Harmonic Imaging. • 256-Frame Cine Loop In B, B/B,M& B/M Mood • USB Ports minimum 2 and CD-RW. • Measurement and Calculation Software Packages • Electronic Convex Array Transducer. (Model must be mentioned).2.5/3.5/5.0 MHz. • Electronic Linear Array Transducer: (Model must be mentioned) 5.0/7.5/10 MHz. • Thermal Printer (Branded, model and make must be mentioned) • 50 Roles Thermal Paper. • With built in/external UPS system for minimum 1 hour backup. • Ultrasound Gel 20Ltr • With built in mounted trolley. • Note: TVS probe price should quoted separately (optional) 	A
43.	X-Ray Plant 300mA in built or external AVR and UPS	<p><u>FREQUENCY X-RAY MACHINE 300 MA (RADIOGRAPHY ONLY) with Inbuilt or external AVR and UPS, in case of external AVR the model /brand /make of the main x ray unit and each quoted component must be mentioned.</u></p> <ul style="list-style-type: none"> • The AVR must be able to control the voltage between 100VAC to 260VAC, to provide constant output voltage of 220VAC 50Hz. 	A

- In case of external AVR and UPS system the AVR/UPS system shall be compatible with the x ray unit for minimum of 70 to 100 exposes on different KV and mA. (Compatibility certificate from the supplier must be provided).
- AVR and UPS maximum power, brand model must be mentioned.
- With over and under current, voltage and heat protection.

X-RAY unit Comprising of following: -

- High Frequency X-Ray Generator 300 mA /125 KV / 25 KW or better.
- With inbuilt /external AVR and UPS system minimum 70 to 100 exposures or better.
- 4 Way Floating top Bucky table Floor to ceiling or free-standing Tube stand.

X-ray tube head with;

- Focal spot Size 0.6 x 1.2 mm or better on either side
- 140KHU or more.
- Manual Collimator.
- Pair of H.T cable
- Bucky wall stand.

X-RAY GENERATOR RAD TYPE, 01 TUBE SYSTEM

- Microprocessor controlled High frequency.
- Power: 25 kW or better.
- kV Range: 40 - 125kV
- mA Range: 10 -300mA
- Minimum exposure time: 1 milli second
- Exposure time range: 1 ms – 4 sec or more
- mAs Range: 02 - 300 mAs or more
- Anatomical Programming: 40 or more.
- Digital display of parameters.
- Hand Switch for Radiography.

With control console.

- Pedestal for control console.
- Automatic main line compensation.
- Input voltage: 220VAC, 50Hz.

ROTATING ANODE, DOUBLE FOCUS X-RAY TUBE(model must be mentioned)

- Small Focus: 0.6 x 0.6 mm or better.
- Large Focus: 1.2 x 1.2 mm or better.
- Tube voltage: 125kV.
- Anode heat storage capacity: 140 KHU or more.

FOUR WAY FLOATING TOP BUCKY TABLE (model must be mentioned)

- Four-way floating top.
- Oscillating Grid.
- Cassette Tray to accommodate cassettes up to 14x17inch.
- Electromagnetic Brakes.
- Grid ratio 8:1

COLUMNSTAND WITH MANUALCOLLIMATOR(model must be mentioned)

- Column stands with electromagnetic brakes for movement control.
- Manual Collimator

		<ul style="list-style-type: none"> • Colum stand console with handle having facility of tube rotation(vertical axis),Vertical movement and horizontal movement. <p><u>HIGH TENSION CABLES:-</u></p> <ul style="list-style-type: none"> • Pair of High-Tension Cables, each 12 m or more long <p><u>WALL BUCKY STAND(model must be mentioned)</u></p> <ul style="list-style-type: none"> • Vertical Travel, up and down with balancing system & Electromagnetic Brakes • Oscillating Grid • Cassette Tray to accommodate cassettes up to 14x17 inch. • Grid ratio 8:1. 	
44.	X-Ray Plant 500mA with inbuilt or external AVR and UPS.	<p><u>HIGH FREQUENCY X-RAY MACHINE 500 MA (RADIOGRAPHY ONLY) with Inbuilt or external AVR and UPS,</u> in case of external AVR the model /brand /make of the main x ray unit and each quoted component must be mentioned.</p> <ul style="list-style-type: none"> • The AVR must be able to control the voltage between 100V to 260V & to provide constant output voltage of 220V,50Hz. • In case of external AVR and ups system the AVR/UPS system shall be compatible with the x ray unit for minimum of 70 to 100 exposes on different KV and mA. (Compatibility certificate from the supplier must be provided). • AVR and UPS maximum power, brand and model must be mentioned. • With over and under current, voltage and heat protection <p><u>X-RAY unit Comprising of following: -</u></p> <ul style="list-style-type: none"> • High Frequency X-Ray Generator 500mA /125 KV / 32 KW or better. • With inbuilt /external AVR and UPS system minimum 70 to 100 exposures or better. • 4 Way Floating top Bucky table Floor to ceiling or free-standing Tube stand. <p>X-ray tube head with;</p> <ul style="list-style-type: none"> • Focal spot Size 0.6 x 1.2 mm or better on either side • 300 KHU or more. • Manual Collimator. • Pair of H.T cable • Bucky wall stand. <p><u>X-RAY GENERATOR RAD TYPE, 01 TUBE SYSTEM</u></p> <ul style="list-style-type: none"> • Microprocessor controlled High frequency. • Power: 32 kW or better. • kV Range: 40 - 150kV • mA Range: 10 -500mA • Minimum exposure time: 1 milli second or less • Exposure time range: 1ms – 8.0 sec or more • mAs Range: 02 - 500mAs or more • Anatomical Programming: 100 or more. • Digital display of parameters. • Hand Switch for Radiography. • With control console. • Pedestal/wall mounted control console. • Automatic main line compensation. • Input voltage: 220V, 50Hz. <p><u>ROTATING ANODE, DOUBLE FOCUS X-RAY TUBE (model must be mentioned)</u></p>	A

		<ul style="list-style-type: none"> • Small Focus: 0.6 x 0.6 mm or Less. • Large Focus: 1.2 x 1.2 mm or Less. • Tube voltage: 150kV. • Anode heat storage capacity: 300 KHU or more. <p><u>FOUR WAY FLOATING TOP BUCKY TABLE (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Four-way floating top. • Oscillating Grid Ratio 8:1 • Cassette Tray to accommodate cassettes up to 14x17inch. • Electromagnetic Brakes. • Grid ratio 8:1 <p><u>COLUMNSTAND WITH MANUAL COLLIMATOR (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Column stands with electromagnetic brakes for movement control. • Manual Collimator <p><u>HIGH TENSION CABLES: -</u></p> <ul style="list-style-type: none"> • Pair of High-Tension Cables, each 12 m or more long <p><u>WALL BUCKY STAND (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Vertical Travel, up and down with balancing system & Electromagnetic Brakes • Oscillating Grid Ratio 8:1 • Cassette Tray to accommodate cassettes up to 14x17 inch 	
45.	X Ray Plant 500mA (3-Phase)	<p>HIGH FREQUENCY X-RAY MACHINE 500 MA (RADIOGRAPHY ONLY)</p> <ul style="list-style-type: none"> • Input power: 3φ, 380 - 440v, 50 Hz, <p>X-RAY unit Comprising of following.</p> <ul style="list-style-type: none"> • High Frequency X-Ray Generator 500mA /150 KV / 50 KW or better. • 4 Way Floating top Bucky table Floor to ceiling or free-standing Tube stand. <p><u>X-ray tube head with;</u></p> <ul style="list-style-type: none"> • Focal spot Size 0.6 x 1.2 mm or better on either side • 300 KHU or more. • Manual Collimator. • Pair of H.T cable • Bucky wall stand. <p><u>X-RAY GENERATOR RAD TYPE, 01 TUBE SYSTEM</u></p> <ul style="list-style-type: none"> • Microprocessor controlled High frequency. • Power: 40 kW or better. • kV Range: 40 - 150kV • mA Range: 10 -500mA • Minimum exposure time: 1 milli second or less • Exposure time range: 1ms – 8.0 sec or more • mAs Range: 02 - 500mAs or more • Anatomical Programming: 100 or more. • Digital display of parameters. • Hand Switch for Radiography. • With control console. • Pedestal/wall mounted control console. • Automatic main line compensation. <p><u>ROTATING ANODE, DOUBLE FOCUS XRAY TUBE (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Small Focus: 0.6 x 0.6 mm or Less. • Large Focus: 1.2 x 1.2 mm or Less. 	A

		<ul style="list-style-type: none"> • Tube voltage: 150kV. • Anode heat storage capacity: 300 KHU or more. <p><u>FOUR WAY FLOATING TOP BUCKY TABLE (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Four-way floating top. • Oscillating Grid Ratio 8:1 or better • Cassette Tray to accommodate cassettes up to 14x17inch. • Electromagnetic Brakes. • Grid ratio 8:1 or better <p><u>COLUMNSTAND WITH MANUALCOLLIMATOR (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Column stands with electromagnetic brakes for movement control. • Manual Collimator <p><u>HIGH TENSION CABLES:</u></p> <ul style="list-style-type: none"> • Pair of High-Tension Cables, each 12 m or more long <p><u>WALL BUCKY STAND (model must be mentioned)</u></p> <ul style="list-style-type: none"> • Vertical Travel, up and down with balancing system & Electromagnetic Brakes • Oscillating Grid Ratio 8:1 or better • Cassette Tray to accommodate cassettes up to 14x17 inch 	
46.	Yag Laser	<ul style="list-style-type: none"> • Laser Wave Length: 1064nm • Mode: Super Gaussion/Q switch • Optical Break Down: 2.5mJ or better in air • Pulse Duration: <4.5ns • Maximum Laser Energy: Single Pulse, 10mJ Double Pulse, 23mJ Triple Pulse, 32mJ or more • Energy Levels: 20 Steps or more • Frequency: Max 2Hz • Focus Diameter: 10um • Angle of exit aperture: 15° to 18° • Aiming Beam: 630nm – 680nm • Focus Shift Variable: +150um, 0, -150 um. • Input Voltage: 220V, 50Hz • Magnification: 5,8,12,20,32x through Galilean changer with 10x eyepiece and tube= 130mm or more • Tube: Parallel Tube f=130 or more with 50-78mm PD adjustment with convergent tube • Eye Pieces: 10X high eyepoint eyepieces with +/- 8D • Slit Adjustment: Width 0-14mm or more. • Isolation Transformer: Machine should have isolation transformer for safe handling. • Stand: Motorized, Local made <p>Along with following lenses:</p> <ol style="list-style-type: none"> 1. Capsulotomy Lens (Compatible with Machine) 2. Irredectomy Lens (Compatible with Machine) 3. Gonio Lens (Compatible with Machine) 	A
47.	CT Scan Machine 128 Slice	<p>GANTRY</p> <ul style="list-style-type: none"> • System should be capable of Acquiring 128 slices or more per gantry rotation in real time. 	A

- Gantry bore / aperture to be at least **70cm or more.**
- Minimum gantry rotation time to be at least 0.35 seconds or better, for 64 slices or more per 360° rotation, for all applications.
- **All the firms should quote their latest model scanner (Acquiring 128 slices or more)** with shortest rotation time
Breath holding time 5 beats or less in cardiac scan.
- Gantry tilt (mechanical / Digital) as per Manufacturer.
- Maximum scan field of view to be at least 50 cm.
- For Pediatrics & small organs the system should be able to reduce the field of view to 50-500 mm.
- Minimum slice thickness 0.625 mm or better in Helical mode.

TUBE

- **Anode heat storage capacity of at least 7 MHU or better.**
- **Generator output of up to 550mA or more.**
- Active collimation during scanning.

GENERATOR

- **High frequency power generator with minimum power of at least 70 KW or more** should be capable of variable kV setting in steps from 80kVp to 140 KVP.
- Should have ability to vary the power (mAs) automatically in steps Real-time dose reduction hardware / software and with ECG modulation.
- Iterative dose reduction must be offered.
- Low contrast detectability (LCD) calculated on a CATPHAN 20 cm, of 5mm resolution with a CT No. of 3 HU (0.3 %) or better, contrast difference.
- Maximum Scan Time 120sec or better.

DETECTORS

- **Minimum 64 Detectors or more and detector electronics capable of providing 128 slices or more per gantry rotation in real time.**
- Detectors conversion efficiency (X-ray to signal strength) of atleast 98% latest technology.
- Isotropic voxel size of 0.38mm or better, in all three axis.
- **Detector width 38mm or more.**

COUCH

- Maximum weight allowed on the couch 200 kg or more
- Horizontal movement speed up to 100 mm per second or better.
- Scan Length of at least 1.65meters or more of helical or axial scan in a single acquisition.
- Scan with at least 0.25 mm accuracy / reproducibility on a 200 kg patient.

CONSOLE COMPUTER

- System architecture and operating system must be based on latest technology.
- (64bit RISC or Dual Xenon Processor PC original).
- Multitasking and parallel processing CPU system.

- SYSTEM specifications must be manufacturer's latest and maximum capacity as per the datasheet.
- Capable of storing at least 3000 raw data files / rotations or 700 GB raw data 300000 or more images in 512 x 512 format.
- Reconstruction of at least 30 images frames per seconds or better at 512 x 512 matrix. Image area display matrix dimensions (1024 x 1024).
- **Console color monitor (x 02), LCD of at least 19 inches or more, medical grade with maximum viewing angle.**
- **DVD and CD writer/USB HUB**

CONSOLE SOFTWARE:

- a. All the latest whole body including vascular software should be supplied as standard which is available at the time of shipment original with their part No of company.
- b. Adaptive signal boost software to minimize streak artifact reduction and obese patients.
- c. User Interface Software, True isotropic volume acquisition
- d. Prospective and retrospective ECG gated acquisition
- e. Row data based cardiac scanning overcoming heart motion and scanning as if the heart is not moving.
- f. Variable Delay algorithm like fixed percent delay (FPD) and fixed offset delay (FOD) or
- g.(Optional)Better, for selection of period of least motion in cardiac cycle (Temporal resolution of 44 millisecond or less will be preferred).or equivalent.
- h. Automated contrast media bolus tracking software.
- i. 3D Reconstruction Display Original Company Software.
- j. Maximum and minimum intensity projections
- k. Multi-planar and curved planer reconstruction
- l. 3D shaded surface display
- m. 3D volume rendering software
- n. 3D virtual endoscopy, colonoscopy, bronchoscopy etc with lumen / fillet view/ electronic cleansing / auto segmentation of the colon on console/workstation/both)
- o. 3D cone beam correction.
- p. Post-processing software for rib-labeling or equivalent to analyze associated rib pathology
- q. Dual Energy CT for following functions; Composition analysis for renal, virtual non contrast/ contrast boost or similar.
- r. CT continuous Fluoroscopy with frame rate of 10-12fps or equivalent.

CT Angiography (optional but mandatory to be quoted)

- a. Basic Comprehensive Brain perfusion analysis (on console or workstation or both)
- b. Image reconstruction Automatic real time dose adjustment according to the body attenuation i.e. core 4D dose/longitudinal dock workstation/ 40 boost/ sure exposure 3D/ organ specific dose modulation or similar
- c. Artifact reduction algorithm.
- d. Automatic control of tube current over high and low attenuation areas for patient dose reduction software for low dose to patient original / certified.

- e. Iterative Dose Reduction with manufacturer specific latest software and dedicated hardware.
- f. Bone removal software.
- g. Spine labeling software should be included.
- h. Dental CT.
- i. DSA on Console & workstation with manufacturer's dedicated software

WORK-STATION-

- Minimum x 01 Qty standalone workstation with original softwares from OEM with permanent licence.
- Independent, automatic multimodality, fully functional.
- All companies will supply the Work-stations by the same manufacturer of the CT to ensure similar work flow.
- High speed link to operator console on DICOM network System architecture and operating system
 - a. Quad Core processor Xeon
 - b. 2.66 GHz or more speed
 - c. 512kb cache or more
 - d. Graphic card and network card.
- Original Licensed software: Latest window XP/7/8/10 or Linux, MS Office 2013, Norton equivalent antivirus (current and upgradeable for at least for the time of warranty).
- Should have at least one high resolution LCD monitor (medical grade as recommended by the manufacturer) of 21 inch or more.
- DVD RW (super-drive will be preferred).
- DICOM-3 viewer with universal PC display capability (licensed)

WORKSTATION SOFTWARE:

- (original with certificate) with thin client server solution.
- Software upgradation of all existing applications for at least next 05 years will be provided free of cost.

WORKSTATION SOFTWARE (Cardiac package and all software on workstation)

- -Latest Cardiovascular and whole-body software versions will be provided by the vendors including reporting packages.
- Following software should be provided for on workstation.
 - 3D reconstruction display
 - Maximum and minimum intensity projections
 - Multi-planar and curved planar reconstruction
 - 3D Shaded Surface Display
 - 3D Volume Rendering software
 - 3D Virtual Endoscopy, colonoscopy, bronchoscopy.
 - Advanced coronary vessel analysis
 - Calcium scoring with ECG gating and prospective & retrospective reconstruction.
- - Advanced Complete Cardiac package including functional analysis with automatic bone removal software.
- Cardiac segmentation with complete cage removal.
- Orthogonal Cross Reference View / Globe view (2D and 3D maps overlying on Cardiac anatomy).
- Angiography Emulation View / IVUS view for Vessel lumen inspection.
- Complete coronary tree extraction and analysis.

		<ul style="list-style-type: none"> • Ventricular function assessment (ESV, EDV, CO, EF). • LV Function assessment. • Calcium scoring – giving mass, agatston and volume score. • CT Angiography with dedicated Cardiac CT Angiography. • Bone removal and vessel segmentation. • Tools for general vascular analysis capable to calculate Intra-luminal diameter, cross-sectional lumen area, length and tortuosity of vessel's segments, angle the vessels / rotatable curved MPR. • Ability to outline and calculate aneurysm, identify mural calcification and lining mural thrombus • Calculations of dimensions of an aneurysm, the neck of the aneurysm, relationship to surrounding vascular structure, and total distance in order to non- invasively plan stent placement. <ul style="list-style-type: none"> • Dedicated software for Liver Imaging. • Automated Brain Perfusion. • Providing functional information over the functionally significant are of the brain for stroke evaluation. • Allows differentiating areas of increased blood volume and decreased blood flow and ability to distinguish still viable and non-viable infarcted tissue. • Quantitative colour maps of cerebral blood flow (CBF), cerebral blood volume (CBV), mean transit time (MTT) and time to peak (TTP) allowing to decide between areas of for the brain that may benefit from reperfusion. • Automated mirroline / centerline and selection of arterial and venous regions of interest. • Allowing perfusion of other body organs liver and kidney etc. <ul style="list-style-type: none"> • - Advanced peripheral/general vessel analysis. • - CT Lung density Assessment • Track and quantify diffuse lung disease including congenital lobar emphysema, destructive lung disease, pulmonary hypoplasia/agenesis, CCAM and laryngomalacia etc. • ▪ Nodule analysis program. • Automated / single click segmentation of Right and left lung with display of volume rendered and MPR view to destruction for accurate quantification and reporting with picture print. • Allows pre surgical planning through lungs field areas and lungs field volumes • DICOM • DICOM 3 ready (multi-vendor and multimodality compatible for send, receive, achieve, retrieve and print, on main console and workstations). <p>POWER REQUIREMENT</p> <ul style="list-style-type: none"> • Three-phase with line voltage of 220 V, 50 Hz. <p>ACCESSORIES:</p> <ul style="list-style-type: none"> • Programmable, single head power injector with flow/volume and temperature control. • (Qty x 01), mounted on mobile base, with 500 syringes of 150 ml capacity and connecting tubes. • DICOM 3 ready dry laser printer, multi-size up to 14 x17 in for printing on films. 	
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		<ul style="list-style-type: none"> • Compatible On-line sine wave UPS for whole CT suite, with a minimum back-up time of 30 minute on full load. • Complete electricity works from power station to CT room including earthing, power racks, breakers, DB etc. <p>PROTECTION DEVICES:</p> <ul style="list-style-type: none"> f) Lead aprons with hangers. (Qty x 02) g) Lead-gloves (Qty x 02) h) Lead goggles (Qty x 02) i) Thyroid Shields all 0.5 mm lead equivalent European & Japanese. j) Lead glass for control room 5 x 3 feet, 0.5 mm Pb equivalent. <ul style="list-style-type: none"> • - Standard set of Phantoms for calibration of CT • - Pediatric scanning package. • - Dedicated Cardiac Monitor for synchronize with cardiac scan. • - Pulse oxy-meter. <p>TABLE ACCESSORIES –</p> <ul style="list-style-type: none"> • Table pads, arms rest, patient restraint kit, infant cradle, flat head holder, • (original accessories from the manufacturer) • Digital Transcription system for reporting • 7 % of the post warranty will be mandatory. • Compatible UPS, Transformer, Power Cables prices to be included in machine price. <p><u>Separate Cost: (Optional where required but shall be quoted):</u></p> <ul style="list-style-type: none"> • per square feet cost for Site renovation, civil work (Grey Structure) and lead lining cost shall be quoted, • Electrification, cooling requirement, and cable requirement etc shall be quoted. • Note: Workstation price to be quoted as optional if additional workstation to be purchased by procuring entity. • The applied firm shall have minimum of three installations of the quoted model/ manufacturer in public sector. 	
48.	Mammography System	<p>1. BASIC UNIT:</p> <ul style="list-style-type: none"> • Swivel arm system consisting of X-ray tube unit, compression device and object table with integrated detector • Motorized, iso centric rotation of the swivel arm with preset rotation angle (Single Touch) • The motorized, height-adjustable object table must adjust from examination stand as well as via the foot switch • Motorized and manual compression with pre-selectable compression force • Digital display of compression force and compression thickness • Automatic collimation to the required radiation field size according to the compression plate selected • Integrated positioning/collimator light • Function for optimizing compression force • Pre-programmable exposure parameters for optimized patient dose and AEC (Automatic Exposure Control) • Source-image distance: 65 cm or more • Swivel range (motorized): + 180° to – 135° or more • Height adjustment (motorized): 70 cm to 140 cm or better 	A

