REPUBLIC OF KENYA

COUNCIL OF GOVERNORS

MINISTRY OF HEALTH
STATE DEPARTMENT FOR MEDICAL SERVICES

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TENDER DOCUMENT

PROVISION OF SERVICES FOR MEDICAL EQUIPMENT AT A FIXED FEE FOR SERVICE IN PUBLIC HEALTH FACILITIES

TENDER NO: MOH/SDMS/HI/OT/001/2023-2024

OPEN TENDER

CLOSING/OPENING DATE:2ND JULY 2024 AT 11:00 AM

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PART 1 - TENDERING PROCEDURES

SECTION I -INSTRUCTIONS TO TENDERERS