		<ul style="list-style-type: none"> • Grid Ratio: 5:1, 31 lines/cm • Magnification factors: 1.5 / 1.8, geometric 	
		<p>2. X-Ray Generator:</p> <ul style="list-style-type: none"> • System with integrated, microprocessor-controlled, high-frequency generator • Power output: 5 kW or better • kV Range: 23 kV to 49 kV or better (adjustable in 1 kV increment) • mAS Range: 5 mAS to 500 mAs or better • Exposure times: 3 sec or less in Large focus & 5 sec or less in small focus • Exposure Modes: Automatic or Manual <p>3. X-Ray Tube:</p> <ul style="list-style-type: none"> • Mammography X-ray tube unit with dual-focus rotating-anode tube (Molybdenum/Tungsten/Rhodium) • Mammography X-ray tube unit with rotating anode • Focal spot: 0.1 / 0.3 or better • Anode Heat Storage Capacity: 300 kHU or more • Anode speed: As per OEM • Nominal Voltage: As per OEM • Optical Anode Angle: As per OEM <p>4. Flat Panel Detector:</p> <ul style="list-style-type: none"> • An integrated direct-to-digital Flat Detector mandatory • Latest detector technology with Amorphous Selenium (aSe)/CSi or equally advanced material • Detector size: 24 cm x 29 cm (+-2cm) • Pixel size: 100 µm or less • Image matrix: 2k x 3k or better. <p>5. Acquisition WorkStation (Should be from same OEM):</p> <ul style="list-style-type: none"> • CPU: Intel/AMD Multicore central processing unit or equivalent and should be from original manufacturer workstation. • RAM: 16 GB or more • Hard Disk: 1 TB or more for image data • TFT color display Screen size: 19" or better • TFT color display Screen size: 3 MP 21" or better (Optional) <p>6. Image Acquisition/Display/Processing:</p> <ul style="list-style-type: none"> • Patient directory • Digital radiography: Digital technique with 2816 x 3584/14-bit matrix or better • Image processing: Application-oriented (lookup tables) for contrast/brightness, Edge enhancement, Dynamic range control, Noise reduction, Detection of breast border, Electronic shuttering • Text/graphic functions: Image orientation label, Image annotation and comment, Length and angle measurement, Interactive zoom and pan, Gray-scale inversion, Split screen function <p>7. Data Transfer and Documentation:</p>	

		<ul style="list-style-type: none"> • DICOM interface for image data communication based on the DICOM 3 standard: DICOM Storage (Send/Receive), DICOM Query/Retrieve, DICOM Storage Commitment, DICOM Print, DICOM HIS/RIS. • DVD / CD burner writing of images in DICOM format to DVD/CD <p>8. Stereotactic Biopsy Unit: optional price should be quoted</p> <ul style="list-style-type: none"> • The biopsy unit should be automatic stereotactic biopsy • The biopsy unit should comprise of a hand box for controlling the needle positioning device, a standard needle holder, a face shield to protect the patient from swivel arm movements, and calibration accessories. • The biopsy unit should simply slide onto the object table and must be automatically detected by the machine for biopsies from any projection. • Workflow should be automated with remote tube movements of the stereo pair acquisition controlled from the AWS, and automatic needle positioning • Stereotactic biopsy shall be performed on seated and recumbent patients • Biopsy volume (vertical needle guidance), Biopsy volume (lateral needle guidance) • Should have three axis (x, y & z) in both vertical and lateral approach • Biopsy compression plates with and w/o window for vertical and lateral needle guidance • Swivel range of X-ray unit during stereotactic exposure: + 15° and – 15° or better • Biopsy unit Weight: As per OEM or less <p>9. 3D TOMOSYNTHESIS: (Optional price should be quoted)</p> <ul style="list-style-type: none"> • 3D volumes of the breast shall be displayed in individual slices • Number of exposures during tomosynthesis should not exceed 25 during a scan from various angles • Optimum depth resolution shall be achieved with large angle range and short exposure time • conventional and tomosynthesis exposures shall be possible during the same examination • Tube angulation: $\pm 15^\circ$ or better • Scan time: 25 seconds or less • Number of projections: As per OEM or better • Pixel size tomosynthesis: 100 μm or less • Distance between reconstructed slices: 1 mm or better. • Display on AWS: Projections: Reconstructed slices, Cine mode, Dose / projection, Dose / scan. <p>10. Standard Accessories with Mammography system (Sizes will be as per OEM)</p>	
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		<ul style="list-style-type: none"> • Standard compression plates 18cm × 24 cm, 24cm × 30 cm • Flexible compression plates: 18cm × 24 cm, 24cm × 30 cm • Mag Spot compression plate: 9 cm x 9 cm • Wall Holder: Compression Plates • Compression foot/paddle • Two magnifying glass / hand mirrors for viewing • Laser Printer: capable of printing 10×12 and 14×17 Films • X-Ray shield from original manufacturer integrated with acquisition console for protection • Illuminators for viewing mammograms • Memo pads 80 Nos. • Mammography chair <p>Note: All civil work required cable, X-Ray protection, compatible UPS should be supplied/carried out by the bidder.</p>																													
49.	Phacoemulsification Machine Irrigation:	<p>Gravity fed fluid delivery; eye pressure determined by height of irrigation source.</p> <ul style="list-style-type: none"> • Solenoid valving element. <p>Suction:</p> <ul style="list-style-type: none"> • Peristaltic aspiration pump with reusable tubing sets. • 5 to 500 mg Hg vacuum range or better • Flow rate from 2 to 50 cc/min or more. • 25 levels of rise time in U/S mode from 0.5 to 12 seconds or better. <p>Phacoemulsification:</p> <ul style="list-style-type: none"> • Piezoelectric crystal handpiece with approx. 40 kHz or better • Panel or linear control of U / S power with system footswitch. • Single burst, multiple burst & continuous burst modes. • Phaco handpiece light weight • Capability of wide range of phaco tips & sleeves. <p>Vitrectomy:</p> <ul style="list-style-type: none"> • Adjustable cutting speed from 60 to 700 cuts per minute or more. • Single mode cut available. • Vitrectomy guillotine cutter. <p>Diathermy:</p> <ul style="list-style-type: none"> • Adjustable bipolar power from 5 to 100%. • Linear control with system footswitch. <p>Consisting of:</p> <table> <tr> <td>Phaco console.</td> <td>01</td> </tr> <tr> <td>20Ga Phaco tip, 30o</td> <td>04</td> </tr> <tr> <td>Silicone sleeve 20G</td> <td>05</td> </tr> <tr> <td>Phaco tip wrench</td> <td>02</td> </tr> <tr> <td>Re-useable I/A tubing set</td> <td>02</td> </tr> <tr> <td>Test chamber</td> <td>05</td> </tr> <tr> <td>Disposable drainage bag</td> <td>10</td> </tr> <tr> <td>Diathermy bipolar cable</td> <td>01</td> </tr> <tr> <td>Diathermy forceps</td> <td>01</td> </tr> <tr> <td>Sterilization tray</td> <td>02</td> </tr> <tr> <td>Double linear footswitch</td> <td>01</td> </tr> <tr> <td>Re-useable phaco handpiece</td> <td>01</td> </tr> <tr> <td>Anterior Vitrectomy Cutters</td> <td></td> </tr> <tr> <td>Pneumatically powered guillotine cutter re-usable</td> <td>01</td> </tr> </table>	Phaco console.	01	20Ga Phaco tip, 30o	04	Silicone sleeve 20G	05	Phaco tip wrench	02	Re-useable I/A tubing set	02	Test chamber	05	Disposable drainage bag	10	Diathermy bipolar cable	01	Diathermy forceps	01	Sterilization tray	02	Double linear footswitch	01	Re-useable phaco handpiece	01	Anterior Vitrectomy Cutters		Pneumatically powered guillotine cutter re-usable	01	A
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50.	24 Hour BP Monitoring machine	<ul style="list-style-type: none"> The system should have. <ol style="list-style-type: none"> Solid State light weight 1 No's Digital Recorders Two Cuffs Artifact subtraction/Noise reduction With USB port / Flash card port/Internal storage Analyzer with Auto analysis Facility. Complete with software. Compatible with PC to get analysis on printer. <p><u>Branded CPU and Monitor (Model and Make must be mentioned):</u></p> <ul style="list-style-type: none"> Intel Core i5 or better, Processor 3.20GHz With Compatible graphics card 4GB RAM 1TB internal Hard Disk DVD R/W With Keyboard and Mouse LCD Monitor Size: 17 Inch or more <p>Price to be quoted separately for system and device supplied.</p>	A
51.	Vessel Sealing System	<ul style="list-style-type: none"> Advance Bipolar seal and cut technology can be used in general surgery, Gyne, urology and thoracic surgery. Uniform tissue compression distal to proximal for better sealing Tip first closer for retain tissues within the jaws for improved compression. 80 Degree articulating jaw to allow simplified navigation in challenging anatomy. Including items:- <ul style="list-style-type: none"> Generator 5mm Instrument with for Laparoscopy qty 2 5mm Maryland instrument without articulating jaw for Laparoscopy qty 2 5mm instrument for open surgery qty 2 Foot switch Power cord Imported Trolley with wire basket 	A
52.	Dialysis Machine	<ul style="list-style-type: none"> Color TFT Monitor 10 inches or above. Computerized programmable with graphic screen Electronic control of flow rate and blood flow. Both Bicarbonate and Acetate mode of dialysis application Automatic control for various set bicarbonate proportions. Variable Sodium control concentration system. With Sodium and Ultra filtration Profiles With bicarbonate Profiles Variable's temperature control Programmable Ultra filtration control system. Ultra-filtration with diffusion With Ultra filtration rate control – fully adjustable / controllable and visible on the screen Balance Ultra filtration control system. Anticoagulant Management System with bolus option intact program system. Automatic priming system with full display system Automatic clean and rinsing mechanism. Display for services diagnostic and rinsing mechanism. 	B

		<ul style="list-style-type: none"> • With automatic thermal disinfection mechanism (up to or 80°C or above) • Blood pump with variable blood flow rate which should be highlighted on the machine. • Heparin pump with automatic start, stop bolus with flow rate 0 to 10cc per hour or better on upper side. • Variable flow rate (300-700ml per min or better on either side) • With adjustable temperature control system, up to 39°C • With venous pressure monitor -50 to 400mm Hg or better on either side. • With Arterial pressure monitoring • With Air bubble detector and Alarm system. • Blood leak Detector. • With conductivity control system-both for Acetate and bicarbonate solution • Blood pump capability for both adult and paed. • Real time graphical / display for dialysis treatment /Does delivery (KT/V) • TMP Monitoring • Real time show dialysate pressure. • Real time show dialysate temperature. • Real time show dialysate flow. • With Endotoxin Filter should have auto ON OFF facility. • With battery backup service : 30 minutes or better • With inbuilt integrated BPM system • Storage of up to ten patient records • Disinfection history. • Input power 220VAC, 50Hz. <p>Compatible RO plant with storage tank (Rust-free) (locally assembled with imported parts) to run 4 machines at a time, model, make should be mentioned price should be quoted separately.</p>	
53.	Temperature Controlled Bath Tub	<p>Bathtub to be manufactured of stainless steel</p> <ul style="list-style-type: none"> • Key hole shaped bathtub for more working space around the upper body. • Electric height adjustable to enable ergonomic working methods for the caregiver. <ul style="list-style-type: none"> • Water capacity should be 200L or more. • Bathtub must include thermostatic mixing valve set at max 43 degrees. • Bath must be designed to work with a mobile patient lift system to safely manage the entire bathing cycle. • Control panel to be manufactured in fiber glass or stainless steel. • Control panel with electronic control functions operated by push buttons or touchpad. • Digital LED thermometer for display of shower and bathtub filling water. • Bathtub must include adjustable foot support and include patient head pillow. • Bathtub must include a patient shower with hose and shower handle. • CLEANING system: <ul style="list-style-type: none"> • Integrated disinfection cleaning system. • Disinfectant storage & Key-locked. 	B

		<ul style="list-style-type: none"> • WHIRLPOOL system: • Push button controlled whirlpool on/off. • Single whirlpool outlet that can be quickly fully cleaned and disinfected. • Water and air adjustment easily adjusted via the air flow control knob. • Single suction grid. • AUTOFILL system: • Autofill + with dual preset fill levels to choose from. • Push button controlled auto fill on/off. • Lighted display to show activated panel options. • Dimension and load specifications: • Operating Height Range (bathtub): As per manufacturer • Length (bathtub): As per manufacturer • Length (inside bathtub) As per manufacturer • Width (bathtub): As per manufacturer • Weight Limit (patient): As per manufacturer 	
54.	Dehumidifier	<p>Dehumidifying capacity (at 30°C and 80% RH) : 24 L per Day or better</p> <ul style="list-style-type: none"> • Water Tank Capacity: 5 Liters • Refrigerant: R290 • Effectively removes moisture, dust from the air • Humidity levels are automatically adjusted • Designed with system Auto shut-off / auto restart • 24-hour timer to set the time of operation • Electronic control Panel • Performs Continuous drainage or 5 L water tank • Supply Voltage: AC 220 V to 240 / 50 Hz B 	B
55.	Air Drill with Cylinder/Orthopedic pneumatic drill with cylinders.	<ul style="list-style-type: none"> • Modular Hand Piece • Pneumatic hand piece with forward, safe and reverse activated on hand piece. Speed and torque variable with different attachment gear system. Twist Lock quick change attachment • Progressive Trigger Action • Cannulations 4 to 5mm • Chuck with Key • Attachment ¼ Jacobs Chuck Size ¼ (4 to 6.35mm) • Fully Cannulated to 4 to 5.1mm • Maximum Speed 900 to 1250 rpm or better • Attachment 4.00 mm Jacob Chuck Size 5/32 (4.0mm) • Fully Cannulated • Quick Coupling Chuck • AO Small attachment Stainless Steel • Cannulations 2 to 3.5mm • AO Large attachment Stainless Steel • Cannulations 2 to 3.5mm • Hudson Reaming Adaptor • 5:1 Hudson Reamer Attachment Stainless Steel • 4.0 mm or better Cannulations • 5:1 Large AO Reamer Attachment Stainless Steel • 4.0 mm or better Cannulations • 5:1 Reamer attachment <p>Wire Driver</p>	B

		<ul style="list-style-type: none"> • Wire Driver Attachment • Cannulations.8 to 4 mm diameter • Maximum Speed 900 to 12500 rpm or better <p>Pin Driver</p> <ul style="list-style-type: none"> • Pin driver attachment • Maximum Speed 1250 rpm or better • Pneumatic Oscillating Saw • Operate-able in different positions. • Speed Variable 0-14000 rpm or better • Blade Oscillation Arc 4degree • Saw Blade for Oscillating • St OscilBlade 13.5 x 64 x.6mm, Box of 5 • St OscilBlade 71mm x 19.5mm x1.2, Box of 5 • St OscilBlade 71mm x 33mm x1.2mm, Box of 5 • St OscilBlade 71mm x 19.5mm x 8mm, Box of 5 • Leg Bone Osc Blade 12.5x73.8 x 63,1.06mm, Box of 5 • St OscilBlade 19.5mm x 86mm x 0.8mm, Box of 5 • St OscilBlade 8.5mm x 38mm x 0.4mm, Box of 5 • St OscilBlade 25.4 x 90 x 1.27mm sterile, Box of 5 • Leg Bone Osc Blade 9.5 x 30 x 0.64, 0.84mm, Box of 5 • Universal House,10" • Nitrogen Regulator Single Connection • Can be operated at forward and reverse mode. • Size 6mm to19mm • Individual complete reversible with tip and solid shaft • T-handle for hand reaming • Sterilization container • Complete with Air hose connector, cylinder (Full Size) and pressure regulator. 	
56.	Arterial Blood Gas Analyzer with UPS	<p>Microprocessor based system.</p> <ul style="list-style-type: none"> • Control panel with easy setting and monitoring • Easy 2-point calibration • Calibration history at least 24 hours • Easy changing access to the Electrodes and the solutions • Automatic sample recognition and sampling • Sampling techniques – whole blood <p>Sampling volume –</p> <ul style="list-style-type: none"> • syringe– less than 100 micro lit • capillary– less than 70 micro lit • Micro sample mode – less than 40 micro lit. • Analysis time – shall be less than 60secs . <p>Measurement ranges</p> <ul style="list-style-type: none"> • Measured parameters • PH –6.0-8.0 or better • H+ 10.0-500.0mmol/l or better • pO2 0.0-800.0mmHg or better • pCO2– 5.0-250.0 mmHg or better • Barometric pressure – 400.00-800.0mmHg <p>Calculated parameters</p> <ul style="list-style-type: none"> • HCO3 act – 0.0-60.0mmol/L • HCO3 std– 0.0-60.0mmol/L • BE vv+/-30mmol/L 	B

		<ul style="list-style-type: none"> • tCO₂– 0.0-60.0mmol/L • O₂ sat– 0.0-100.0% • O₂ –0.0-40.0% <p>Entered parameters</p> <ul style="list-style-type: none"> • Temperature – 10° to45°C • Temperature corrected parameters • pH(T)6.0-8.0 • H⁺ (T) 10.0-500.0mmol/L • pO₂ (T) 0.0-800.0mmHg • pCO₂ (T)BE vt5.0-250.0 mmHg <p>Power Requirement</p> <ul style="list-style-type: none"> • Operate at 220 VAC +/-10% <p>Accessories</p> <ul style="list-style-type: none"> • Include all standard accessories. • Include reagent for immediate start up and for 500 tests as recommended by manufacturer <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage : 110-260v 50Hz, Output : 220v 50 Hz. 	
57.	Autoclave Automatic 100 Liters	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • 5 inch or more display. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • The closing, locking, and opening of the door should be automatic having motorized button-controlled door without any lever. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. • Water level indicator • Internal Chamber Capacity: 100 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bar or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or more. • Should be supplied with compatible RO plant, with imported parts. • Accessories: Basket 02 Nos Trays 10 Nos 	B

		All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.	
58.	Autoclave Automatic 150 Liters	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • 5 inch or more display. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • The closing, locking and opening of the door should be automatic having motorized button-controlled door, without any lever. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. • Water level indicator • Internal Chamber Capacity: 150 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bar or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or more. • Should be supplied with compatible RO plant, with imported parts. • Accessories: Basket 02 Nos Trays 10 Nos <p>All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.</p>	B
59.	Autoclave Automatic 200 Liters	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • 5 inch or more display. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • The closing, locking and opening of the door should be automatic having motorized button-controlled door, without any lever. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. 	B

		<ul style="list-style-type: none"> • Water level indicator • Internal Chamber Capacity: 200 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bars or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or More. • Should be supplied with compatible RO plant of, with imported parts. • Accessories: Basket 02 Nos Trays 10 Nos <p>All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.</p>	
60.	Autoclave Automatic 100 Liters Sliding door	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • Having fully automated Sliding door. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. • 5 inches or more touch screen showing working process parameters, easy control and operation. • Water level indicator • Internal Chamber Capacity: 100 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bar or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or more. • Should be supplied with compatible plant, with imported parts. • Accessories: 	B

		<p>Basket 02 Nos Trays 10 Nos</p> <p>All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.</p>	
61.	Autoclave Automatic 150 Liters Sliding door	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • Having fully automated Sliding door. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. • 5 inches or more touch screen showing working process parameters, easy control and operation. • Water level indicator • Internal Chamber Capacity: 150 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bar or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or more • Should be supplied with compatible RO plant, with imported parts. • Accessories: Basket 02 Nos Trays 10 Nos <p>All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.</p>	B
62.	Autoclave Automatic 200 Liters Sliding door	<ul style="list-style-type: none"> • Minimum 8 or more sterilization cycles (Vacuumization, Heating, Sterilization, Exhaust and Drying), For (a) wrapped as well as unwrapped instruments, (b) flash sterilization, open, packed. • Single door, high pressure, high vacuum autoclave for sterilizing hospital, materials. • Having fully automated Sliding door. • With Printer • Electrically operated with inbuilt electric steam generator • System should be operated with a high vacuum pump. • Chamber should be made of stainless steel or better material. • 5 inches or more touch screen showing working process parameters, easy control and operation. 	B

		<ul style="list-style-type: none"> • Water level indicator • Internal Chamber Capacity: 200 liters or more • Sterilization Temperature Range: 121°C to 134°C or more • Maximum Chamber pressure: 2 bars or more • Chamber Temperature and pressure gauges/display • Cycles run countdown function. • Autoclave should be properly equipped with door safety locks & safety valves for chamber. • With integral alarm system when temperature set-points are exceeded or fallen below. • With Pressure safety valve, over-temperature limiter, over pressure limiter • Low water protection with audio visual indicator • Autoclave should execute Vacuum test, Bowie & Dick test or more • Should be supplied with compatible RO plant of, with imported parts. • Accessories: Basket 02 Nos Trays 10 Nos <p>All infrastructural work including plumbing and electrical work will have to be done by the supplier. The hospital will only provide space and water outlet.</p>	
63.	Automated Electrolyte Machine with UPS	<p>System consisting of :</p> <ul style="list-style-type: none"> • Electrolyte analyzer for Na, k, Ca, Cl, Ph • For whole blood, plasma, serum, urine • Sample volume: - blood / plasma / serum minimum 25 to 200uL • Urine (diluted) 50-250 micro liters • Digital display • Stat facility • Self-diagnostics programmed; system monitoring and maintenance modes • Patient results storage: 120 samples or better QC data storage : 20 or better • Integral printer • Calibration: Automatic • Calibrators, controls, reagents, consumables for startup. <p>UPS:</p> <ul style="list-style-type: none"> • Branded and compatible UPS for at least 30 minutes backup. • Input Voltage : 110-260v 50Hz, Output : 220v 50 Hz. 	
64.	Automated ESR Analyzer	<p>Microprocessor controlled fully automated ESR analyzer with the following specifications:</p> <ul style="list-style-type: none"> • Operation: Automated / Manual • LCD screen • Internal thermal printer • Easy operator software, Calibration & Controls • Results time: 30 seconds or less • Result / Hour: 100 samples/hour or better • EDTA blood sample volume: 180 µl or less with automated withdrawal per test and 100 µl or less with manual withdrawal per test. • Simple position: 15 or better 	B
65.	Automatic Blood Bag	<ul style="list-style-type: none"> • Microprocessor controlled. 	B

	Shaker	<ul style="list-style-type: none"> Digital display: For speed and time Digital speed control 5 to 100 RPM or better Tilting angle adjustment: 7° to 13° Timer range: 1 min to 99 hours. Min. Blood bags: 2 bags Should measure the blood weight 	
66.	Automatic Film Processor	<ul style="list-style-type: none"> Film: 60 Films per Hour or more Minimum Film Size: 4 x 4 inch Maximum Film Size: 14 x 17 inch Electrical Requirements: 220VAC, 50 Hz 	B
67.	Baby Incubator	<ul style="list-style-type: none"> Microprocessor controlled. Incubator to have a large double Plexiglas hood with excellent dual viewing panels mobile on lockable castors. Temperature range: 34 to 37-degree C. To have an integrated sensor module to collect air and skin temperatures Spo2, oxygen, humidity and pass this information to the display. 7 inch or more LCD/TFT screen should be available to display relevant information. The sensor module to have a visual alarm facility to complement the audible alarm. The mattress base to be contoured, x-ray translucent. To be able to tilt ± 12 degrees or more. Trend data for 48 hours or more. The hood to have four doors, two on either side'. Openings with 4 tubing access ports. The unit to have the temperature, oxygen level and humidity to preset levels. To have an alarm for all these parameters with a low initial alarm intensity to avoid undue disturbance. Oxygen to be able to be calibrated from 21% to 65%, The humidity module to be front loading and to need filling daily. The mattress base tilts control to be knobs on the base. Noise should be ≤ 45dbi. <p>Accessories: Telescopic IV stand. Monitoring shelf, Cylinder holder Ventilator tube support. Spo2 sensor for neonatal</p>	B
68.	Baby Suction Machine	<ul style="list-style-type: none"> Performance : suction controlled 0-600mmHg or better (Adjustable) Capacity : 30l/min or more Controls : On/Off switch Safety : positive pressure restricted With filter. Complete with autoclave able receiver jar 1x1000 ml or more(Autoclavable) Suction tip: 1 No Suction pipe length 2m, with hose. Mobile on four antistatic castors With the over flow safety 	B
69.	Binocular	<u>Standard Microscope Consisting of:-</u>	B

	Microscope	<ul style="list-style-type: none"> • Binocular Head Adjustable Inter Papillary Distance • Rotating Quadruple Nose Piece • Adjustable stage with venire Scale And spring clip for slides • Coaxial Controls • Condenser carrier, vertically adjustable • Bright field condenser, NA ,1.25,FlipTop • Light adjustment for condenser • Aperture Iris Diaphragm • Halogen /LED illumination Eye Piece • Lenses:- X10 20mm wide field, focusable • Objective Lenses:- X4 Plain Achromatic X10 Plain Achromatic N.A0.25 X40 Plain Achromatic N.A0.65 X100 Plain Achromatic N.A1.25, • Oil Immersion With following accessories:- Blue iris aperture Oiler Dust cover 	
70.	BIPAP	<ul style="list-style-type: none"> • Device should have CPAP, BILEVEL S, BILEVEL T, B BILEVEL ST modes. • Once the patient stops breathing the device should automatically switches into the T-mode and provides respiration for the patient in the prescribed safety frequency. • The device should have Alarm indicators. • High maximum pressure 25 hPa./cmH2O equivalent • Average noise level should be less than 30dB. • With humidifier. • Advanced data management with SD card/internal storage • Simple handling. • Easy to replace filter. 	B
71.	Blood Bag Tube Sealer	<ul style="list-style-type: none"> • The system should be heavy duty and be able to seal the blood bag tubing quickly and effectively. • Should be simple to handle. • System should gently seal the tubing with no hemolysis using radio frequency. • Should be capable of making wide seal of 2 mm thickness. • The sealing time should not be more than 2 seconds. • Sealing trigger should be automatic. • Should have indication lamps for Sealing Process. • No warm-up time should be required. • Should ensure easy separation of tube segments after the sealing. • Power input 220-240V/ 50 Hz AC 	B
72.	Blood Bank Refrigerator/ Blood storage cabinet	<ul style="list-style-type: none"> • Cabinet to have smooth stainless-steel interior and exterior of AISI 304 S grade. • Outer door to stay open for ease of access and to have assisted closing with magnetic gasket. • With transparent inner door. • With Five or more shelves. • With lockable glass door. • With interior lighting. 	B

		<ul style="list-style-type: none"> • 5 inch or better LCD/Digital display for temperature and warning / error messages. • Temperature range: 2 to 8 \pm1 degree C • To have seven days chart recorder/microprocessor controlled digital data logger technology. • Alarm for warning and error messages. • USB port with frontal access for data transfer. • Minimum Capacity: 250 x 450 or equivalent in liters to 500cc bag or better. • With Servo controlled stabilizer. 	
73.	Pharmacy /medicine /Vaccine Refrigerator	<ul style="list-style-type: none"> • Medical Grade • Capacity: 400 Liter or better • Vertical Type • Digital Temperature Recording • Glass Door • Display for easy viewing size 5 inch or better • Self-Closing with Stopper System at 90 degree or better • Safety key Lock shall be available. • Alarm for warning and error messages (Low, High Temperature, and Door Opening Alarm. • Acoustic and Visual Alarm for temperature and power failure • Temperature Range: 2 to 10 \pm1 degree C • Inertial Light LED Type, Adjustable Shelves. • With Servo controlled stabilizer. 	B
74.	Centrifuge (Bench Top)	<p>Microprocessor controlled centrifuge machine with the following specifications.</p> <ul style="list-style-type: none"> • Angle Rotor Maximum Speed 3500rpm or better. • Timing Up To 99 Minute, Continuous. • Programmable by Keypad; 10 Program storage. • Digital Display of Program Speed, Timing, Braking. • Lid Safety Interlock. • Angle Rotor, Maximum Capacity 8 X 15ml or better. 	B
75.	Cervical and Lumbar Traction Table	<p>Traction Unit:</p> <ul style="list-style-type: none"> • Traction: Static, intermittent, cyclic traction/Harmonic • Traction force 15-900 N/1.5-90kg/ 3.4-202 Lbs • User defined Hold, Rest and treatment times. • Traction Period: 59 minutes or more with increment of 1 minute. • Store up to 10 users defined protocols • Voltage supply: 100-240 v, 50Hz <p>Accessories:</p> <ul style="list-style-type: none"> • With Mobile Traction Stand /inbuilt • Fully adjustable • Allows the Traction unit to be used with most tables • With Cervical Traction • With Lumbar Traction <p>Table (Electrically Operated Table):</p> <ul style="list-style-type: none"> • Compatible with the traction unit/built-in with traction unit • Three or more section Table. • Easy access foot switch for height adjustment • Size Tabletop: 200 x 70 cm or more • Height adjacent 55-87cm or more • Lifting capacity not less than 150 kg • Power supply: 120-230v 	B

76.	CPAP	<ul style="list-style-type: none"> • The Device should have 3 levels separately for in- and expiration. • The device should have alarm system. • Pressure Range: 4 – 20 hPa (mbar). • Average noise level should be less than 30 dB. • Advanced data management with SD card. • Should have stand-by time, turbine running time, therapy time, filter age counters. • Simple handling. • Easy to replace filter 	B
77.	CPR Machine	<ul style="list-style-type: none"> • Unit should be capable to perform continuous compressions. • Equipment should be pneumatic type. • Adjustable chest compressions 100 per minute or more • Adjustable chest compression depth from 0 to 3.2 inches or better • Modifiable Compressions rate from 50:50 systolic to diastolic ratio (50% compression length). 	B
78.	CTG Machine	<ul style="list-style-type: none"> • With 7-inch LCD display or more. • Fetus heart rate: 50-240 bpm or better • Manual/auto recording Fetus movement. • Sound and color alarm for high and low fetal heart rate • Continuous 3-4 hrs. real time monitoring function, • Single, twins monitoring. • High resolution built in thermal recorder. • Built in communication port, for connecting to the central monitoring system. • Voltage AC220V, 50Hz. • Output speed: 1 cm/min, 2cm/min, 3 cm/min. • Ultrasound Probe : • Nominal frequency: 2.0MHz or better • Work frequency: 1.0MHz+- 10%. • Compatible with Two Probe (for twins). • Complete with all accessories. • Built in rechargeable battery backup: 3 hour or better 	B
79.	Defibrillator	<ul style="list-style-type: none"> • Semi-automatic 200 joules or better biphasic defibrillator with monitor and AED mode. • Synchronized output with ECG. • Control of energy charging/ delivering on main panel and paddle. • The energy range should be adjustable for Peads and adults up to 200Joules. • Charging Time for full energy will be less than 08 sec. • Screen Size of approx. 5.6 inch or better colored. • Display of Heart Rate: 30 to 300 bpm • ECG through Pads / paddles and 3 Lead ECG patient cable with arrhythmia detection • Built in recorder for printing of full summery on standard paper including waveforms, Frozen Waveforms, Event Summary, Tabular Trends, User test, and Configuration. • Alarms for High and low Heart rate, low battery warning. • AC 220V / 50 Hz operated. • Built-in Rechargeable battery with charger • Auto tester/self-check. 	B

		<ul style="list-style-type: none"> • External pediatric and adults Paddles, ECG cable with reusable electrodes for adult & Peads. • AED facility. • AED pads • Pacing facility 	
80.	Deionizer	<ul style="list-style-type: none"> • Automatic regeneration after manual initiation. • Constant monitoring of final water quality. • Solid-state reliability for trouble-free service. • Automatic shut-off in event of power failure. • Compact, non-corrosive components. • Convenient, modular construction. • Easy, economical installation • Conductivity of water 0-3µs/m • Flow: 20 to 30 lph 	B
81.	Delivery table/ D&C Table	<ul style="list-style-type: none"> • Couch top made of 3 sections i.e. back, hip, and leg sections covered with mattress having raxine cover. • Leg section removable • Up/down movement through hydraulic system. • Back seat adjustment through handles. • Removable receptacle under the hip area. • Lithotomy poles with tying strips. • Hand grips on both the sides. • Mobile on castors. 	B
82.	Dental Unit with Chair and regulator (10 KVA)	<p>Comprising of:-</p> <ul style="list-style-type: none"> • Dental Unit Chair mounted fully motorized Electric / Hydraulic (Electrically operated). • Air turbine high speed, 3 spray system branded (model must be mentioned) • Air motor (3 in1) slow speed with contra angle attachment branded (model must be mentioned) • Triple syringe. • Built-in Scalar • Dental Light : Halogen/ LED • Automatic Cup filler • X-ray film viewer • Cotton holder • Waste receptacle • Oil free branded compressor (model must be mentioned) with tank and regulator. • Motor;1.5 HP • Output;100L/min • Pressure;5-8 Bars • Tank capacity;20 L <p><u>Assistant Unit:-</u></p> <ul style="list-style-type: none"> • Cuspidor bowl with flush system (spittoon) • Saliva ejector • High Power Suction system (Air operated) • Triple Syringe <p><u>Dental Chair:-</u></p>	B

		<ul style="list-style-type: none"> • Fully automatic motorized Electric/ Hydraulic chair (Electrically Operated). • 4 or more positions, operated on 220V / 50Hz • Motorized motion to raise / lower the seat and back by electro-hydraulic System. • Automatic Back to Zero Position. • Equipped with safety cut out device • Adjustable head rest forward/ backward and up /down movements • Right arm swings in / out for patient ease. • Chair movement is smooth and silent through solenoid valves. <p><u>Dental Light:</u></p> <ul style="list-style-type: none"> • Day light Shadow less dental light. • The light arm is well balanced and adjustable to different heights with variable horizontal and inverse movements. <p><u>Doctor's Tray:</u></p> <ul style="list-style-type: none"> • Moveable over the patient through swing in / out on flexible self-supporting balance arm. • Instrument tray covered with stainless steel lid. • Availability of 4-tubings (Borden 2 holes) • Cotton holder and waist receptacle. • Water on / off Toggle switch and flow control Air / water regulator for hand pieces and triple syringe. • Air pressure gauge. • X-ray viewer. <p><u>Cuspidor unit:</u></p> <ul style="list-style-type: none"> • Water outlet services with junction / utility box. • Equipped with automatic and manual cup filler. • Single piece spittoon with solid collector • Bowl's flush automatic and manual. • Triple syringe, • Saliva ejector • High power suction (Air operated) <p><u>Dentist + Assistant Stool:</u></p> <ul style="list-style-type: none"> • Touch Panel Control on assistant side • Gas operated Seat with Shock absorbing. • Adjustable at any height by lever control. • Anatomically designed back rest for maximum lumbar support. • Seat with back rest rotatable freely 360deg. • Mobile on 5-caster for smooth movement • With foot supporting facility. 	
83.	Dental X-ray	<ul style="list-style-type: none"> • Dental radiographic unit. • Current: 3mA intra-oral x-ray system or better. • Focal Spot: 0.4 or less • Maximum voltage: 70 KV or better. • With imported mobile stand from the same manufacturer • The Unit shall be mounted on a stand having 360° horizontal rotation. • Also, the multiplex arm has a variety of vertical movements. • Mobile on castors. • Digital dental X-ray sensor, Computer Desktop/ laptop with 17-inch monitors LCD/TFT and DVD/CD writer (optional price quoted separately) 	B

		<ul style="list-style-type: none"> • Sensor with minimum 3 m cable or as per manufacturer connects with computer system via USB port. • Sensor (adult and child), Fully waterproof, CMOS technology, • Pixel size 20 microns or better • Active area 20X30 mm or better • Software for viewing image have post processing tools zoom, rotate, contrast adjustment etc. 	
84.	Distillation water Assembly	<ul style="list-style-type: none"> • Horizontal thick wall heat resistant Glass boiler fitted with 3 KW chromium plated heater. • High efficiency coil condense ensures low temperature, high output quality • Distillate of conductivity 03 to 04µs/m. • Compact construction suitable for bench and wall mounting. • Screw threads connectors for easy fitting or removal of hose safely. • Built-in constant level device with Schott Ventura-Nova Valve for drainage provides easy de scaling without dismantling. • Safety thermostat • Distilled output: 10 Liters or better per 24 hours single distilled. • Power Supply: 220v, 50 Hz Single Phase. 	B
85.	Dry Heat Sterilizer / Hot air oven	<p>Features:</p> <ul style="list-style-type: none"> • Dust-Free Gravity-Flow convection • For drying, conditioning, Sterilizing and quality control. • Display: Temperature control, timer, alarm. • Automatic on/ off function • Over temperature and current protection. • Leakage breaker, fan motor automatically stops when door is opens. • Rapid Heat up in 25 min up to 240°C • Digital Timer built-in Controller • Capacity: 55-60Liters • Temperature Range: Ambient 5°C to 250°C • Accuracy: +1.0°C • Uniformity: + 3.0°C at 120°C • Timer: Automatic timer 0-99 min, 99hr, continuous • Material Inner Stainless Steel • Outer Steel with epoxy powder coating • Shelves: Adjustable 2 or more • Electric Supply 220 V, 50Hz 	B
86.	ECG Machine 12 channels	<ul style="list-style-type: none"> • Instantaneous 12 channel ECG acquisition, and 7" or more LCD display. • ADC: 24 bits, resolution: 1µV/LSB • Inbuilt thermal recorder for printing out 12 channels simultaneously on Z-fold paper and port for external printer capable of A4 page printing. • Support the 12-lead ECG analysis program for complete ECG Analysis reports with measurement data table should be provided. • Must be able to indicate at least six critical values that require immediate clinical attention. • Must have continuous display of patient heart and rate. • AC as well battery operated, battery backup time 3 hours or better. • Must have integrated pediatric analysis. • Can save up to 100 ECGs in internal memory or more. 	B

		<ul style="list-style-type: none"> • Complete with Patient Cable. • Reusable Electrodes Set. • ECG Rolls 20 Nos. • Gel 5 liters and Standard Accessories with each unit. 	
87.	ECG Machine 3 channels	<ul style="list-style-type: none"> • 03 channels ECG Machine • Should be portable and lightweight. • ADC:12bits, resolution:1uV/LSB • Voltage 220 volts, 50hz • Display 3" or more. • Simultaneous 12 leads acquisition • Must have continuous display of patient heart and rate • Must have integrated pediatric analysis. • Support the 12-lead ECG analysis program for complete ECG Analysis reports with measurement data table should be provided. • Must be able to indicate at least four critical values that require immediate clinical attention. • Printer: High Resolution and in built thermal array printer. • Battery Capacity: Must be 2 hours without printing. • Can save up to 100 ECGs in internal memory or more • Complete with Patient Cable. • Reusable Electrodes Set. • ECG Rolls 20 Nos. • Gel 5 liters and Standard Accessories with each unit. 	B
88.	ECT Machine	<ul style="list-style-type: none"> • Should have constant current bi-directional square wave brief pulses. • Parameters display on LCD. • Should have protection against paddle to paddle short circuit or open circuit conditions. • Should have stimulus current from 500mA to 800mA or better on either side. • Frequency: 20-120 Hz or better • Pulse width: 0.3ms-1.5 ms or better • Stimulation duration: 0.05- 8 sec • Power Range: 0.6 to 205 joules (or better on either side), for 220-ohm patient impedance • Should have provision of monitoring EEG before and after treatment. • Output should display in joules. • Shock deliver to the patients should be print on paper. • Thermal Chart Recorder provides the user with a hard copy of the self-test and treatment results automatically. <p>Accessories:</p> <ul style="list-style-type: none"> • EEG, Electrodes • Two electrodes for Electroconvulsive therapy having bush button. • Earthing Wire • Conductive Gel • Instruction Manual 	B
89.	EEG 32 Channels	<ul style="list-style-type: none"> • 32 channels EEG amplifier • A/D resolution : 16-bit or better • Sampling rate : 2000Hz or more • CMRR: 100dB or more • Input noise: 1.5 uv or less • Input impedance: 20M ohm or more 	B

		<ul style="list-style-type: none"> • With high pass and low pass filters • Brain mapping software (both selective and the whole data base) • Real time programmable spectral analysis. <p><u>Computer Desktop/ laptop (branded)</u></p> <ul style="list-style-type: none"> • CPU Core i 5 Processor: 3.2 GHz. Or better • Bit Processing: 32 Bits. • RAM: 4GB. • Graphic card latest technology • Hard disk 1TB. • DVD writer. • LED Monitor: 19 inch or better • Key board. • Mouse etc. • With associated software. • Printer: laser printer • With Compatible UPS having at least one hour back up for whole system. • Input power 220VAC, 50Hz <p><u>Accessories</u></p> <p>Complete with standard accessories including.</p> <ul style="list-style-type: none"> • EEG Cap adjustable • Bridge electrode • Crocodile electrode/ disc electrode • EEG paste • Local Trolley (Export quality) 	
90.	Electric Amalgamator	<ul style="list-style-type: none"> • Microprocessor controlled. • Touch pad controls • LED Display • Programmable preset memories • Spring tensions, molded capsule holder • Timer 0-30seconds • Cycle speed 4000CPM or above • Sealed mix area • Accept salt types of capsules including amalgam and incomer. • Power requirements: 220 volts,50Hz 	B
91.	Electric cautery (Dental)	<ul style="list-style-type: none"> • 3 different and separate operating functions: • 1-purecut 2-cut-coag • 3-pure coag • Maximum safety for the patient • The electrosurgical units supplied complete accessories: Hand piece, 10 electrodes and ground plate autoclavable. • Voltage: 220 V 50. • Power output 30W or better 	B
92.	Electric Ripple mattress	<ul style="list-style-type: none"> • Alternating pressure mattress with support area of 1720mmX 850mm or more. • To contain 14 or more air cells with variable geometric section. • The material to contain an anti-bacterial agent. • To have a reinforced base sheet membrane with removable cells and protective cover. • Within built compression pumps having equalizing device to prevent over inflation. • Cycle time to be 8 minutes or more • With CPR Valve / emergency pressure release. 	B

		<ul style="list-style-type: none"> • To have a low-pressure indicator. • To be supplied with a case having handles for easy storage. • Weight 150kg or more • With five spare cells. 	
93.	Electric surgical unit Diathermy	<p><u>Electro surgical unit 400 watts with the following functions</u></p> <ul style="list-style-type: none"> • PURE CUT, • BLEND(1),BLEND(2),BLEND(3) • COAG1 (spray), COAG2 (contact) and AUTO BIPOLAR, FOOT SWITCH BIPOLAR. • Microprocessor controlled. • Percentage output digital display shows on front panel. • Automatic bipolar output without using footswitch • Multi mono polar outlets, two hand control outlets and one Laparoscope outlet. • Hand or foot operated. • With bipolar output power profile to provide good resolution to permit small changes in power levels for delicate work. • Spray Coagulation for the Trans Urethral Resection (T.U. R) and Endoscopic procedures in urology. • Adaptive REM Monitoring: • With REM facility • Alarm enables in case of nonpolar output disables. • Technical Specifications: • Output Power <ul style="list-style-type: none"> PURECUT 400W at300Ω BLEND1 300W at300Ω BLEND2 250W at300Ω BLEND3 200Wat300Ω CONTACT COAG 120Wat 500Ω SPRAYCOAG 70W at 300Ω BIPLAR COAG 80W at100Ω BIPLAR CUT 80W at100Ω. Operating Frequency: 400KHZ±10% or better Input Voltage: 220V, 50Hz <p>Standard Accessories</p> <ol style="list-style-type: none"> 1. Footswitch 2 pedal with cable 2. Footswitch 1 pedal with cable 3. Disposable Foot switching pencil with cable 4. Disposable 2 push button monopolar pencil with cable and electrode 5. Reusable Bipolar forceps and Cable asset 6. Reusable patient plate with cable for adult 7. Set of electrodes (6Pieces) for reusable and disposable handle 8. Power cable 9. Locally manufactured trolley 	B
94.	Electro Mechanical Operation Table	<p>General Design:</p> <ul style="list-style-type: none"> • The tabletop should be 100% radiolucent material & X-Ray access. • 5 sections table plate • Load capacity should be no less than 200kg • The table should be water-proof and anti-static material and can be washed by water directly. • The thickness of the mattress should be 50mm or more • It should have a battery inside the table, which can work 40-80 operations and the battery should be standard configuration. 	B

		<ul style="list-style-type: none"> • It should have electric longitudinal shift function not less than 200mm towards foot side. • The rails and the column of the table should be made of high level of aluminum alloy. • Length of the table: 2000 mm or better • Width of the table with rails: 540 mm or better • The thickness of mattress: 50mm or better <p>Electric Function:</p> <ul style="list-style-type: none"> • The lowest position: 680 mm or better • The highest position: 1030 mm or better • Longitudinal shift: 200 mm or better • Lateral Turn left: 15° or better • Lateral Turn right: 15° or better • Trendelenburg position: 25° or better • Reverse Trendelenburg position: 25° or better • Back plate up position: 70° or better • Back plate down position: 40° or better • Flex position: 220° or better • Re-flex position: 110° or better • Build-in elevator: 120 mm or better • Leg plate up: 20° or better • Leg plate down: 90° or better • Leg plates spread: 180° or better • Battery operated and all positions and angles must be controlled with remote. • Head plate up: 30° or better(manual movement) • Head plate down: 45° or better(manual movement) • <p>Standard Accessories:</p> <ul style="list-style-type: none"> • Mattress set, Pair of arm rest with quick dis-connectable clamps. • Adjustable head rest. • Pair of shoulder supports. • Lithotomy pole with universal swivel clamps. • Anesthesia frame 1 Nos • Infusion rod 1 Nos • Footrests 2 Nos. • Side supports 2 Nos <p>Note: ± 10% of degrees and measurement's will not be considered as deviation.</p>	
95.	EMG 4 Channels	<ul style="list-style-type: none"> • A/D conversion resolution: 12 Bits or better • Input Impedance: > 1000M OHM • Sensitivity: 1µV-10mV/Grid or better • Common-mode rejection ratio (CMRR): >=100dB • High Cut Filter-frequency: 0.1Hz or better • Low Cut Filter-frequency: 20kHz or better • Notch Filter 50Hz/60Hz • With Junction Box • With Trolley • With Laser Printer • With Compatible UPS having at least one hour back up. <p>Computer Desktop (branded)</p> <ul style="list-style-type: none"> • CPU Core i 5 Processor: 3.2 GHz. Or better 	B

		<ul style="list-style-type: none"> • Bit Processing: 32 Bits. • RAM: 4GB. • Graphic card latest technology • Hard disk 500 GB. • DVD writer. • Printer: laser printer. • Genuine anti virus • LED Monitor: 19 inch or better. • Key board. • Mouse <p>Accessories:</p> <table> <tr> <td>1. EMG Interface / Junction Box</td> <td>01</td> </tr> <tr> <td>2. 26G Concentrate Needles</td> <td>25</td> </tr> <tr> <td>3. Needle Holder</td> <td>01</td> </tr> <tr> <td>4. NCS Cable Reusable</td> <td>01</td> </tr> <tr> <td>5. Ring Electrode</td> <td>03</td> </tr> <tr> <td>6. Surface Electrode</td> <td>50</td> </tr> <tr> <td>7. Ground Electrode</td> <td>01</td> </tr> </table>	1. EMG Interface / Junction Box	01	2. 26G Concentrate Needles	25	3. Needle Holder	01	4. NCS Cable Reusable	01	5. Ring Electrode	03	6. Surface Electrode	50	7. Ground Electrode	01	
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96.	ENT workstation (Examination +treatment)	<p>Main Unit</p> <ul style="list-style-type: none"> • Durable steel casing, non-rusting, long lasting • Large instrument surface made of stainless steel with dividers and heating system to heat the instruments, laryngeal mirrors and endoscopes. • Device to Heat the laryngeal mirrors. • Compressed air system continuously adjustable from for spray and politzerizing, spray liquid with autoclavable nozzle for cleaning. • Handle for compressed air. • Medication reservoir be made of stainless steel, should be detachable and suitable for all type of medications. • The system should have variable compressor inletting air. • Compressor unit should be completely separate from suction unit. • Inbuilt motor suction unit with capacity of 35 liters per minute • Should have a vacuum gauge, bacterial filters, 1.5 liters liquid container and effective device to prevent overflow. • Suction tube should have automatic on off switch and small ear rinse funnel. • Warm water rinsing Device with autoclavable stainless steel handle with snap closure system and fine spray regulation valve. • Separate stainless steel to prevent mineral build up and heat up to 37-degree temp. • Cold water irrigation through existing water connection • Automatic liquid container discharge system should be provided. • Dispenser for cotton and paper. • Provision for attachment of microscope. • Endoscopy center with cold light source with two outlets with 300 LED/XENON/HALOGEN light bulb. • Head light with fibro-optic cable to be used with above light source for examination • Head light rest made of stainless steel • Two warming quivers for rigid endoscope-should be removable for autoclaving and cleaning • Automatic on/off switch for single light outlet with light barrier • Power supply 220-240 volts/50 Hz 	B														

- Mono and Bipolar cautery system with all cables & probes/forceps.
- RIGID ENDOSCOPES**
- 4mm/ 30 degree nasal endoscope ---- Qty 1
- 2.7mm/ 30 degree nasal endoscope-----Qty 1
- Magnifying 90 degree Laryngoscope with facility to focus manually----Qty1
- Ear telescope 3mm-diameter/ 6cm length/ 0 degree---Qty 1
- All above endoscopes should be autoclavable/Sterilizable and should have the facility to couple with HD camera head for record, take images and transmit the same monitor for better visualization.

ENT EXAMINATION MICROSCOPE:

- The ENT examination microscope with integrated, fanless high transmission, high performance LED illumination in the microscope head.
- Integrated, finless high performance white-light-LED Optimized stereo effect by 24 mm stereo basis
- Mechanical support arm for the microscope
- Expandable with scale projection at the image plane with an option of green filter Objective: 200 mm, (fine focusing)
- Objectives with manual fine focusing Visualization:
- ENT Microscope should have the facility to couple with HD camera head for record, take images and transmit the same monitor for better visualization.
- wide-field eyepiece 10x magnification
- The ENT microscope should be attached/ mounting with main ENT unit.

Display and recording system.

- **High resolving 1/3" CCD camera easily attachable with endoscope and microscope.**
- It should have the facility during examination to rotate, and hold/pause the image
- Recording of images and videos in HD digital formats. Easily transferable to External hard drives and USB pen drives/storage cards without losing resolution.
- High light HD-LED monitors 21 inch or better.

ENT PATIENT EXAMINATION CHAIR

- Should be motorized and ergonomically designed examination and treatment chair facilitating the posture of both doctor and patient
- Heavy base casing
- All elements of chair should be shaped according to the patient position.
- Seat should have motorized lifting device
- Seat should have height adjustment for children
- Integrated foot switch for easy adjustment of height
- Should have complete rotation 340 degree with locking device
- Should be comfortably padded and folded back for enabling easy sitting of overweight and handicapped patient
- Head rest-15cm with adjustable height or as per manufacturer
- Backrest adjustable and can be made to incline 10 degree forward to vertical position and backward completely to a horizontal position and can be rolled back
- Movement of armrest and footrest should be synchronized with backrest movement

		<ul style="list-style-type: none"> Power supply:220VAC V, 50H DOCTORS EXAMINATION CHAIR <ul style="list-style-type: none"> Wide base, should have rolling casters for easy movement Should have back rest Easy height adjustment of hydraulic nature Comfortably cushioned seat. 	
97.	Fracture Operation Table with Ortho Traction Attachment	<p>General Design</p> <ul style="list-style-type: none"> Stable base construction with four castors for easy movement. Manual base brake, lateral tilt and Trendelenburg adjusted by hand crank, base cover, side rails, accessories & clamps made of stainless steel. Table Top Divided into 5 sections including head plate, back plate, seat plate and split leg plates. Table top elevation controlled by hydraulic system, with sliding table top 30 cm or more for unrestricted image intensifier access with 360 degree rotation. With side rails for the insertion of X-Ray cassettes (must equipped with acrylic sheet plates for X-ray radiography). Length: 190-200 cm or better Width: 50 cm or better Height: 75-95 cm or better Trendelenburg / Reverse Trendelenburg: +20°/-20°each Lateral Tilt Left/Right: 20°/20°each Head plate: +40°/-40° <p>Standard Accessories:</p> <ul style="list-style-type: none"> Mattress set. Pair of arm rest with quick dis-connectable clamps. Designed for easy installation and removal. Adjustable head rest. Pair of shoulder supports. Lithotomy pole with universal swivel clamps. Anesthesia frame 1 each Infusion rod 1 each Foot rests 2 each Side supports 2 each With inbuilt Kidney Elevator Facility. <p><u>Attachment:</u></p> <ul style="list-style-type: none"> Traction stopper with mattresses. Castor with break device Vertical evaluator lock handle. Traction crank Reaction foot boot. The tractor range is 200 mm and elevation range 200 mm. <p>Note: ± 10% of degrees and measurement's will not be considered as deviation.</p>	B
98.	Glucometer	<ul style="list-style-type: none"> Glucose monitor, battery operated, hand held, complete with case. Lancet holder with lancets and glucose monitoring strips. The supplier to ensure the availability of strips. To be supplied with 1000 strips <p>Separate price must be quoted for strips.</p>	B
99.	Gynae Vacuum Suction Apparatus/vacuum extractor with trolley	<ul style="list-style-type: none"> To be used in fetal vacuum extraction. Neonatal endotracheal amniotic fluid suction. Surgical suction during operation and uterine aspiration for abortion with super suction curettes. 	B

		<ul style="list-style-type: none"> • 2 Suction Bottles, each 2500cc or better. • Vacuum pressure 650mmHg or more • Flow capacity: 40lit/min or above. • Automatic over flow cutoff. • Foot switch. • Tray for instruments • Rubber tube 2 meter • Currettes, large, Medium, and Small • Mains input supply: 220 volts, 50Hz 	
100.	Head Light with Cool Illumination	<ul style="list-style-type: none"> • White cold light illumination LED with 30000 Lux or better • With 5500 Kelvin. • Adjustable headband with washable inner padding. • On / off switch on battery compartment. • With Charger. • Backup time 3 hrs or more. 	B
101.	HFNC	<ul style="list-style-type: none"> • Should be used for adults and peads • Paedric Mode:2-25 l/m or better • Adult: 10-60 l/m or better • Oxygen Concentration: 21% to 93% • Should Have LCD/TFT display • With heated humidifier • Display to monitor humidity setting, flow, Fio2 and faults. • Visual and audible alarm for Tube disconnect leaks, tube blockage, hardware faults and audible failure alarm. • Supplied with heated wire patient breathing tube and nasal cannula of different sizes. • It should be compatible for use of Tracheostomy patients. <p>Accessories:</p> <p>Disposable heated wire Patient breathing tube having sizes as small, medium and large</p> <p>Disposable Nasal cannula having sizes as small, medium and large</p> <p>Local made trolley</p>	
102.	Humidifier	<ul style="list-style-type: none"> • Adjustable exit steam Moisture sensors for adjusting required moisture. • Transparent water container. Easy to clean thermo steam maker parts. • Applicable to create desirable atmosphere for children. • Built-in circuit breaker to be operated in time of dry up. • Must have cool body all through the operation. • Should have thermo steamer element with Teflon resistant coating. • Easy cleaning. 	B
103.	Hydraulic Operation Table	<p><u>General Design:</u></p> <ul style="list-style-type: none"> • Stable base construction with four castors for easy movement. • Manual base brake, lateral tilt and Trendelenburg adjusted by hand crank, base Cover, side rails, accessories & clamps made of stainless steel. <p><u>Tabletop:</u></p> <ul style="list-style-type: none"> • Divided into 5 sections including head plate, back plate, seat plate and split leg plates. Table top elevation controlled by hydraulic system, with sliding table top 30 cm or more for 	B

		<p>unrestricted image intensifier access, with side rails for the insertion of X-Ray cassettes (table top made of acrylic sheet plates for X-ray radiography).</p> <ul style="list-style-type: none"> • Full set of hydraulic control system for hydraulic lock protection • Size: 2000x500x750 mm \pm 10 % • Trendelenburg/ Reverse Trendelenburg 25°/25°each • Lateral Tilt Left/Right +15°/+15°each • Head plate up/down +40° / -40° <p><u>Standard Accessories:</u></p> <ul style="list-style-type: none"> • Mattress set, Pair of arm rest with quick dis-connectable clamps. • Adjustable head rest. Pair of shoulder supports. • Lithotomy pole with universal swivel clamps. • Anesthesia frame 1 Nos • Infusion rod 1Nos • Foot rests 2 Nos. • Side supports 2 Nos • With inbuilt Kidney Elevator Facility <p><u>Attachment:</u></p> <ul style="list-style-type: none"> • Traction stopper with mattresses. • Castor with break device • Vertical evaluator lock handle. • Traction crank • Reaction foot boot. • The tractor range is 200 mm and elevation range 200 mm. • Note: \pm 10% of degrees and measurement's will not be considered as deviation. <p>Note: Bidders must quote the OT table and Ortho traction attachment prices separately.</p>	
104.	Indirect Ophthalmoscope	<ul style="list-style-type: none"> • Brightness for difficult examinations • Halogen light • With light intensity control. • Headband: Light weight and comfortable. • Single control to change aperture size and position in one movement to view through all pupil sizes. • Inbuilt IR and UV barrier. • With 20 D indirect lens 	B
105.	Infant Warmers (Radiant Warmer)	<p>Mobile infant warmer with integrated baby bassinet unit that accommodates use of resuscitation equipment for intensive care of neonate.</p> <p><u>Technical Specification: -</u></p> <ul style="list-style-type: none"> • Infant warmer system to provide controlled source of radiant heat for infant. • Temperature Control (Skin). • Temperature Adjustment: 34°C-37°C • Skin Temperature measurement: 25°C ~ 37°C, • Microprocessor controlled skin servo mode operation with digital display. • LCD display for Infant Temperature • Audible and visual alarms and automatic switch off if temperature reaches at 38°C. • Built-in examination light • Built-in air/gas driven venture suction system • Tilting large bed platform suitable for x-ray cassettes, with cassette holder. 	B

		<ul style="list-style-type: none"> • Bed with mattress having Trendelenburg and reverse Trendelenburg position. • Accessible from all sides with acrylic collapsible side panels • Trolley with 2 Lockable castors or more. • Power Requirement: 220~V, 50Hz <p><u>Accessories</u></p> <ul style="list-style-type: none"> • Complete infant resuscitation package with mounting bracket (resuscitation module, flow meter, infant suction unit, suction regulator, suction bottle/400ml, positive pressure resuscitation, air hose, and oxygen cylinder medium size). • Skin probe reusable. • Infant face masks (Large, Medium, Small) 	
106.	Infra-Red Radiator Large	<ul style="list-style-type: none"> • Floor Stand Type • Radiators: 3 X 350 W or better • Automatic cut off timer • Timer adjustment: upto 15 minutes • Mounted on 4 or more lockable casters. • Adjustable height 	B
107.	Infra-Red Radiator Small	<ul style="list-style-type: none"> • Floor Stand Type • Radiators: 1 X 350 W or better • Automatic cut off timer • Timer adjustment: up to 15 minutes • Mounted on 4 or more lockable casters. <p>Adjustable height</p>	B
108.	Infusion pump	<ul style="list-style-type: none"> • Infusion pump with visible handle, with IV Pole(imported/local). • Power requirements: AC: 100-240V; 50Hz • Modes: weight, Volume, and flow/Dose rates • Delivery / Flow rate: 0.1-999.9ml/h • Volume range 1-9999 • Occlusion Limit low, Normal, High • Facility with keep vein open rate. • Anti-Bolus function, Titration function should be available. • Volume infused display and Dynamic cannula pressure displayed on screen. • Full alarm system. • Air in line detection. • Occlusion detection capability. • Vertical stand mobile type • Built in battery backup: 2 hours or better • Water-Proof Grade : IP34 or Equivalent • With all standard accessories. 	B
109.	Laboratory Incubator	<p>Microprocessor controlled Laboratory Incubator with the following specifications.</p> <ul style="list-style-type: none"> • Stainless steel chamber with adjustable shelves and a tough ended glass inner viewing door. The outer cabinet is to be rust resistant. • Temperature control by digital display from 0-0.99.9 h or continuous • Alarm system for high and low temperature, Door close / open. • With over temperature safety cutout to be set by the user. • Fitted with circulation fan. • Temperature : Range: At least 5°C above ambient to +60°C 	B

		<ul style="list-style-type: none"> Control (Fan): $\pm 0.1^{\circ}\text{C}$ at $+37^{\circ}\text{C}$ Variation (Fan): $\pm 0.25^{\circ}\text{C}$ at $+37^{\circ}\text{C}$ Chamber Capacity: 80-100Liters Shelves: 2 or more 	
110.	Microtome Machines	<p>Fully Automatic Microtome Machines with the following specifications:</p> <ul style="list-style-type: none"> Applications” Sectioning of Paraffin embedded specimen for routine and research histology. Section thickness range: 0.5-60 um or better on either side According to manufacturer design Specimen Retraction: 20 um Trimming Thickness: 1um to 600 um According to manufacture design Displacement of blade holder Base: Vertical and horizontal direction Vertical Cutting stroke length: 70mm or more Electrical Requirement: AC 220V / 50Hz 	B
111.	Microvent	<ul style="list-style-type: none"> Unit should be hand held type & pneumatic oxygen powered with no electric power required. Should have option for automatic time cycled and manual trigger selection. Unit should be capable to cater adults and children (10Kg or less) Should have capability of auto air mixing 100% or 50% with no external air supply. Should have Patient assist valve. Automatic flow rate (L/min) 36 to 12 or better Automatic tidal volume 150ml to 1000 ml Automatic I:E ratio 1:2 Adjustable automatic frequency 10 to 25bpm Manual flow rate 40 lpm Should have pressure relief valve with audible warning limits. Should have expiratory resistance 0.5 kPa or better. Patient assist trigger pressure -0.5 kPa or better Unit should be capable to operate on central gas supply system & oxygen cylinder through compatible probe. <p>Accessories:</p> <ul style="list-style-type: none"> Fabric Case. Oxygen therapy mask for adult & children. Resuscitation face mask made of silicon for adult & children. Four oro-pharyngeal airways. Flexible ET tube mount. 	
112.	Mini Autoclave for dental	<ul style="list-style-type: none"> Microprocessor controlled. Mini autoclave Class B type Capacity 18 liters or more (Bench top) Digital display Automatic functioning Pre and post fractionated vacuum. Sterilization temperature: 121°C to 134°C With demineralizer (model and make must be mentioned) 	B
113.	Nebulizer	<ul style="list-style-type: none"> Maximum compressor pressure 2-3.0 bar or better Nebulization rate 0.2 ml / min Compressor air flow 10lit / min or better Particle size(mmad) 0.5m to 5m 	B

		<ul style="list-style-type: none"> Noise level 55 db Electrical requirement 220v/ 50Hz Nebulizer assembly and Accessories : <ul style="list-style-type: none"> Tubing Nebulizer cup Nebulizers insert. Nebulizer cap An adult mask Mouth piece extra filters 	
114.	Ophthalmoscope	<ul style="list-style-type: none"> LED type Rechargeable Handle Carrying Case Battery operated 	B
115.	Ophthalmoscope + Retinoscope Rechargeable	<ul style="list-style-type: none"> Branded ophthalmoscope Designed to ensure Ultimate control. Lenses graticules and filters can all be easily changeable. Xenon /Halogen illumination Positive Action wheel. Comprehensive Lens Range +29D to -25D. Swing over Red Free Filter. Professional Retinoscope suitable for Streak or Spot. Interchangeable soft brow rest. Focal illuminator, With Handles. Spare bulbs. Protective case. 	B
116.	Orthopedic Drill Battery operated	<p><u>ORTHOPEDIC DRILL SYSTEM</u></p> <ul style="list-style-type: none"> Drill and reaming handpiece with dual trigger (forward and reverse) operating. Adjustable speed range : 0-250RPM or better (Reaming Mode) 0-1000 rpm or better (Drill Mode) Oscillating saw hand piece with single trigger operating Oscillating frequency : 0-16000 rpm or better (position 1) 0-1000 rpm or better (position 2) Battery operated. Having Safety button Stepping mode Indicator for charging <p><u>Accessories:</u></p> <ul style="list-style-type: none"> Complete with all standard accessories including. 3 different size blades for oscillation. Attachment for all hand pieces (K-wire attachment, Drill attachment, Reamer attachment large) Specialized sterilization container for drill and autoclavable basket. 2 batteries Charger 	B
117.	Oxygen Concentrator	<ul style="list-style-type: none"> Micro Processor controlled. Oxygen Flow Range: 0 to 10 litter per Minute Noise level (<45dbA). With filter. With OPI (oxygen purity indicator) & Alarm at very low oxygen level. Audio visual alarm for: Power loss, Low pressure, air leak, hardware failure, Mechanical 	B

		<p>Failure, Overheating and High Pressure.</p> <ul style="list-style-type: none"> • Oxygen Percentage level: 1-10 Ltr per Minute 95%±3% or better • With Humidifier • With Connecting Pipe • Mobile on 04 Castors 	
118.	Paraffin Wax Bath for Foot	<ul style="list-style-type: none"> • Capacity 15 liters or more • Thermostatically controlled. • Double walled • Material Stainless steel • Temperature Control 0- 90 degree C • Immersion Heater 2000 watt • with insulated boots: 02 Pairs • Input Supply 230 V AC, 50 Hz • Paraffin Embedding Wax Bath 	B
119.	Paraffin Wax Bath for Hand	<ul style="list-style-type: none"> • Capacity 15 liters or more • Thermostatically controlled. • Double walled • Material Stainless steel • Temperature Control 0- 90 degree C • Immersion Heater 2000 watt • with insulated mits: 02 Pairs • Input Supply 230 V AC, 50 Hz • Paraffin Embedding Wax Bat 	B
120.	PH Meter	<p>PH:</p> <ul style="list-style-type: none"> • PH Range Accuracy: .0 ~ 14 • Resolution: 0.01 • Calibration: User selectable 1 or 2 points. <p>mV:</p> <ul style="list-style-type: none"> • Range: ±1900mv. • Resolution: 0.01mV • Accuracy: ±1mV <p>Temperature:</p> <ul style="list-style-type: none"> • Temperature range: -5~100°c ±0.4°c. • Resolution: 0.1°c. • Accuracy: ±0.5°c <p>Display:</p> <ul style="list-style-type: none"> • Display: LED / LCD. • Power: DC Power Adaptor. 	B
121.	Phototherapy Unit	<ul style="list-style-type: none"> • Flexible positioning • LED type • Intensity: 35uW/cm2/nm at 40cm or better • Display: LCD Digit Display • Irradiation timer: 0 to 99 hr. or better • Inclination angle: Freely adjustable from horizontal to vertical • Placement: Directly on the incubator /beds. • Power requirements: 220 V, 50Hz; • Accessories: Eye Cover (100 Pieces) 	B

122.	(POCT) analyzer for Coagulation, ABGs, Electrolytes, Hemoglobin, Hct, Glucose, creatinine.	<ul style="list-style-type: none"> • Microprocessor control portable • Test Coagulation, ABGs, Electrolytes, Hemoglobin, Hct, Glucose, creatinine. • Easy to operate. • Auto calibration available • Sample type: whole blood, serum, plasma, and urine • Sample volume Less than 80µL • Patient data storage capacity not less than 1000 or better • Operating temperature 5 to 40C or better • Capable to show result one screen and built-in thermal printer available to print result on paper. • Input power 220VAC 50Hz 	B
123.	(POCT) Point of Care Testing	<ul style="list-style-type: none"> • Microprocessor control portable • TEST MENU: Hba1c , IgA, IgG, IgM, C3, C4, KAP, LAM,RF,ASO,CCP, D dimer, Us CRP, Lp(a), FR-CRP,CRP, SAA, TRF ,Urine IgG, Urine TRF, A1m(Alpha 1-microglobulin), mALB, CysC, BMG, FER • Easy to operate. • Auto calibration available • Measuring time should be less than 10 minutes or better • Sample type: whole blood, serum, plasma, and urine • Sample volume Less than 80µL • Built-in thermal printer • Color touch screen for easy operations • Patient data storage capacity not less than 10000 or better • Capable to show result one screen and built-in thermal printer available to print result on paper. <p>Input power 220VAC 50Hz</p>	B
124.	POP cutter / Plaster Cutting Saw	<ul style="list-style-type: none"> • Speed: 0-11000 rpm • Current: 10 Amp • Frequency: 50 Hz • Blade Size: 7.5 mm to 2.5 mm • Voltage: 220 Volt 	B
125.	Portable lamps AC/DC or Emergency light with single reflector AC/DC Or Examination light AC/DC	<p>Operating Light with: -</p> <ul style="list-style-type: none"> • Single dome • On Balance mobile Stand • LED light source • Light intensity Max 100,000 lux or better • LED life of 50,000 hours or more • Color Correction to 4350 deg Kelvin • With intensity light control • Multi flex arm with ultimate flexibility of positioning the lamp head. <p><u>Electrical Supply:</u></p> <ul style="list-style-type: none"> • 220-volt 50Hz, • Reversible overload and short circuit protection • Inbuilt Backup power system with rechargeable branded dry batteries with backup time at least 03 hours 	B
126.	Pulse Oximeter	<ul style="list-style-type: none"> • Hand held/Desktop pulse oximeter. • Sensors: Finger clip with probe for neonatal, Paeds & adult. • Range: O2 saturation 0 -100%. • Pulse rate 20 – 250 bpm or more. 	B

		<ul style="list-style-type: none"> • Display: Pulse waveform, SPO2 and pulse rate and O2 Saturation. • Resolution: O2 saturation 1% • Accuracy: O2 saturation 80-100% $\pm 2\%$ • Power requirements: AC: 220 V 50Hz • Built in rechargeable battery: backup 5 hours or better. 	
127.	Pure Tone Audiometer	<ul style="list-style-type: none"> • Large backlight graphical LCD display • Input voltage 220v,50Hz • True two channels include microphone, assistant phone. • Automatic data transfer to computer and data printer • Test signals: pure, pulse, warble tone, narrow band, white. • Speech masking noise. • Tone test • Speech test. • Inputs: CD/Tape, stereo live speech microphone, external masking, patient microphone, patient response switch. • Air conduction range: 60db to 90dBHL or better on either side, include headphone. • Bone conduction range: 60db to 70/75 db or better. • Speech: 60db to 100dbHL. • Masking: Free as well as synchronized masking • High tone audiometry for AC 125 hz - 8000 Hz • High tone audiometry for BC 250 hz - 8000 Hz • Selectable range of Test frequencies. <p>Accessories:</p> <ul style="list-style-type: none"> • Air conduction head set. • Bone conduction head set • Patient response switch • Micro phone. 	B
128.	Resuscitation Trolley / ICU Trolley / CPR Trolley	<p>Overall dimension 2.5'(L) x 2'(W)x3' H or better</p> <ul style="list-style-type: none"> • Electro-galvanized steel sheet structure / aluminum alloy/ ABS, Epoxy powdered coated, finish rounded, edges washable and can bed be infected. • Push handles one end. • Height adjustable IV Holder rod. • Shelf for defibrillator / ECG can be rotatable with locking facility. • Three or more drawers. • Detachable waste bin with bag holder. • CPR board. • Antistatic no skidded casters with 2 brakes. • Oxygen bottle support with fastening belts. • Catheter tubes holder. • Stainless steel / plastic bracket on back side for mounting oxygen cylinder/bracket for mounting oxygen cylinder. • 02 Nos Electrical universal power outlet and rollup power supply cable. <p>Accessories</p> <ol style="list-style-type: none"> 1. Oxygen Cylinder small size 2. Oxygen Regulator 3. Oxygen flowmeter 4. Resuscitator Set reusable and autoclavable comprising of. <ul style="list-style-type: none"> • Silicon Resuscitation Bag with adult face mask sizes 3, 4, 5 & Airway size 3, 4, 5 with E2 valve and fully autoclavable. 	B

		<ul style="list-style-type: none"> • Reservoir bag volume 2 liter or more 5. Laryngoscope with 3 blades 6. Magill Forceps 7. Endotracheal Tubes set of 12 tubes. 8. Pen torch 2 qty 9. Artery forceps 2 10. Dressing scissors 2	
129.	Shadow less lamp (Ceiling type) or Ceiling OT light for minor OT or Ceiling OT light for post- mortem	<ul style="list-style-type: none"> • Shadow less light ceiling type, including single arm, 360 degree rotary stable and suspended. • The light should be height adjustable and focused according to the size of the patients surgical area. • Dual Dome • Intensity control available. • LED light source • Light intensity: Maximum 160,000 Lux + 160,000 or better at 1 meter distance • LED life of 50,000 hours or better • Color Correction to 4000degKelvin or better • Input power 220VAC, 50 Hz • With sterilized handle for movement. • Backup power system with dry battery (s), with backup time at least 03 hours or more. • Complete with Installation 	B
130.	Sonic Aid Machine/Fetus Heart Detector/ Fetoscope	<ul style="list-style-type: none"> • Fetal Heart Beat / Sound Detection & Rate Monitoring. • Heart rate digitally displayed, • Heart beat audible through the built-in speaker (earphone). • Ultrasonic frequency/output: 2 MHz • Audible output: 0.6W (Speaker output: Max.20W) • Heart rate detection range: 50-240bpm • Power requirements: Rechargeable battery for 1 hour with AC recharging unit. 	B
131.	Spirometer/ Pulmonary function unit	<p>Examination of pulmonary system and to measure & display lung function parameters and must meet ATS/ERS standards It should be able to measure /do the following.</p> <ul style="list-style-type: none"> • Spirometer & Flow Volume parameter • Maximum Ventilation Volume • Pre & post Broncho – dilator comparison • Lung Volumes & Sub – divisions • Feasibility of real time Flow/volume loop and volume/time curve with Pre/Post comparison. • Broncho Provocation Test. • Should incorporate Electronic Barometer & temperature • Overlaying of previous test curves for comparison. • The unit have 7” or better LCD/TFT screen to display real time relevant information and also have a thermal printer. • Rechargeable battery backup time at least 2 hours • Flow meter Bi-directional digital flow sensor (flow: up to 15L/s or more, accuracy: within 3%) • Dynamic Resistance : less than 1 cmH₂O /L/Sec. • Parameters should be measured with highest accuracy & reproducibility and accuracy should be least, if at all affected with High surrounding Temperature and humidity levels. • Pulmonary Filters (100 Nos), 	B

		<ul style="list-style-type: none"> • Disposable Mouthpieces (500 Nos) • Facility to interface with computer desktop / Laptop to transfer data for analysis. <u>Computer Desktop/ laptop (branded)</u> <ul style="list-style-type: none"> • CPU Core i 5 Processor: 3.2 GHz. Or better • Bit Processing: 32 Bits. • RAM: 4GB. • Graphic card latest technology • Hard disk 1TB. • DVD writer. • LED Monitor: 19 inch or better • Key board. • Mouse etc. • With associated software. • Printer: laser printer Input power 220VAC, 50Hz	
132.	SS Filtration Assembly	<ul style="list-style-type: none"> • Autoclavable filter holder • Manifold made of stainless steel. • Two-way valve for independent control • Able to mount on filters. • Table top model • Shall come with vacuum pump preferably peristaltic type. • Suction should be capable of processing micro pore filter of 0.4 micron. • Power supply 220V single phase • Accessories • Complete with standard accessories includes:0.4-micron filter box of 200's 	B
133.	Suction machine Heavy Duty/ Electric suction Machine	<ul style="list-style-type: none"> • Mobile suction pump Oil-Less along with 4 anti- static wheels with lock. • Convenient for operation, with following performance features: • Built-in Vacuum gauge with a range from: 0-650 mm Hg or better adjustable. • Flow capacity: Not less than 50 l/min or better • Explosion proof footswitch. • Capacity of two graduated suction bottle: 2500cceach or more (Autoclavable) • Heat resistant and disinfect able rubber tube for suction. • Over flow safety device. • Triple flow safety • Power requirement: 220V, 50Hz. • Complete with suction nozzle and other standard accessories 	B
134.	Syringe Destroyer	<ul style="list-style-type: none"> • Surplus liquid in the needle should vaporize to avoid pollution. • No spark should eject during operation • Should work with low electric voltage to melt the needle instantly and destroy syringe body. • Working time should last for not more than 3 seconds. • Should work with built-in rechargeable battery. • Should destroy not less than 200 pieces of 20ml syringe. • Should destroy needle size from 18G to 34G. • Working noise level should be ≤ 50 db. • Should have superheating protection temperature 85°C 	

135.	Syringe pump	<ul style="list-style-type: none"> Power requirements: AC: 100-240V; 50Hz Syringe size: 5ml, 10ml, 20ml, 30ml, 50/60ml Increment:0.01ml/h Modes: Volume Weight and rate/Dose rate Delivery / Flow rate: 0.1-999.9ml/h Volume range 1-9999ml Occlusion Pressure: Adjustable Full alarm system Occlusion detection capability. Built-in battery backup: 2 hours or better Water-Proof Grade: IPX4 or Equivalent 	B
136.	Therapeutic Ultrasound	<p>Microprocessor controlled Therapeutic Ultrasound with the following specifications:</p> <ul style="list-style-type: none"> Operating voltage: 100-240 V \pm 10% (50 Hz) Ultrasound frequencies: 1 and 3 MHz Mode: Continuous and pulsed Pulse frequency: 1Hz - 100 Hz Duty cycle: 10, 25, 50, 75% Intensity:0-3 W/cm², Pulsed Number of US connections 2 US applicator large 5 cm² US applicator small up to 1.00 cm <p>Standard Accessories:</p> <ul style="list-style-type: none"> Multi frequency treatment Holder treatment head 	B
137.	Three Channel Holter monitor	<ul style="list-style-type: none"> 3 Channel ECG holter system Recorder should be cable-free / cable. 24 hrs recording Recorder with software should be quoted separately Should have rechargeable battery Water resistant Should have Recording LED indicator ADC resolution: 24 bits Sampling rate: 105 samples/sec Integrated filters and signal processing Frequency bandwidth: 0.1(0.05)Hz - 75Hz input voltage range: < 40mV Interfaces for data analysis and signal control (USB) Storage capacity: up to 7 days ECG Holter analysis software For cable free software tools should be able to support signal viewer for Android/tablet PCs Software Compatible PC System with UPS & printer. With standard accessories. 	B
138.	Transcutaneous Electrical Nerve Stimulators (Tens)/Electric Stimulator	<ul style="list-style-type: none"> Channel : Dual isolated between channels 7" LED/LCD display Pulse rate: 2 – 150 Hz 1Hz / Stp Pulse width : 30-300 micro sec 10 micro sec / Stp ON time 2-90 seconds 1 sec /Stp OFF time 0-90 seconds 1 sec / Stp Mode 5 TENS mode : B(Burst), N(Normal), M(Modulation), SD1,SD2 2 EMS modes S(Synchronous), A(Alternate) 	B

		<ul style="list-style-type: none"> • Waveform: Asymmetrical , Rectangular, Biphasic pulse • Current channels: 4, independent, fully galvanically separated • Current forms: 16 current forms-30 varieties Programmable positions: 200 or more • Pre-programmed protocols: 50 STANDARD ACCESSORIES : Length will be as per manufacturer <ul style="list-style-type: none"> • 2 x Strap 250x3 cm / 2x adhesive and conductive electrode • 2 x Strap 100x3 cm/ 2x adhesive and conductive electrode • 4 x Rubber electrodes 6x8 cm, 2 mm female, set of 2. • 2 x Moist pads for rubber electrode 6x8 cm, set of 4. • 4 x Patient cable 2-core & 2 mm male plug - black, with colored clips 	
139.	Ultra Violet Lamp Large	<ul style="list-style-type: none"> • Floor Stand Type • Radiators: 3 X 350 W or better • Automatic cut off timer • Timer adjustment: up to 15 minutes Mounted on 04 or more lockable casters	B
140.	Ultra Violet Lamp Small	<ul style="list-style-type: none"> • Floor Stand Type • Parabolic reflector • Radiators: 1 X 350 W or better • Automatic cut off timer • Timer adjustment: up to 15 minutes • Mounted on 04 or more lockable casters 	B
141.	Ultrasonic Nebulizer	<ul style="list-style-type: none"> • Oscillation frequency 1.5MHz \pm5% or better • Nebulization rate 0.3 ml / min • Nebulizer cup capacity 30cc or better • Particle size(mmad) 0.5m to 6m • Electrical requirement 220v/ 50Hz • Nebulizer assembly with all Accessories including Child mask, Adult mask 	B
142.	Urine meter	<ul style="list-style-type: none"> • Cold light source, • Auto safe data in case of power failure. • Ascorbic acid, bilirubin, blood, glucose, ketene, leucocytes, nitrite PH. • Throughout normal mode. 60 sample / hour. • Continuous mode. 120 sample/hours or better • Display: 5" large LCD or better. • Memory: 1000 sample results. • Output Built-in thermal printer. 	B
143.	Vein Detector	<ul style="list-style-type: none"> • Handheld portable Vein finder / showing system. • Positive projection distance: 25cm~35cm or better. • Projection control / adjustment available. • Projection size control / adjustment available. • Brightness control / adjustment available. • Rechargeable built-in battery. • Tabletop stand / Floor stand from the same manufacture should be providing with the machine. 	B
144.	Vortex mixer	<ul style="list-style-type: none"> • Touch operation or continuous mode with variable speed control 0-2600 rpm. • Can be used for various mixing application with optional adapter. • With fixed or adjustable speed. • Voltage Ranges 100-240V, Frequency Required 50/60Hz and Power 60W. 	B

		<ul style="list-style-type: none"> Mixing motion orbital and orbital Diameter 3.8-4mm. Shaded Pole motor with rating input 57-58W and Rating Output 10W. Speed Display scale must be available and weight 3-4kg. Environment Temperature Ranges 5-45°C and permissible relative humidity =80%. 	
145.	Water Bath	<ul style="list-style-type: none"> Microprocessor controlled. Capacity: 20liters or more Digital display for temperature controlled. Temperature Range: Ambient to 99 °C Accuracy: +/-0.5 °C Uniformity: +/- 2.0°C Material: Bath: seamless stainless steel with lid Case power coated steal Safety: over temperature cut-off, Alarm Electric supply: 220v,50Hz 	B
146.	Electric Dermatomes	<ul style="list-style-type: none"> Corded with a detachable & sterilizable lightweight hand piece power cord. Operates on Power input 220-240V AC. Capable of harvesting a graft width of maximum 100mm that can further be reduced to 75mm, 50mm & 25mm by using various graft width plates. Graft thickness varies from 0.10mm to 1.0 mm and can be adjusted by an adjusting lever with lock system & readings on a thickness scale. On/off switch on hand piece/Foot control with automatic lock system to prevent accidental activation. Easy and safe dermatome blade replacement. Economical & readily available dermatome blades. Accessories: <ul style="list-style-type: none"> Complete Set Dermatome Motor Cartridge/Cable Power Supply Control Box Power Cord Blade (Single Use) Qty as per standard Graft Plate 25 mm Graft Plate 50 mm Graft Plate 75 mm Graft Plate 100 mm Sterilizing Box 	B
147.	Electric Autopsy Saw	<ul style="list-style-type: none"> Hand held Speed: 10000 RPM or Better Saw head can be removed and sterilizable With Safety Switch Input voltage: 220 VAC <p>Accessories</p> <ol style="list-style-type: none"> Large Section Blade Small Section Blade Round Blade Deep Cutting Mastoid Blade Spinal Column Blade Pediatric Blade 	B
148.	Temporary Pacemaker	<ul style="list-style-type: none"> Modes: 8 or more. Pacing Rate: 30 – 200 ppm or more 	B

	(Dual Chamber)	<ul style="list-style-type: none"> • Atrial Pacing Rate: 70 – 1000 ppm or more • Pulse Duration: 0.05-1.5ms • Sensitivity: Atrial: 0.2 – 10mV or more Ventricular: 1 – 20mV or more • Should have pacing pause mode • Should have low battery indicator • Batteries should provide minimum 7 days continuous operation <p>Should be supplied with five sets of batteries.</p>	
149.	Temporary Pacemaker (Single Chamber)	<ul style="list-style-type: none"> • Modes: 3 or more • Pacing Rate: 30 – 180 ppm or more • Atrial Pacing Rate: 70 – 1000 ppm or more • Pulse Duration: 0.75ms or more • Sensitivity: 0.5 – 10mV or more • Should have pacing pause mode • Should have low battery indicator • Batteries should provide minimum 15 days continuous operation <p>Should be supplied with five sets of batteries.</p>	B
150.	Plasma and Lab Deep Freezer(-40oC)/ Plasma storage cabinet	<ul style="list-style-type: none"> • Microprocessor control LCD display • Stainless steel interior and exterior • Upright Freezer • Temperature range down -40oC • Operating temperature range should be from –20oC to -40oC at ambient temperature and adjustable with setting accuracy of ±1oC. • System should have CFC free refrigerants. • Capacity 400 litter or better • Key operated power switch • Acoustical and visual alarm for temperature and power failure • Alarm and temperature recording with battery backup for 48 hours in case of power failure. • Door opening alarm, high and low temperature alarm. • Controlled fan cooling to archive homogeneous • Automatic closing of front door. • Should have minimum vibrations, and noise level should not exceed 60 db. • Interface USB/RS485 • Power 220VAC 50Hz <p>should be supplied with Servo controlled voltage stabilizer.</p>	B
151.	Blood warmer	<ul style="list-style-type: none"> • Microprocessor control blood /fluid warmer machine. • Should have a digital temperature display of blood. • Should be able to warm fluid/blood to a temperature range of 37- 40 degree C. • Should be able to maintain or warm fluid/blood at a flow rate of 2.5 L/min • Should have inbuilt water tank/ dry in line heating system to warm the infused fluid/blood. • Should have a warm water column or heated sleeve up to the patient end to maintain the temperature up to the point of entry into the vein. • Alarms for disconnections, less water and over temperature. • Should be useful for both in adult and Pediatric patients. • Power 220VAC 50Hz <p>Accessories</p> <ul style="list-style-type: none"> • At least 50 disposable tubing sets for fluid/blood 	B

152.	Dialysis chairs	<ul style="list-style-type: none"> • Electrically operated Variable positioning for arm rests should have swinging out as well as up and down moving facility. • Reclining and upright body positions with a smooth shifting to any position. • Comfortable chair type with or without separate section for backrest. Should be a single upholstery unit with soft padding for cushioning and rexine cover. • It should have step less electric remote-controlled backrest & leg rest adjustment. • Adjustable arm rest for patient comfort and doctor friendly • Easily tilted to head low position • Weight bearing capacity 150 kg better • Built-in Battery backup • Storage Drawers/trays and back side pouches for storing consumables. 	B
153.	Electro-therapy unit	<ul style="list-style-type: none"> • Microprocessor control • Stimulation channels: 4 with independent • Current intensity. Output stage: CC current controlled. • Stimulation Type: Synchronous and Asynchronous Stimulation pulse duration: 50µs - 500µs or better • Stimulation frequency: 1Hz – 200Hzs or better. • Input power 220VAC, 50Hz • • Accessories: • Adhesive and conductive electrode 45 X 50 mm (10) Adhesive and conductive electrode 50 X 90 mm (10) • Patient cable. • Optional: • Rubber electrodes 60 X 80 mm (1 pair) • Moist pads for rubber electrodes (1 pair) • Adapters for rubber electrodes (1 pair) 	B
154.	Dental cabinet	<ul style="list-style-type: none"> • Overall dimension 2.5'(L) x 2'(W)x3' H or better • Rust free stainless steel structure finish rounded, edges washable and can bed be infected. • Push handles one end. • Five or more drawers. • Detachable waste bin with bag holder. • 02 Nos Electrical universal power outlets. 	B
155.	Short Wave Diathermy	<ul style="list-style-type: none"> • Frequency: 27.12mhz or better • Output Power: 400 W maximum in Continuous Mode; 1000W maximum Peak Power in Pulsed Mode • Output Modes: Continuous, Pulsed • Pulse Width: 20 - 400µs or better • Pulse Frequency: 20 - 200 Pulses Per Second or better • Timer: 0 - 30 minutes with termination of output & alarm at end of treatment. • Mains Supply: 100-240 Vac, 50/60Hz • Accessories • Two electrode arms, • two 100 mm capacitive electrodes with cables, • • output tester and Standard Accessories 	B
156.	Shoe Covering machine	<ul style="list-style-type: none"> • Case material: stainless steel/ABS plastic • Stainless steel handlebar for extra stability 	E

		<ul style="list-style-type: none"> • Powder-coated metallic colored handlebars • Refills: holds up to 200 shoe covers or more <p>Power source: 220VAC</p>	
157.	Ergometer Cycle	<ul style="list-style-type: none"> • Display: 10 inch or better • Resistance: 0-1400-Watt constant • Electronic variation of effort • Electronic system of resistance speed independent • Speed: 3-130 Rpm • Effort increasing: 1 Wat • Chain traction • Computer-controlled eddy current brake with torque measurement speed independent or dependent by RPM • Saddle height continuous adjustment for patients between 120 cm and 210 cm tall • Max weight 180 kg or better • USB port • RS232 port • Provision of connectivity with compatible telemetry system • Accessories • Chest belt for cardio rate recording • 360° adjustable handlebar • 180° swiveling console 	E
158.	Treadmill	<ul style="list-style-type: none"> • Display: 5 inch or better • Forward / reverse speed • Forward speed 0.1 / 25.0 km/h • Reverse speed 0.1 / 5.0 km/h • Speed Increment 0.1 km/h • Inclination Max 30% • Inclination Min 0% • Inclination increment 0.5 / 1% • Working load capacity 220 kg or better • Noise level: < 30 DB or less • Emergency stop button 	E
159.	2 Ton air conditioners (Cabinet Type)	<ul style="list-style-type: none"> • Heat and Cold • Runs on Low Voltage • Auto Restart • Heat and Cool Function • Stabilizer Not Required • Installation Kit 100% Copper • Zero Ozone Depletion Potential • Refrigerant Gas R410A • Blue Fins Condenser • Twin Rotary DC Inverter Compressor • High Density Filter • Long Installation Pipe • Long Distance Air Throw • With complete installation 	E

160.	4 Ton air conditioners (Cabinet Type)	<ul style="list-style-type: none"> • Heat and Cold • Runs on Low Voltage • Auto Restart • Heat and Cool Function • Stabilizer Not Required • Installation Kit 100% Copper • Zero Ozone Depletion Potential • Refrigerant Gas R410A • Blue Fins Condenser • Twin Rotary DC Inverter Compressor • High Density Filter • Long Installation Pipe • Long Distance Air Throw • With complete installation 	E
161.	LED TV 50"	<ul style="list-style-type: none"> • Screen Size: 50" • Type: DLED • Smart TV: Android 9.0 • Resolutions: 3840*2160 • Refresh Rate: 60Hz • HDMI: 4 • USB: 2 • Tuner Input: 2 • Head Phone: 1 • Wireless Wifi Access: YES 	E
162.	Refrigerator with double Glass-door	<ul style="list-style-type: none"> • Total Capacity (Net): 728 Liters or better • Temperature Range (°C): 0 to 10 • Ambient Temperature Level (°C): 16 to 38 • Temperature Control: Electronic • Refrigerant: R290 • Shelves Included: 4 • Rollers: 4 • Defrost: Automatic • Voltage/Frequency: 220v/240v/50Hz • Length of Cable: 150cm or better • Noise Level: 60dBA or better 	E
163.	Refrigerator with Glass Single-door	<ul style="list-style-type: none"> • Total Capacity (Net): 410 Liters or better • Temperature Range (°C): 0 to 10 • Ambient Temperature Level (°C): 16 to 38 • Temperature Control: Electronic • Refrigerant: R290 • Shelves Included: 4 • Rollers: 4 • Defrost: Automatic • Voltage/Frequency: 220v/240v/50Hz • Length of Cable: 150cm or better • Noise Level: 60dBA or better 	E

164.	Ceiling Fans 56"	<ul style="list-style-type: none"> • Sweep Size: 56" • Rated Voltage: 230+-10V • Rated Frequency: 50Hz • Power: 75W • Speed: 330rpm • Air Delivery: 280m3/m • Service Value: 3.73m3/min/watt • Insulation Class: 155" • Energy efficient Electrical Steel Sheet • Winding: 99.99% Pure Copper Wire • Aerodynamic Blades Design for better Air 	E
165.	Bracket Fans 18"	<ul style="list-style-type: none"> • SIZE: 18" • 65W • VOLTS:220 / 230 • Jerk Free Oscillation • 3 Speed Options and 90 Degree Horizontal Oscillation • Winding: 99.99% Pure Copper Wire • High Quality Paint for Superior Finishing • Aerodynamic Blades Design for better Air 	E
166.	AC 1 tone Split unit inverter type	<ul style="list-style-type: none"> • AC 1 tone Split unit inverter type • Airflow: 4-Way Air • Cooling effect: Heat and Cool Function • Energy efficiency class: 60% Electricity saving. • Noise level: Ultra Low Noise Control • Type: Wall Mounted • Gold fin Evaporator and condenser • Auto clean • R410 Eco friendly refrigerant • With Complete Installation 	E
167.	AC 1.5 tone Split unit inverter type	<ul style="list-style-type: none"> • AC 1.5 tones Split unit inverter type • Airflow: 4-Way Air • Cooling effect: Heat and Cool Function • Energy efficiency class: 60% Electricity saving. • Noise level: Ultra Low Noise Control • Type: Wall Mounted • Gold fin Evaporator and condenser • Auto clean • R410 Eco friendly refrigerant • With Complete Installation 	E
168.	AC 2 tones Split unit inverter type	<ul style="list-style-type: none"> • AC 2 tones Split unit inverter type • Airflow: 4-Way Air • Cooling effect: Heat and Cool Function • Energy efficiency class: 60% Electricity saving. • Noise level: Ultra Low Noise Control • Type: Wall Mounted • Gold fin Evaporator and condenser • Auto clean • R410 Eco friendly refrigerant • With Complete Installation 	E
169.	Door Air Curtain	<ul style="list-style-type: none"> • Power Supply: 220 ~ 230 / 50 Hz 	E

		<ul style="list-style-type: none"> • Airflow volume: 1200l/s or better • Airflow velocity: 14m/s or better • Max install Hight: 3.0 m • Sound Level: ≤61db • With complete installation 	
170.	Electric Geysers 10 Gallons	<ul style="list-style-type: none"> • Branded Electric Geyser 10 Gallon or more • Storage Type • Thermostat for Temperature Control • Brand and Model Must be mentioned. • With Complete Installation 	E
171.	Electric Geysers 15 Gallons	<ul style="list-style-type: none"> • Electric Geyser 15 Gallon or more • Storage Type • Thermostat for Temperature Control • Brand and Model Must be mentioned. • With Complete Installation 	E
172.	Electric Water Cooler 40 Litters with Filter	<ul style="list-style-type: none"> • Branded Electric Water Cooler 40 Litters or more • Stainless Steel Tank • To be installed with 3-part Filtration unit • With Complete Installation 	E
173.	Electric Water Cooler 60 Litters with Filter	<ul style="list-style-type: none"> • Branded Electric Water Cooler 60 Litters or more • Stainless Steel Tank • To be installed with 3-part Filtration unit • With Complete Installation 	E
174.	Electric Water Cooler 80 Litters with Filter	<ul style="list-style-type: none"> • Branded Electric Water Cooler 80 Litters or more • Stainless Steel Tank • To be installed with 3-part Filtration unit • With Complete Installation 	E
175.	Gas Geyser 30 Gallon	<ul style="list-style-type: none"> • Branded Gas Geyser 30 Gallons or more with cone • With thick glass wool to keep water Hot • With complete installation 	E
176.	Gas Geyser 50 Gallon	<ul style="list-style-type: none"> • Branded Gas Geyser 30 Gallons or more with cone • With thick glass wool to keep water Hot • With complete installation 	E
177.	ILR/Deep Freezer	<ul style="list-style-type: none"> • Branded 16Cft, Double Door (Freezer & Fridge) with Racks and Baskets 	E
178.	Refrigerator 12 CFT	<ul style="list-style-type: none"> • Branded Double door,12 Cft Refrigerator. • With Complete Installation 	E
179.	Refrigerator 14CFT	<ul style="list-style-type: none"> • Branded Double door,14 Cft Refrigerator. • With Complete Installation 	E
180.	Refrigerator 18 CFT	<ul style="list-style-type: none"> • Branded Double door,18 Cft Refrigerator. • With Complete Installation 	E
181.	Photocopier	<p>Desktop type photocopier machine A3/A4</p> <ul style="list-style-type: none"> • Display: TFT/LCD display • All in one function: Print, Scan, Photocopy • Speed: 24 ppm or better • Paper capacity: 250 sheets tray • Number of papers tray: 2 trays + 1 by pass • Warm up time: 12 second or less for warm up the machine • Document feeder: RADF/DADF/AFD • Memory: 1 GB or above • Power: 200-240 v 	E

		<ul style="list-style-type: none"> Connectivity: LAN / USB Stabilizer: <ul style="list-style-type: none"> With Servo motor stabilizer. 	
182.	Heavy Duty Photocopier Machine	Desktop type photocopier machine A3/A4 <ul style="list-style-type: none"> Display: Touch Screen TFT/LCD display All in one function: Print, Scan, Photocopy Speed: 50 ppm or better Paper capacity: 800 sheets tray Number of papers tray: 2 trays + 1 by pass Warm up time: 12 second or less for warm up the machine Document feeder: RADF/DADF/AFD Memory: 5GB or above Power: 200-240 v Connectivity: LAN / USB Stabilizer: With Servo motor stabilizer.	
183.	Printer	<ul style="list-style-type: none"> Print Quality: 1200 x 1200 or higher. Print Speed: 40 ppm or higher. Print Technology: LaserJet Processor: 1.2 GHz or higher Input Tray Capacity: 350 sheets or higher Output Tray Capacity: 150 sheets or higher Media Support: A4, A4-R, etc. Connectivity: LAN,USB and WIFI 	E
184.	Scanner	<ul style="list-style-type: none"> Resolution: 600x600 dpi (ADF) Automatic document feeder capacity: 50 sheets Duplex ADF Scanning: Yes Scan Size: 8.5" x 14: or higher Scan Speed: 30 ppm or higher 	E
185.	Computer	Branded Computer CPU: <ul style="list-style-type: none"> Branded CPU CPU Core i 7 Processor: 3.4 GHz (11th generation) or latest Bit Processing: 64 Bits Cache L1-L2: 8MB CD/DD/Super Drive Support Installed Processor Core i7 Hard Disk: 1 TB Memory Ram type: DDR3 Number of memory /Ram Slots: 2 Slots Memory Ram Size: 8 Giga Byte, supported up to 16 Giga Byte. USB: 06 USB Ports or better Monitor: <ul style="list-style-type: none"> Branded LED 18 inch or more monitor FHD (1920x1080) Accessories: <ul style="list-style-type: none"> With all standard power cables. Key board, Mouse, VGA cables etc Antivirus: Kaspersky internet security or equivalent licensed for one year. With genuine windows 	E
186.	Laptop	<ul style="list-style-type: none"> Branded Laptop Processor: Core i7 (11th Generation) or latest 	E

		<ul style="list-style-type: none"> • Ram: 16GB or higher • Hard Disk: 1TB or higher • Display Size: 13.3” or higher • Resolution: 2560 x 1600 or higher • Graphics: Intl Iris Plus or better • Wifi: 802.11ac wireless networking or equivalent • Bluetooth: 5.0 or higher • Antivirus: Kaspersky internet security or equivalent licensed for one year. • With genuine windows/ Licensed • With best quality bag 	
187.	Multimedia Projector	<ul style="list-style-type: none"> • Projection Technology: DLP Chip/LCD • Native Resolution: XGA or higher • Brightness (Lumens): 3500 or higher • Contrast Ratio 10000:1 or higher • Lens Shift Vertical Positive (%): 52 or higher • Lens Shift Vertical Negative (%): 52 or higher • Lens Shift Horizontal Positive (%): 18 or higher • Lens Shift Horizontal Negative (%): 18 or higher • Keystone Horizontal Negative (degrees) 38 or higher • Keystone Horizontal Positive (degrees) 28 or higher • Keystone Vertical Negative (degrees) 13 or higher • Keystone Vertical Positive (degrees) 13 or higher • Connectivity: HDMI x1, SDI IN x 1, DVI-D x 1, RGB 1 IN: 4 or higher • RGB 2 IN: x1 • SERIAL IN: 1 • SERIAL OUT: 1 • REMOTE IN/OUT: 2/1 • RJ45 For Control/Monitoring: 1 • Other Accessories: • 1 x Ceiling mount and projector plate and stand (Adjustable) • 2 x HDMI cables (High quality shielded) extra length 45 feet (Noise Free Video) • 1 x Power cable 45 feet (Flexible 3 core (Pakistan Cable) or equivalent) • 1 x Projection screen with stand or wall mount (As per requirement) <p>Operationalization of Multimedia Projector System’s all components as well as end to end installation is included.</p>	E
188.	Generator 40 KVA	<p><u>Genset Rating:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Prime rating: 40KVA/32KW • Output Voltage (Single phase/Three Phase) : 220-240/400-440 • Frequency: 50Hz • Power Factor: 0.8 or better • RPM: 1500 or Better • Generator neutral shall be solidly earthed. <p><u>Engine Specification:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Fuel: Diesel • Engine Rating in HP : 48 HP or better • No of Cylinders: 4 Inline • Compression ratio: 18:1 or better 	F

		<ul style="list-style-type: none"> • Displacement: 2.86L or better • Governor Type: Mechanical • Fuel Tank Capacity: 90 L or better • Lubricant Oil Sump Capacity: 7.5L or better • Ambient Temperature at Rated Load: 50°C • Radiator Capacity (L): 13 L or better <p><u>Alternator:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Type: 4 poles brushless • Insulation: Class H • Voltage Regulation No Load to Full Load: $\pm 1\%$ or better. • Winding Pitch: 2/3 <p><u>Protections:</u></p> <ul style="list-style-type: none"> • <u>Alternator Protection:</u> <ol style="list-style-type: none"> 1. Overload and Short Circuit Protection. 2. Generator Phase Sequence Protection. 3. Over/Under Voltage Protection. 4. Over/Under Frequency Protection. 5. Over current Protection. • <u>Engine Protection:</u> <ol style="list-style-type: none"> 1. Low Lube oil Pressure 2. High/Low Coolant Temperature 3. Engine over & under Speed 4. Emergency Stop 5. Low Fuel Level <p><u>Display:</u></p> <ul style="list-style-type: none"> • Voltage, Current, KW, Power factor, Frequency. • Engine Oil Pressure • Engine RPM • Total Running Hours • Coolant Temperature (Digital) • Fuel level indication • Palate Earthing <p>The following items must be included with diesel generator.</p> <ol style="list-style-type: none"> 1. ATS panel (Local with imported components). 2. 10-meter Power cable will be provided with generator. 3. Providing, installation and testing of the unit and earthing network for generator set. 4. Construction of foundation pad. 5. Weather and sound proof canopy (Local). 6. Separate price for Power cable (per mete), must be quoted. <ul style="list-style-type: none"> • The supplier will be responsible for complete installation/functionalization of the generator. 	
189.	Generator 50 KVA	<p><u>Genset Rating:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Prime rating: 50KVA/40KW • Output Voltage (Single phase/Three Phase) : 220-240/400-440 • Frequency: 50Hz • Power Factor: 0.8 or better • RPM: 1500 or Better <p><u>Engine Specification:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Fuel: Diesel • Engine Rating in HP : 60 HP or better • No of Cylinders: 4 Inline • Compression ratio: 18:1 or better 	F

		<ul style="list-style-type: none"> • Displacement: 3.3L or better • Governor Type: Mechanical • Fuel Tank Capacity: 150L or better • Lubricant Oil Sump Capacity: 8L or better • Ambient Temperature at Rated Load: 50°C • Radiator Capacity (Ltr): 15 L or better <p><u>Alternator:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Type: 4 poles brushless • Insulation: Class H • Voltage Regulation No Load to Full Load: $\pm 1\%$ or better. • Winding Pitch: 2/3 <p><u>Protections:</u></p> <ul style="list-style-type: none"> • <u>Alternator Protection:</u> <ol style="list-style-type: none"> 1. Overload and Short Circuit Protection. 2. Generator Phase Sequence Protection. 3. Over/Under Voltage Protection. 4. Over/Under Frequency Protection. 5. Over current Protection. • <u>Engine Protection:</u> <ol style="list-style-type: none"> 1. Low Lube oil Pressure 2. High/Low Coolant Temperature 3. Engine over & under Speed 4. Emergency Stop 5. Low Fuel Level <p><u>Display:</u></p> <ul style="list-style-type: none"> • Voltage, Current, KW, Power factor, Frequency, KWh • Engine Oil Pressure • Coolant Temperature (Digital) • Fuel level indication • Engine RPM • Total Running Hours • Palate Earthing <p>The following items must be included with diesel generator.</p> <ol style="list-style-type: none"> 1. ATS panel (Local with imported components). 2. 10-meter Power cable will be provided with generator. 3. Providing, installation and testing of the unit and earthing network for generator set. 4. Construction of foundation pad. 5. Weather and sound proof canopy (Local). 6. Separate price for Power cable (per meter), must be quoted. <ul style="list-style-type: none"> • The supplier will be responsible for complete installation/functionalization of the generator. 	
190.	Generator 100KVA	<p><u>Genset Rating:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Prime rating: 100KVA/80KW • Output Voltage (Single phase/Three Phase) : 220-240/400-440 • Frequency: 50Hz • Power Factor: 0.8 or better • RPM: 1500 or Better <p><u>Engine Specification:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Fuel: Diesel • Engine Rating in HP : 115 HP or better • No of Cylinders: 4 Inline or better • Compression ratio: 18:1 or better 	F

		<ul style="list-style-type: none"> • Displacement: 4.4L or better • Governor Type: Electronic • Fuel Tank Capacity: 250L or better • Lubricant Oil Sump Capacity: 8L or better • Ambient Temperature at Rated Load: 50°C • Radiator Capacity (Ltr): 17 L or better <p><u>Alternator:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Type: 4 poles brushless • Insulation: Class H • Voltage Regulation No Load to Full Load: $\pm 1\%$ or better. • Winding Pitch: 2/3 <p><u>Protections:</u></p> <ul style="list-style-type: none"> • <u>Alternator Protection:</u> <ol style="list-style-type: none"> 1. Overload and Short Circuit Protection. 2. Generator Phase Sequence Protection. 3. Over/Under Voltage Protection. 4. Over/Under Frequency Protection. 5. Over current Protection. • <u>Engine Protection:</u> <ol style="list-style-type: none"> 1. Low Lube oil Pressure 2. High/Low Coolant Temperature 3. Engine over & under Speed 4. Emergency Stop 5. Low Fuel Level <p><u>Display:</u></p> <ul style="list-style-type: none"> • Voltage, Current, KW, Power factor, Frequency. • Engine Oil Pressure • Coolant Temperature (Digital) • Fuel level indication • Engine RPM • Total Running Hours • Palate Earthing <p>The following items must be included with diesel generator.</p> <ol style="list-style-type: none"> 1. ATS panel (Local with imported components). 2. 10-meter Power cable will be provided with generator. 3. Providing, installation and testing of the unit and earthing network for generator set. 4. Construction of foundation pad. 5. Weather and sound proof canopy (Local). 6. Separate price for Power cable (per meter), must be quoted. <ul style="list-style-type: none"> • The supplier will be responsible for complete installation/functionalization of the generator. 	
191.	Generator 200KVA	<p><u>Genset Rating:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Prime rating: 200KVA/160KW • Output Voltage (Single phase/Three Phase) : 220-240/400-440 • Frequency: 50Hz • Power Factor: 0.8 or better • RPM: 1500 or Better <p><u>Engine Specification:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Fuel: Diesel • Engine Rating in HP : 240 HP or better • No of Cylinders: 6 Inline or better • Compression ratio: 16.0:1 or better 	F

		<ul style="list-style-type: none"> • Displacement: 7.0L or better • Governor Type: Electronic • Fuel Tank Capacity: 280L or better • Lubricant Oil Sump Capacity: 16L or better • Ambient Temperature at Rated Load: 50°C • Radiator Capacity (L): 25 L or better <p><u>Alternator:</u> (Model, Make and country of origin must be mentioned)</p> <ul style="list-style-type: none"> • Type: 4 poles brushless • Insulation: Class H • Voltage Regulation No Load to Full Load: $\pm 1\%$ or better. • Winding Pitch: 2/3 <p><u>Protections:</u></p> <p><u>Alternator Protection:</u></p> <ol style="list-style-type: none"> 1. Overload and Short Circuit Protection. 2. Generator Phase Sequence Protection. 3. Over/Under Voltage Protection. 4. Over/Under Frequency Protection. 5. Over current Protection. <p><u>Engine Protection:</u></p> <ol style="list-style-type: none"> 1. Low Lube oil Pressure 2. High/Low Coolant Temperature 3. Engine over & under Speed 4. Emergency Stop 5. Low Fuel Level <p><u>Display:</u></p> <ul style="list-style-type: none"> • Voltage, Current, KW, Power factor, Frequency. • Engine Oil Pressure • Coolant Temperature (Digital) • Fuel level indication • Engine RPM • Total Running Hours • Palate Earthing <p>The following items must be included with diesel generator.</p> <ol style="list-style-type: none"> 1. ATS panel (Local with imported components). 2. 10-meter Power cable will be provided with generator. 3. Providing, installation and testing of the unit and earthing network for generator set. 4. Construction of foundation pad. 5. Weather and sound proof canopy (Local). 6. Separate price for Power cable (per meter), must be quoted. <ul style="list-style-type: none"> • The supplier will be responsible for complete installation/functionalization of the generator. 	
192.	Incinerator Plant	<ul style="list-style-type: none"> • The Hospital Waste Incinerator (Waste Management & Treatment System) shall be implemented as a turn-key project which shall comprise of a hospital grade Incinerator including Scrubber along with allied accessories and operational services for proper disposal of infectious solid hospital waste materials. • The incinerator be suitable for dry and wet infectious waste of the hospital, plastic, paper, textile and rubber within average calorific value of 4kW/kg. • The unit shall be of high performance, capable to operate continuously for 12 hours daily. • The primary source of fuel will be Natural Gas/ Diesel operated burner with the provision to operate on standby LPG fuel. 	G

	<ul style="list-style-type: none"> • Continuous intervals feeding & burning capacity of 50kg/ hour or better • Calorific value of the feeding waste: 4kW/kg or better • Combustion with smokeless emissions having standby fuel arrangements of LPG as an alternate fuel source. • Air distribution and regulation system should be electronically controlled. • Smokeless emission for at-least 98% of running time and emission gases in air with then prescribe limit (EPA guideline) <p>PRIMARY CHAMBER (COMBUSTION)</p> <ul style="list-style-type: none"> • The temperature should not be less than 800C. • Separate manual door for ash removal. • Blower centrifugal fans shall be provided to inject air to burn the waste and gases in combustion chamber • A see through window with protection flap for inspection of burner flame should be available. • Electrically/ electronically controlled natural gas operated burner with the provision to operate on standby LPG fuel. • Thermocouple/ sensor to monitor the temperature of the primary chamber. <p>SECONDARY CHAMBER (COMBUSTION)</p> <ul style="list-style-type: none"> • The post combustion chamber for flue gases to burn further for ensuring smokeless exhaust emissions. • Blower centrifugal fan(s) shall be provided to inject high pressure air to burn the waste and gases in post combustion chamber for ensuring proper burning of gases before exhaust. These fans will have an automatic servo controlled system for proper injection of air according to the requirements. • Electronically controlled air distribution and regulation system. • The temperature should not be less than 1100°C. • Electrically/ electronically controlled natural gas operated burner with the provision to operate on standby LPG fuel. • Thermocouple/sensor to monitor the temperature of the secondary chamber. <p>Control Box</p> <ul style="list-style-type: none"> • PLC based control box with sealed door. The controls should be programmable for temperature adjustment, feeding intervals etc. • It should have provision for electronic ignition burner timer, feed interval timer, shut down timer, post combustion chamber temperature controller, and controls for burner, blower fans etc. • Emergency Shutdown button for shutting it off in case of emergency at appropriate site. • Electrical requirements, Line voltage 400V, 50Hz Single/3Phase • Manual ash removal tool • Ash bin • Digital weighing scale for weighing the waste with the following specifications. • Mobile main trolley of SS (anti magnetic) with cover for transportation of hospital waste from wards to Incinerator site/room 125cmx100cmx60cm (LxWxH), 20 cm wheel size with spillage removal valve (Qty-4). • Pair of leather gloves for hospital waste handling staff (Qty-10). • Pair of long safety shoes for hospital waste handling staff (Qty-10) • Fire extinguisher 10kg (Qty 3) • Fire extinguisher 20kg (Qty 1) • LPG cylinders 45kg or above size (Qty 3) 	
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		<p>Term and condition</p> <ul style="list-style-type: none"> The proponent for EPA approval will be procuring agency and contracting firm will extend all the required assistance throughout the process. The supplied firm will be responsible for operating the incinerator for 12 hours on daily basis for one year. <ul style="list-style-type: none"> Running cost of the incinerator will be borne by Procuring entity. For ensuring clean environment the firm should submit at least two clear reports of EPA approved body of the same model/manufacture <ul style="list-style-type: none"> ISO 13485/CE certificate is mandatory 	
193.	Three Bodies Refrigerator	<ul style="list-style-type: none"> Conveyor style refrigerators with individual door openings. With Stainless Steel, 18 gauge or better Body Trays With Telescopic Rack assembly with individual doors openings With thermometer and easy to adjust temperature controller Temperature range: upto 4°C Heavy-duty chrome plated With 4" or better foam insulation Doors must have Magnetic Gas With Casters 	G
194.	Lifters	<ul style="list-style-type: none"> Usage/Application Industrial Power Source Hand Operated Lifting Capacity 2.5 ton Loading Capacity 2.5 ton Product Type HYDRAULIC TROLLEY Max Lifting Height 200 mm Wheel Material Nylon 	G
195.	R.O water purification plant for dialysis Machine	<p>RO Water Purification System to operate 10-12 Dialysis Machines through store tank, with imported parts locally manufactured.</p> <ul style="list-style-type: none"> The system should comprise of pretreatment modules such as Pre RO micron filter for Bacterial protection Sand filter, activated carbon filter, water softener, 5 micron particulate filter, before the reverse osmosis unit and post R.O UV light Disinfection and Bacterial Filters. The entire unit should have adequate monitoring permeate water conductivity, feed water pressure and permeate and rejection flow rate. The water distribution loop, booster pump and storage water tank should be rust free. Storage water tank should have capacity of at least 500 liters. Feed Pump Type centrifugal, horizontal, Material of construction Stainless Steel. input power 220VAC, 50Hz, single phase The filtered water will be pumped by means of a high-pressure pump through the R O Module consists of 2 nos. of SS Pressure tubes & 2 nos. of membranes Size of Membrane 4" Dia x 40" Long. Around 50 % of the feed water will be available as permeate or product water and balance 50 % will be reject stream which will be the effluent from RO plant. High Pressure Pump Type Vertical Multistage ,Material of construction Stainless Steel input power 220VAC, 50Hz, single phase Should not have noise level more than 65 db. 	G

		<ul style="list-style-type: none"> Should have TDS meter to monitor feed water conductivity and R.O water conductivity. It should be sensor to stop the feed pump when storage tank full, restarts it when RO water level goes down in the tank. 	
196.	60KVA three phase Automatic voltage regulator	<ul style="list-style-type: none"> Digital micro control type servo motor drive 60KVA three phase automatic voltage regulator. Input Line Voltage Range: 260VAC to 470 VAC, 4 Wire Output Line Voltage Range: 4 wire system (220 to 230 VAC natural to phase) (380 VAC to 440VAC phase to phase $\pm 3\%$) Winding 99% copper Power factor 0.9 or better No wave form distortion Response time not greater than 10 ms no overshooting or hunting during automatic operation. Air cooling type Ambient temperature: -10 to 40°C or better AVR should have Overload/High/Low input voltage alarm AVR should have overload, Spike and surge protection. <p>The AVR should have to display the following.</p> <ul style="list-style-type: none"> Input Phase to Natural Input phase to phase Output phase to neutral Output phase to phase Load Current in all the phases Frequency Overall system should have protection casing and wheels (lockable) for movement. The supplier will be responsible for complete installation/functionalization of the unit. 	G
197.	30 KVA single phase Automatic voltage regulator	<ul style="list-style-type: none"> Digital micro control type servo motor drive 30KVA single phase automatic voltage regulator. Input Line Voltage Range: 130VAC to 270VAC Output Line Voltage Range: 220VAC to 230VAC Winding 99% copper No wave form distortion Air cooling type Ambient temperature: -10 to 40°C or better Response time not greater than 10 ms no overshooting or hunting during automatic operation. AVR should have overload, Spike and surge protection. The AVR should have to display the input voltage, output voltage and load current. The supplier will be responsible for complete installation/functionalization of the unit. 	G
198.	5 KVA UPS	<ul style="list-style-type: none"> Topology: Double conversion online Nominal output voltage: Configurable for 220 : 230 or 240 nominal output voltage Efficiency at full load: Up to 92% with at least 40 minutes backup Output frequency(sync to mains):50/60 Hz +/- 3 Hz user adjustable Output power capacity: 4500W or better Output connections: (8) IEC 320 C13; (2) IEC 320 C19 Nominal input voltage:230 V 	G

		<ul style="list-style-type: none"> • Input frequency:45 – 65 Hz (auto sensing) • Input connections: Hardwire 3-wire(1PH + N + G) • Bypass: Automatic and Manual (Built-in) • Battery type: Maintenance-free sealed lead-acid battery with suspended electrolyte: leak proof • Operating Temp: 0 – 50°C (Output derated linearly to 75% of UPS capacity @>400C) • Replacement battery: RBC44 • Interface port(s): RJ-45 10/100 Base-T, RJ-45 Serial, Smart Slot • Emergency power off(EPO):Yes • Control panel: LEDs 	
199.	5KVA Solar Off Grid Hybrid Inverter	<ul style="list-style-type: none"> • 5000 Watts (5 KVA) 48 Volts DC, 220 Volt AC Single Phase Output, MPPT 80 Ampere Charge Controller with Hybrid charging, and electronic protections complete in all respect. • Two 48 Volt, 100 AH Lithium Ion Batteries • 5000 Watt Solar Panel (Mono-Crystalline) PV Module with 25 Years Power Output Warranty, • Solar Panel Mounting Structure ,made of Hot Dipped Galvanized Steel Structure (Angle Iron). • 16mm (sq) flexible cable 99.9% copper • Transportation / Installation Charges to be barred by the firm. 	G
200.	10 KVA Solar Off Grid Hybrid Inverter	<ul style="list-style-type: none"> • 10000 Watts (10 KVA) hybrid inverter with Dual MPPT. • The inverter should have load sharing or parallel operation function. • Solar panel of 10000 Watts mono crystalline technology. • Lithium ion battery 100Ah, 48V 4 Qty • Mounting structure for 10000 Watts solar panel galvanized Structure. • Supplier will be responsible for complete installation, distribution of power and commissioning of the solar system. • The supplier will be responsible for complete cabling as per required load. 	G

TECHNICAL EVALUATION CRITERIA FOR MACHINERY & EQUIPMENT, INSTRUMENTS & OTHER HOSPITAL SUPPLIES, ETC FOR F.Y 2022-2023

(Maximum Allocable Marks Score = 70 marks)

Technical Evaluation Criteria for the Purchase of Category- A Equipment for FY 2022-23

Firm / bidder Name: _____

Bid Reference No: _____

S. No.	Description of Variables	Allocated Points/Marks
A	Product / Manufacturer Evaluation Parameters	
1	Compliance Sheet in attached Viz-a-Viz format / form.	No Marks
1.1	Product General Information	
1.2	Ref. No of item in SBD Schedule of Requirement	
1.3	Name of equipment	
2	Conformance to Specification	
2.1	Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 4, subject to the condition that main function and performance in any aspect would not be affected. More than 4 minor deviation will be considered as major deviation and the bidder will be considered as non-responsive for the quoted item. (One mark for each deviation will be deducted with due justification by scrutiny committee).	25
2.2	Additional features of the product (One mark for each additional feature dully justified, if it enhances the Performance and functionality of equipment in required Field or Additional Software / hardware Provided Free of cost)	2 (27)
3	Product International Certification	2 (27) Mandatory
3.1	Certificate of US Food and Drug Administration (USFDA) 510K of the quoted model.	Two certificate are mandatory having no marks.
3.2	Certificate of European Community Medical Devices Directive (CEMDD/IVD98/79EC) (Full Quality Assurance or Product Quality Assurance) for the quoted model/item issued by Notified Certification Body. Certificate of conformity, Declaration of Conformity, CE Technical Documentation review, Compliance Report etc. will not be considered as CE certificate (Not applicable for Class II item/equipment).	
3.3	Certificate of Ministry of health labor and welfare Japan (MHLW) (Translated English Version)	
4	Manufacturer Performance	
4.1	Valid ISO 13485 Medical Devices Quality Management Systems certificate.	3 (30)
4.2	Valid OSHAS 18001 / ISO 45001 Occupational Health & Safety Series.	3 (33)
4.3	Weightage for local Pakistani original manufacturer.	5 (38)
5	After Sale Product Local Performance	
	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder in last six years on letter head, signed and stamped letter	

5.1	for the quoted model or previous provided model of equipment from the public sector medical institution of Pakistan. Performance certificate shall be coupled with supply order / purchase order from public sector medical institution.	5 (43)
5.2	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder in last six years on letter head for the quoted model or previous provided model of equipment from the teaching level private sector medical institution of Pakistan. The hospital must be recognized from Pakistan Medical Commission (PMC)/research institute. The satisfactory performance certificate of non-recognized institution from PMC will not be considered. Performance certificate shall be coupled with supply order / purchase order from teaching level private sector medical institution.	4 (47)
6	Warranty	
6.1	Warranty Period of three years both with spare parts and services & Next two-year services only without parts, from the date of Installation / Commissioning.	No marks, being Mandatory Parameter
A	Total score of the Product / Manufacturer Evaluation Parameters	47
B	Firm / bidder Evaluation Parameters	
1	Personnel/Human Resource	
1.1	Diploma of Associate Engineer (DAE) in electrical / electronic / biomedical / mechatronics / mechanical / industrial. DAE certificate must be submitted. (0.5 mark for each certificate)	1
1.2	Graduate Engineer with PEC Registration in electrical / electronics, biomedical / mechatronics / mechanical / industrial. PEC registration card of the engineer must be submitted. (1 marks for each Engineer)	3 (4)
1.3	BSc (hons) Electronics /MSc Electronics / B-Tech (hons) in electrical / electronic / biomedical / mechatronics / mechanical / industrial. Degree of BSc / MSc / B-Tech (hons) must be submitted. (0.5 mark for each)	1 (5)
1.4	Factory trained engineer on the quoted Products. (To be verified from the visa and passport). (1 mark for each)	2 (7)
2	Workshop facility Testing/ Calibration tools of Equipment	
2.1	Availability of workshop in Khyber Pakhtunkhwa to be verified with Ownership / Rent Agreement with Owner / Rent Agreement with Company Name.	No marks, being Mandatory Parameter
2.2	List of related tools available at workshop. Details shall be submitted with technical bid. (List Attached in SBD)	2 (9)
2.3	List of Testing and Calibration tools for the quoted items available at workshop. Details shall be submitted with technical bid.	2 (11)
2.4	Detail of Spare parts availability at workshop for the quoted items. Details shall be submitted with technical bid.	2 (13)
3	Firm / bidder Financial Strength	
3.1	Annual Sales tax returns for last two years (1 mark for each year).	2 (15)
3.2	Annual Income tax returns for last two years (1 mark for each year).	2 (17)
3.3	Last two years Audited Balance Sheet Duly attested by Chartered Accountant (1 mark for each year). Marks will be allocated on the basis revenue annual turnover, 100 M or above will be awarded 2 marks in last 2 years. Rs.50 to Rs.99.9 M will be awarded 1 mark in last 2 years. Less than Rs.50M will be awarded 0 mark.	2 (19)
4	Firm / bidder Registration	
4.1	Firm / bidder registration at relevant forum (SECP/ or Registrar of Firm / bidder/ FBR).	Mandatory
4.2	Firm / bidder registered with PEC or DRAP (Drug Regularity Authority of Pakistan) to import / manufacture of medical devices.	2 (21)

4.3	Valid ISO 9001 Quality Management Certificate of the firm / bidder from PNAC.	3 (23)
B	Total Score of the Firm / bidder Evaluation Parameters	23
A+B	Total Score (A + B)	(47+23) = 70

Technical Evaluation Criteria for the Purchase of Category-B Equipment for FY 2022-23

Firm / bidder Name: _____

Bid Reference No: _____

S. No.	Description of Variables	Allocated Points/Marks
A	Product / Manufacturer Evaluation Parameters	
1	Compliance Sheet in attached Viz-a-Viz format / form.	No Marks
1.1	Product General Information	
1.2	Ref. No of item in SBD Schedule of Requirement	
1.3	Name of equipment	
2	Conformance to Specification	
2.1	Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 4, subject to the condition that main function and performance in any aspect would not be affected. More than 4 minor deviation will be considered as major deviation and the bidder will be considered as non-responsive for the quoted item. (One mark for each deviation will be deducted with due justification by scrutiny committee).	25
2.2	Additional features of the product (One mark for each additional feature dully justified, if it enhances the Performance and functionality of equipment in required Field or Additional Software / hardware Provided Free of cost)	2 (27)
3	Product International Certification	4 (31)
3.1	Certificate of US Food and Drug Administration (USFDA) 510K of the quoted model or USFDA registration (where applicable)	One certificate is mandatory having no marks while producing other two certificates will get 2 marks each.
3.2	Certificate of European community Medical devices directive (CEMDD/IVD98/79EC). (Full Quality Assurance or Product Quality Assurance) for the quoted model/item issued by Notified Certification Body Certificate of conformity, Declaration of Conformity, CE Technical Documentation review, Compliance Report etc. will not be considered as CE certificate. (Not applicable for Class-II item equipment).	
3.3	Certificate of Ministry of health labor and welfare Japan (MHLW). (Translated English Version)	
4	Manufacturer Performance	
4.1	Valid ISO 13485 Medical Devices Quality Management Systems Certificate.	3 (34)
4.2	Valid OSHAS 18001 / ISO 45001 Occupational Health & Safety Series from IAF accredited body.	2 (36)
4.3	Weightage for local Pakistani original manufacturer.	4 (40)
5	After Sale Product Local Performance	

5.1	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder in last six years on letter head, signed and stamped letter for the quoted model or previous provided model of equipment from the public sector medical institution of Pakistan. Performance certificate shall be coupled with supply order / purchase order from public sector medical institution.	5(45)
5.2	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder in last six years on letter head for the quoted model or previous provided model of equipment from the teaching level private sector medical institution of Pakistan. The hospital must be recognized from Pakistan Medical Commission (PMC) /research institute. The satisfactory performance certificate of non-recognized institution from PMC will not be considered. Performance certificate shall be coupled with supply order / purchase order from teaching level private sector medical institution.	4 (49)
6	Warranty	
6.1	Warranty Period of three years both with spare parts and services & Next two-year services only without parts, from the date of Installation / Commissioning.	No marks, being Mandatory Parameter
A	Total score of the Product / Manufacturer Evaluation Parameters	49
B	Firm / bidder Evaluation Parameters	
1	Personnel/Human Resource	
1.1	Diploma of Associate Engineer (DAE) in electrical / electronic / biomedical / mechatronics / mechanical / industrial. DAE certificate must be submitted. (0.5 mark for each certificate)	1
1.2	Graduate Engineer with PEC Registration in electrical / electronics, biomedical / mechatronics / mechanical / industrial. PEC registration card of the engineer must be submitted. (1 marks for each Engineer)	3 (4)
1.3	BSc (hons) Electronics /MSc Electronics / B-Tech (hons) in electrical / electronic / biomedical / mechatronics / mechanical / industrial. Degree of BSc / MSc / B-Tech (hons) must be submitted. (0.5 mark for each)	1 (5)
2	Workshop facility Testing/ Calibration tools of Equipment	
2.1	Availability of workshop in Khyber Pakhtunkhwa to be verified with Ownership / Rent Agreement with Owner / Rent Agreement with Company Name.	No marks, being Mandatory Parameter
2.2	List of related tools available at workshop. Details shall be submitted with technical bid. (List Attached in SBD)	2 (7)
2.3	List of Testing and Calibration tools for the quoted items available at workshop. Details shall be submitted with technical bid.	2 (9)
2.4	Detail of Spare parts availability at workshop for the quoted items. Details shall be submitted with technical bid.	2 (11)
3	Firm / bidder Financial Strength	
3.1	Annual Sales tax returns for last two years (1 mark for each year).	2 (13)
3.2	Annual Income tax returns for last two years (1 mark for each year).	2 (15)
3.3	Last two years Audited Balance Sheet Duly attested by Chartered Accountant (1 mark for each year). Marks will be allocated on the basis revenue annual turnover, 50 M or above will be awarded 2 marks in last 2 years. Rs.25M to Rs.49.9 M will be awarded 1 mark in last 2 years. Less than Rs.25 M will be awarded 0 mark.	2 (17)
4	Firm / bidder Registration	
4.1	Firm / bidder registration at relevant forum (SECP/Registrar of Firm / bidder, FBR).	Mandatory

4.2	Firm / bidder registered with DRAP (Drug Regularity Authority of Pakistan) /PEC in ME-06 to import / manufacture of medical devices.	2 (19)
4.3	Valid ISO 9001 Quality Management Certificate of the firm / bidder from PNAC.	2 (21)
B	Total Score of the Firm / bidder Evaluation Parameters	21
A+B	Total Score (A + B)	(49+21) = 70

Technical Evaluation Criteria for the Purchase of Category E for FY 2022-23

S. No.	Description of Variables	Allocated Points
A	Product Evaluation Parameters	
1	Product General Information	
1.1	Ref. No of item in SBD Schedule of Requirement	
1.2	Name of equipment	
2	Conformance to the specification subject to the clearance on Sample test	
2.1	Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 4, subject to the condition that main function and performance in any aspect would not be affected. More than 4 minor deviation will be considered as major deviation and the bidder will be considered as non-responsive for the quoted item. (One mark for each deviation will be deducted with due justification by scrutiny committee).	30
3	Manufacturer Performance	
3.1	Valid ISO 9001 Quality Management Certificate of the manufacturer.	3 (33)
3.2	Valid ISO 14001 Environmental Certificate (The certificate must be issued to the manufacturer plant).	3 (36)
4	After Sale Past Performance	
4.1	One mark for each satisfactory performance certificate (verifiable) of the firm / bidder on letter head signed and stamped from the public institution / hospital for the quoted item/brand supported by Supply order/Purchase order.	10 (46)
4.2	One mark for each satisfactory performance certificate (verifiable) of the firm / bidder on letter head of private institution / hospital for the quoted item/brand supported by Supply order/Purchase order.	6 (52)
5	Warranty	
5.1	Warranty Period of three years both with spare parts and services. Compressor warranty must be five years.	No marks, being mandatory parameter
A	Total score of the Product Evaluation	52
B	Firm / bidder Evaluation Parameters	
1	The bidder will have to give valid proof of being manufacturer / importer / authorized dealer.	No marks, being mandatory parameter
2	Firm / bidder Financial Strength / Certificate	
2.1	Annual Sales tax returns for last two years (1 mark for each year).	2
2.2	Annual Income tax returns for last two years (1 mark for each year).	2 (4)

2.3	Last two years Audited Balance Sheet Duly attested by Chartered Accountant. (1 mark for each year).	2 (6)
2.4	Valid ISO 9001 Quality Management Certificate of the firm / bidder from PNAC accredited body.	3 (9)
3	Human Resources	
3.1	Sample technician with a certificate / diploma. (1 mark for each certificate)	2 (11)
3.2	Diploma of Associate Engineer (DAE) in electrical / electronic / mechatronics or relevant field. DAE certificate must be submitted. (one marks for each certificate)	3 (14)
3.3	Graduate Engineer with PEC Registration in electrical / electronics, biomedical / mechatronics / mechanical / industrial or equivalent. PEC registration card of the engineer must be submitted. (One marks for each).	4 (18)
4	Office / Workshop facility	
4.1	Availability of office/workshop in Khyber Pakhtunkhwa to be verified with Ownership / Rent Agreement with Owner/ Rent Agreement with Company Name.	No marks, being mandatory parameter
B	Total Score of the Firm / bidder Evaluation Parameters	18
A+B	Total Score (A+B)	(52+18) = 70

Technical Evaluation Criteria for the Purchase of Category- F Items for FY 2022-23

S. No.	Description of Variables	Total points
A	Product Evaluation Parameters	
1	Product General Information	
1.1	Ref. No of item in SBD Schedule of Requirement	
1.2	Name of equipment	
2	Conformance to Specification	
2.1	Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 4, subject to the condition that main function and performance in any aspect would not be affected. More than 4 minor deviation will be considered as major deviation and the bidder will be considered as non-responsive for the quoted item. (One mark for each deviation will be deducted with due justification by scrutiny committee).	30
2.2	Full load test report from manufacturer for the quoted model.	2 (32)
3	Product Certification / Manufacturer Performance	
3.1	Authorization certificate from the manufacturer if the bidder is not a manufacturer.	No marks, being Mandatory
3.2	Valid ISO 14001 Environmental Certificate of the manufacturer.	2 (34)
3.3	Valid ISO 9001 Quality management Certificate of the manufacturer.	2 (36)
3.4	CE certificate of the quoted model	2 (38)
4	After Sale Product Local Performance	
4.1	One mark for each satisfactory performance certificate (verifiable) of the firm / bidder on letter head, signed and stamped from the public sector organization for quoted capacity generator with copies of supply orders/contract agreements etc. Supply Order / Purchase Order. Delivery challan will not be considered as satisfactory performance	5 (43)
4.2	One mark for each satisfactory performance certificate (verifiable) of the firm / bidder on letter head of private organization for the quoted capacity generator with copies of supply orders/contract. Supply Order / Purchase Order. Delivery challan will not be considered as satisfactory	3 (46)
5	Warranty	
5.1	Comprehensive Warranty of 12 months (irrespective of running hours) with parts and services from date of commissioning.	No marks, being Mandatory
A	Total score of the Product Evaluation Parameters	46
B	Firm / bidder Evaluation Parameters	
1	Firm / bidder Certifications	
1.1	Registration with PEC in Codes ME03 & ME04. (1 Mark for each).	2
1.2	Valid ISO 9001 Quality Management Certificate of the firm / bidder from PNAC accredited body.	2 (4)

2	Personnel/Human Resource	
2.1	Diploma of Associate Engineer (DAE) in electrical / electronic / mechatronics / mechanical / industrial or equivalent. (1 mark for each)	3 (7)
2.2	Graduate Engineer with PEC Registration in electrical / electronic / mechatronics / mechanical / industrial or equivalent. (2 marks for each engineer)	6 (13)
2	Workshop facility / Mobile van / Training	
2.1	Fully Functional workshop at Peshawar.	2 (15)
2.2	Fully Functional workshop at national level.	1 (16)
2.3	Mobile after sales van in Khyber Pakhtunkhwa for on sight repair.	2 (18)
3	Firm / bidder Financial Strength	
3.1	Annual Sales tax returns for last two years (1 mark for each year)	2 (20)
3.2	Annual Income tax returns for last year (1 mark for each year).	2 (22)
3.3	Last two-year Audited Balance Sheet Duly attested by Chartered Accountant. (1 mark for each year)	2 (24)
B	Total Score of the Firm / bidder Evaluation Parameters	24
A+B	Total Technical Score	(46+24) = 70

Technical Evaluation Criteria for the Purchase of Category G for the F.Y 2022-23

S. No.	Description of Variables	Allocated Points
A	Product / Manufacturer Evaluation Parameters	
1	Product General Information	
1.1	Ref. No of item in SBD Schedule of Requirement	
1.2	Name of equipment	
2	Conformance to Specification of fabrication	
2.1	Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 4, subject to the condition that main function and performance in any aspect would not be affected. More than 4 minor deviation will be considered as major deviation and the bidder will be considered as non-responsive for the quoted item. (One mark for each deviation will be deducted with due justification by scrutiny committee).	30
2.2	Additional features of the product (One mark for each additional feature dully justified, if it enhances the Performance of equipment in required Field).	2 (32)
3	Manufacturer Performance	
3.1	Valid ISO 9001 Quality Management Certificate.	2 (34)
3.2	CE Certificate for the quoted item. (No marks will be awarded for CE certificate in Incinerator as it is mandatory for incinerator)	2 (36)
4	After Sale Product Local Performance	
4.1	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder on letter head or signed and stamped from the public sector institution / hospital for the quoted item with copies of supply orders/contract. Supply Order / Purchase Order Delivery challan will not be considered as satisfactory performance certificate.	8 (44)
4.2	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder on letter head of private institution / hospital for the quoted item with copies of supply orders/contract. Supply Order / Purchase Order / Delivery challan will not be considered as satisfactory performance certificate.	6 (50)

5	Warranty	
5.1	Warranty Period of three years both with spare parts and services & Next two-year services only without parts, from the date of Installation / Commissioning. Two Years battery warranty.	No marks, being Mandatory
A	Total score of the Product / Manufacturer Evaluation Parameters	50
B	Firm / bidder Evaluation Parameters	
1	The bidder will have to give valid proof of being manufacturer / importer.	Mandatory
2	Personnel/Human Resource	
2.1	Diploma of Associate Engineer (DAE) in electrical / electronic / mechatronics / mechanical / industrial. DAE certificate must be submitted. (1 mark for each certificate)	2
2.2	Graduate Engineer with PEC Registration in electrical / electronic / mechatronics / mechanical / industrial. PEC card of the engineer must be submitted. (2 marks for each certificate)	6 (08)
3	Workshop facility Testing/ Calibration tools of Equipment	
3.1	Availability of workshop in Khyber Pakhtunkhwa to be verified with Ownership / Rent Agreement with Owner / Rent Agreement with Company Name.	No marks, being Mandatory
3.2	Availability of workshop at National level to be verified with Ownership / Rent Agreement with Owner/ Rent Agreement with Company Name.	2 (10)
3.3	List of Tools, Testing and Calibration tools for the quoted items available at workshop.	2 (12)
3.4	Detail of Spare parts availability at workshop for the quoted items (inventory list).	2 (14)
4	Firm / bidder Financial Strength	
4.1	Annual Income tax returns for last 2 years (1 mark for each year).	2 (16)
4.2	Last Two years Audited Balance Sheet Duly attested by Chartered Accountant (1 mark for each year).	2 (18)
4.2	Sales tax returns for last 2 years	2(20)
5	Firm / bidder Registration and Experience	
5.1	Firm / bidder must be registered with PEC (Pakistan Engineering Council) in category EE11. (For solar systems only)	No marks, being Mandatory
B	Total Score of the Firm / bidder Evaluation Parameters	20
A+B	Total Score (A + B)	(50+20) = 70

The bidders will quote the technical bid quotation on the format / form given below.

Technical Bid Quotation Form / Vis-à-vis Format

Name of Equipment / Item:	
Model:	
Make:	
Country of Origin:	
Category of equipment / item:	
S. No in SBDs:	
Comparative of Required Specification and Quoted Specification	
Required Specification (Procurement Cell DGHS)	Quoted Specification of the bidder

Explanation of the quotation form:

1. All the bidders must submit the quotation for category A and B items on the above form.
2. All the bidders must make a comprehensive sheet with all the required specifications. (Compare all the quoted specification to the required specification).
3. Attached the supported documents i.e Broucher / Catalogue clearly highlighted the specifications mention in the technical quotation.
4. The successful bidders shall provide complete technical manual and operation manual (soft and hard) to the incharge of central workshop Peshawar, Procurement Cell and all regional workshops.

Section V. Technical Specifications (Continued)

Financial Evaluation and Scoring System for Bids

(Maximum Allocable Marks Score = 30 marks)

The financial bids of technically qualified bidders will be opened publicly at the time to be announced by the Procuring Agency and the financial bids found technically non-responsive shall be returned un-opened to the respective Bidders.

Total Allocable marks for Technical Proposal = 70

Total Allocable marks in Financial Proposal= 30

Total Combined Allocable Score for individual bids = Marks obtained in Technical Evaluation + Marks obtained in Financial Evaluation = 100

Scoring Methodology:

Contract will be awarded to the best evaluated fair and responsive bidder whose product ranks highest in the Combined Evaluation scoring calculated through the Marks awarded to Technical Proposal and Financial Proposal as stated in the Bid Data Sheet of these Standard Bidding Documents.

The Evaluation Methodology is a combination of non-price factors (in Technical Criteria) and price factor (in Financial Criteria); and each having points as elaborated in the evaluation preforms provided in these SBDs.

Procedure for the Marks Scoring: Marks will be awarded or otherwise for various technical parameters to each quoted product based on the prescribed Technical and Financial criteria. The total combined marks will determine the highest-ranking product in each product category for contract award.

The formula to calculate the marks for the price by the bidders other than lowest bidder is given below:

Financial Evaluation Score of individual quoted Product:

= [Lowest quoted Price of the item ÷ Next higher proposed Price of the competing item] x Total allocable financial score

Solved Example of Financial Scoring :

- If the lowest quoted price of an item is Rs. 86/-, the same lowest bidder will obtain score as below: = $[86 \div 86] \times 30$

=30 marks, being the lowest bidder for the quoted item.

- If the next higher quoted price of the same item is Rs. 105/-, the marks obtained will be: = $[86 \div 105] \times 30 = 24.57$ Marks

- If the next higher quoted price of the same item is Rs. 130/-, the marks obtained will be: = $[86 \div 130] \times 30 = 19.84$ Marks

.... And so on.

Details of tools

S.No	Item name
1.	Analog and Digital multimeter
2.	Precision screwdrivers
3.	Hammers
4.	Tape measure
5.	Pliers
6.	Mini small ratchet wrench
7.	Straight screwdriver
8.	Phillips screwdriver
9.	Screwdriver handle & heads
10.	Allen keys sets all sizes
11.	Cutting Saw
12.	Spanner
13.	Digital electrical test pen
14.	Flexible rule
15.	Insulation tape
16.	Drill machine
17.	Protective Gloves
18.	Protective Caps
19.	Soldering wire
20.	Soldering Machine
21.	Heat gun
22.	Oscilloscope digital/Analog
23.	Clamp meter
24.	Ratchet set large
25.	Variation power supply
26.	Level
27.	Network cable tester
28.	Earth meter
29.	Smart tool kit for field work

Total Marks =2

Firm having minimum 15 tools will be awarded 1 mark

Firm having 15-29 tools will be awarded 2 marks

Testing & Calibration Tools

1	Standard Digital MultiMater
2	Tester
3	EDL Tool
4	Level With Laser Indication
5	Oscilloscope
6	KV Meter
7	ma Meter
8	Ground Tester
9	Dose Meter
10	Ratchet Set
11	Test Lung
12	Gas detector
13	IC Tester
14	ESR meter Kit
15	Variable Power Supply
16	Digital Thermometer
17	Tachometer
18	Scale
19	Stop Watch
20	Watt Meter
21	Light Meter
22	Kv MaS meter
23	X-Ray Survey Meter
24	Fluke ESA Analyzer
25	Image Quality Tester
26	Torque Wrench Set
27	Beam Alignment Test Tool
28	IEC Leakage Current Probe
29	PIN Gauge (Tool Only)
30	Clamp On Leak Hi Tester
31	Mains Resistance Meter MRM100

Total Marks =2

Firm having minimum 15 tools will be awarded 1 mark

Firm having 15-31 tools will be awarded 2 marks

Section VI. Sample Forms

MANDATORY STANDARD FORMS (1 to 5)

BID FORM 1: BID COVER SHEET

BID FORM 2: LETTER OF INTENTION

BID FORM 3: AFFIDAVIT

BID FORM 4: PRICE SCHEDULE FORMAT FOR FINANCIAL BID

(To be submitted in separate sealed envelope)

BID FORM 5: INTEGRALITY PACTS

CONTRACT AGREEMENT (Template for information only, shall be signed with the successful Bidders only)

BID FORM -1**BID COVER SHEET****Mandatory General Information of Applicant Firm**

NOTE: Complete filling of this form along with the provision of all requisite information is mandatory. Missing or not providing any of the requisite information may lead to dis-qualification of the bidder/s from the bidding competition without any correspondence. Any appeal from bidder/s, for whatsoever reasons, will not be entertained in such a case.

S.No .	Name of the Bidding Firm: _____	
1.	Please indicate whether the firm is : a. Manufacturer, or b. Importer, or c. Both Manufacturer and importer. d. Authorized Agent/Dealer/Distributor For various items Offered for this bidding competition.	
2.	Please indicate the category/ies under which the Firm is applying for bidding a Machinery & Equipment b Instrument/ other Hospital supplies. c General items. d Office equipment e Bedding & Clothing etc f others	
3.	Please provide names, attested copies of CNICs , two recent attested photographs , valid street addresses in Pakistan, all landline and mobile phone numbers of: a Owner/Proprietor of the Firm. b Managing Director / CEO of the Firm; c Focal person officially made responsible and authorized by the Firm for day-to-day official Correspondence with Procurement cell DGHS. d (Please provide clear, legible and visible attested photocopies of all the requisite items mentioned items)	
4.	Please provide the following valid information Regarding applicant Firm: Complete street address of the: a. Head Office b. Main warehouse; and c. Valid & working official Landline Phone and d. Fax Numbers; and e. Mobile phone numbers of the Focal Person registered against his /her CNIC No. And name; and f. Valid and functional Email address; g. Official Website address /es .	

5.	<p>a. Please provide in original the bid security instrument along with the Financial Proposal in the sealed envelope in the form of valid Call Deposit Receipt / Bank Draft / Bank Guarantee of the requisite amount from a scheduled Bank of Pakistan in the name of Director General Health Services, Peshawar. Non- provision of bid Security shall render the bid as non -responsive.</p> <p>b. However, please provide an affidavit on judicial stamp paper of appropriate face value in the sealed Envelope of the technical propos al to the effect that the bid security of the required amount (without mentioning the amount of bid security) has been ins ide the sealed envelope of the financial bid except where flat rates in bid security has been demanded by the Directorate General Office.</p>
6.	<p>Please provide attested copies of the following Tax related mandatory documents:</p> <p>a National Tax Number (NTN) of the Firm (FTN) for Income Tax</p> <p>b Last year Income Tax Return of the Firm; and</p> <p>c Sales Tax Registration Certificate of the Firm; and Certificate of Professional Tax</p>
7.	<p>In case of being manufacturer, the Firm should provide attested copies of the following mandatory documents also:</p> <p>a Duly attested copy of valid Certificate from Chamber of Commerce of the respective country</p>
8	<p>In case of being importers, the Firm should provide attested copies of the following mandatory document/s also:</p> <p>Valid Authorization Certificate for the quoted items, duly attested by the Embassy concerned.</p>

Bid Form 2

Letter of Intention

Bid Ref No.

Date of the Opening of Bids

Name of the Contract: {Add name. e.g. Supply of machinery & equipment, instruments and other hospital supplies, etc.}

To: *[Name and address of Procuring Agency]*

Dear Sir/Madam,

Having examined the bidding documents, including Addenda Nos. *[insert numbers & Date of individual Addendum]*, the receipt of which is hereby acknowledged, we, the undersigned, offer to supply and deliver the Goods under the above-named Contract in full conformity with the said bidding documents and at the rates/unit prices described in the financial bid are not more than a trade price & the prices are not more than the market rates.

We undertake, if our bid is accepted, to deliver the Goods in accordance with terms and condition of contract agreement.

We agree to abide by this bid, for the Bid Validity Period specified in the Bid Data Sheet and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in Pakistan.

Dated this *[insert: number]* day of *[insert: month]*, *[insert: year]*.

Signed:

In the capacity of *[insert: title or position]*

Duly authorized to sign this bid for and on behalf of *[insert: name of Bidder]*

Bid Form 3

AFFIDAVIT *(on Judicial Stamp Paper)*

I/We, the undersigned [**Name of the Supplier**] hereby solemnly declare and undertake that:

- 1) We have read the contents of the Bidding Document and have fully understood it.
- 2) The Bid being submitted by the undersigned complies with the requirements enunciated in the bidding documents.
- 3) The Goods that we propose to supply under this contract are eligible goods within the meaning of this SBD/BSD.
- 4) The undersigned are also eligible Bidders within the meaning of the Standard Bidding Documents.
- 5) The undersigned are solvent and competent to undertake the subject contract under the Laws of Pakistan. Furthermore neither our principle/Manafuracture is/are insolvent nor blacklisted.
- 6) The undersigned have not paid nor have agreed to pay, any Commissions or Gratuities to any official or agent related to this bid or award or contract.
- 7) The undersigned are not blacklisted or facing debarment from any Government, or its organization or project.
- 8) That undersigned has not employed any child labor in the organization/unit.
- 9) The undersigned has successfully completed all contracts assigned and has not violated the previous contract agreement with this department.
- 10) We understand that the Selection and Rate Contracting Committee of the Procuring Agency is not bound to accept the lowest or any other bid they may receive.

We affirm that the contents of this affidavit are correct to the best of our knowledge and belief.

Signatures with stamp

Name: _____

Designation: _____

CNIC No. _____

For, Messer. [*Name of Supplier*]

Bid Form-4-A**Note: This form is to be submitted in separate sealed envelope****Price Schedule format for Financial Bid of Machinery & Equipment, Instruments & other Hospital supplies etc. for the year 2022-23.****1. In case of Machinery & Equipment etc**

S.No	Serial No. of quoted item in Statement of Requirement of the DSBs 2010-21	Name of the item	Number of Items (Single Unite)	Rate offered per unit Rs. Inclusive of all taxes	Total Price Pak Rupees

Bid Form 4-B: Technical Bid Quotation Form / Vis-à-vis

Name of Equipment / Item:	
Model:	
Make:	
Country of Origin:	
Category of equipment / item:	
S. No in SBDs:	
Comparative of Required Specification and Quoted Specification	
Required Specification (Procurement Cell DGHS)	Quoted Specification of the bidder

Bid Form-5

INTEGRITY PACT (on Judicial Stamp Paper)

Declaration of Fees, Commission and Brokerage etc Payable by Manufacturers, Importers for the supply of Machinery & Equipment, Instrument and other Hospital supplies etc. 2022-23.

In response to advertisement related to the bidding process / competition regarding purchase and supply of machinery and equipment, instrument and other hospital supplies for 2022-23 for the health facilities /institutions through Procurement Cell, DGHS I, Mr. _____s/o _____ bearing CNIC No. _____, And having the Designation of _____ In Messrs. (M/S) [Name of Supplier] do hereby solemnly Affirm, declare and certify on behalf of M/S [Name of Supplier] that:

1. [Name of Supplier] has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Khyber Pakhtunkhwa (GoKP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoKP through any corrupt business practice; and
2. That without limiting the generality of the foregoing, [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. Paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoKP, except that which has been expressly declared pursuant hereto; and
3. That [Name of Supplier] has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoKP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty; and
4. That [Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoKP under any law, contract or other instrument, be voidable at the option of GoKP; and

That notwithstanding any rights and remedies exercised by GoKP in this regard, [Name of Supplier] agrees to indemnify GoKP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoKP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoKP.

Signatures with stamp

Name:

Designation:

CNIC No. _____

Messer. [Name of Supplier]

Witness No. 1 Witness No. 2

(Signatures, name, father's name, CNIC & address of each Witness)

RATE CONTRACT AGREEMENT (Template) (For successful bidders)

THIS RATE CONTRACT AGREEMENT is made and agreed today on _____ day of [Month], 2022-23 between the Government of Khyber Pakhtunkhwa Health Department through Director General Health Services (*hereinafter referred to as the Procuring Agency or the first party, which expression shall, where the context admits, be deemed to include the assignee/s of the provincial Government of Khyber Pakhtunkhwa*) ; and Messrs.[Name of Supplier] through Mr. _____ Designation _____

CNIC No. _____, (hereinafter referred to as the Supplier or the second party or he/his, which expression, unless repugnant to the context, means and includes their legal heir/s, successors-in-interest, assignee/s and legal representative/s) that: WHEREAS the Procuring Agency has made a bidding competition for selection and rate contracting for supply of **(Name of equipment, Country of origin along with model at Rs.)** machinery & equipment, instruments and other hospital supplies (*hereinafter referred to as goods*) for actual purchases of the selected and rate contracted goods to be made by the offices / officers of the Health Department, Government of Khyber Pakhtunkhwa (*hereinafter called the Purchasing Agency or Purchasing Agencies where the context so admits*); and

WHEREAS the Supplier declares that he is not a broker, middle-man, distributor or authorized dealer but himself a Manufacturer and / or direct Importer of goods for which he has won the bidding competition for supply of goods to the Procuring Agency throughout the province of Khyber Pakhtunkhwa (*hereinafter referred to as the Province*) to the Purchasing Agencies; and WHEREAS both the parties have agreed that the Purchasing Agencies in the Province shall purchase all or some or none of the goods, as of details given in the Schedule -1 of this Contract Agreement, from the Supplier at the sole discretion of the individual Purchasing Agencies; and

WHEREAS the Supplier shall supply all the goods ordered by the Purchasing Agency to the latter in the quantity as mentioned in the supply order to be issued by the Purchasing Agency within the timeframe as mentioned in bidding Documents i.e within 90 days from the date of issuance of supply order by the Purchasing Agency for items to be imported items while 60 days for locally manufactured items ; Now, therefore, both the parties mutually agree to enter into this contract agreement as under:

1. The Supplier agrees to take full responsibility of the validity and implications, that may arise in future, of declaration submitted by him in the form of affidavit on judicial

stamp paper along with the financial bids; and also that in case of any kind of breach of the said declaration, the Supplier shall be liable to be proceeded against by the Procuring Agency in accordance with the clauses of this rate contract agreement as well as relevant laws, rules and regulations of the Government of Khyber Pakhtunkhwa, as amended from time to time, to govern the situation/s.

2. The Supplier shall supply the ordered goods to the Purchasing Agency exactly at the address of the official premises situated within the district of the official jurisdiction of the latter as given in the supply order issued to the former.
3. The Supplier shall be solely responsible for transportation, loading and / or unloading and staking of the supplied items till and at the time of delivery to the destination indicated by the Purchasing Agency including any damage or untoward incidence, maintenance of required temperature and protection from light and other environmental conditions as well as other hazards that may possibly or Potentially affect the safety, quality and efficacy of the supplied items.
4. The Supplier shall NOT claim or charge transportation, loading / unloading, labor or any other Charges related to or in the name of logistics, accidents, insurance, freight, etc.
5. The Procuring Agency shall arrange to obtain sample/s from each supplier before Finalization of award with the successful bidder in each category.
6. The Supplier will arrange demo for the physical inspection to the Procuring Agency and shall bear the associated cost.
7. The Supplier will make necessary arrangements including on job training to the end user before release of final payment or damage liability period is over.
8. The Supplier will provide Service Manual, Circuit diagram and error logbook and operational Manual for the supplied goods. The successful bidders shall provide complete technical manual and operation manual to the in charge of central workshop Peshawar all regional workshops.
9. In case of non-supply or delayed supply of items the Supplier shall be proceeded against under the relevant law of the land i.e. Procurement regime and associated country laws.
10. The Purchasing Agency shall recommend to the Procuring Agency for taking legal / lawful action against the Supplier regarding non-supply, short supply, substituted supply, delayed supply or any other unlawful action / shortcoming, on the part of Supplier during the execution of this contract agreement. The Procuring Agency shall take lawful / legal action against the Supplier in accordance with the clauses of this contract agreement as

well as relevant laws, rules and regulations of the Government of Khyber Pakhtunkhwa, as amended from time to time, to govern suchlike situation/s, which may include, but not limited to, blacklisting, forfeiture of earnest money and performance guarantee, etc.

11. The Supplier agrees to the following conditions related to packing, packaging and labeling of the goods to be supplied to Purchasing Agencies under this contract agreement:
12. The Procuring Agency or its representative shall have the right to inspect the manufacturing facility, premises, warehouse, godowns, laboratories etc. at any time during the financial year 2020-21 and/or till the execution of supply orders given under this contract agreement by Purchasing Agencies Khyber Pakhtunkhwa.
13. RATE VALIDITY: The Supplier agrees that the approved price of all individual items quoted in the financial bids shall remain valid till and up to **30th June 2023**.
14. PERFORMANCE GUARANTEE: Upon receipt of supply order from the Purchasing Agency, the Supplier shall submit Performance Guarantee to the former, amounting to ten per cent (10%) of the total value of the each individual supply order, which shall be returned to the Supplier upon request after the successful finalization of the process of procurement by the Purchasing Agencies till warranty period.
15. WARRANTY: The supplier shall provide warranty on prescribed form in Bidding Documents to the Purchasing Agency for each item supplied in response to supply orders.
16. PAYMENT SCHEDULE: Bill for payment in triplicate along with all other relevant and required documents shall be submitted by the Supplier, to the Procuring Agency immediately after complete supply of stock. The Supplier shall be bound to pay all sorts of government taxes, duties and stamp duties, imposed earlier or during the financial year by the Government of Pakistan or by the Provincial Government of Khyber Pakhtunkhwa on any supplied / purchased item.
17. FORCE MAJEURE:
 - a. In case of the situation related to Force Majeure, the Supplier may inform the Procuring Agency and the Purchasing Agency in writing about the situation immediately without delay along with solid proof through the fastest, lawful and available means of communication, but not through the electronic mail, and request the Procuring Agency for the grant of extension in the supply Period.
 - b. The Procuring Agency, in case of being fully satisfied with the genuineness of situation arising from Force Majeure for the Supplier, may extend the period of supply of goods

up to a maximum Of not more than thirty days without penalty. However, the Procuring Agency and / or Purchasing Agency shall, in no case, be responsible or held responsible for any complications in making payments to Supplier by the Purchasing Agency that may arise from the closure of financial year and lapse / surrender of public funds vis-à-vis the normal financial management procedures in public sector.

18. PENALTIES:

- a. The Supplier shall complete the supply of the ordered goods under this agreement within the stipulated period as laid down in the SBDs. In case of delay in supplies reaching to the Purchasing Agency, except in situation/s covered under clause 17 above, the following penalties shall be imposed by the Purchasing Agency upon the Supplier: For delay in supply from one day up to fifteen days, a lump sum penalty amounting to three percent (03%) of the total bid price of the total number of item/s supplied late shall be levied through deducting the total amount of penalty from the total pre-tax payable billed amount by the Purchasing Agency. For delay in supply from sixteen days up to thirty days, a lump sum total penalty amounting to seven per cent (07%) of the total bid price of the total number of item/s supplied late shall be levied through deducting the total amount of penalty from the total pre-tax payable billed amount by the Purchasing Agency. Upon delay in supply more than thirty days, the supply contract shall stand cancelled and the ten percent performance guarantee shall stand forfeited and Procuring Agency shall have the right, duty and authority to impose any or all of the below mentioned penalties; that is Forfeiting the earnest money and performance guarantee of the Supplier related to this contract agreement; and Immediately debarring the Supplier from future participation and business for at least next three (03) calendar years with the Procurement Cell or any other health institution, project and / or Program directly or indirectly run or implemented by or through the provincial Health Department or autonomous Medical Teaching Institutions or district governments in Khyber Pakhtunkhwa; and Initiating the process for and recommending for blacklisting of the Supplier under the rules with the Agencies; and Proceeding for de-registration of the winning bidder under the relevant laws as well as further judicial proceedings, if the situation so warrants in the opinion of Procuring Agency.
- b. In case of delay of more than thirty days extended period as in clause 17 above, the contract shall stand cancelled and the performance guarantee of ten per cent shall stand forfeited.

19. INDEMNITY:

Notwithstanding any rights, duties and / or remedial measures and / or managerial actions taken and / or to be taken and / or any powers exercised and / or to be exercised by the Procuring Agency and / or Purchasing Agency and / or Purchasing Officer/s with regard to the execution of this contract agreement, the Supplier agrees to indemnify them for any loss or damage incurred or inflicted upon by them in individual or official capacity upon the Supplier whether through any of their actions and / or practices and / or otherwise. The Supplier further agrees to pay compensation to the Government of Khyber Pakhtunkhwa of an amount equivalent to ten times the sum of any commission, gratification, bribe or kickback and / or finder's fee given by the Supplier for the purpose of obtaining and / or inducing the Procurement of any contract, right, interest, privilege or other obligation/s or benefit in whatsoever form, from the Procuring Agency or any of the Purchasing Agencies.

20. RESOLUTION OF DISPUTES:

The Purchasing Agency and the Supplier shall make every effort to resolve amicably by direct negotiation any disagreement or dispute arising between them under or in connection with the contract / supplies. Despite such negotiation if the Purchasing Agency & Supplier have been unable to resolve amicably a contract dispute, either party may refer the case to Secretary Health Khyber Pakhtunkhwa for decision through a Dispute Resolution Committee under the chairmanship of Secretary Health Khyber Pakhtunkhwa with Director General Health Services, Khyber Pakhtunkhwa and Additional Secretary Health (Development) Khyber Pakhtunkhwa as members. The decision of the Dispute Resolution Committee shall be final and binding upon both the parties.

Signature Director General Health Services Khyber Pakhtunkhwa For and on behalf of Government of Khyber Pakhtunkhwa, Health Department Peshawar	Signature: Name: Designation CNIC No. Stamp: For and on behalf of the Bidder
WITNESS NO. 1 Signature: Name: Father's Name: Address: CNIC No	WITNESS NO. 2 Signature: Name: Father's Name: Address: CNIC No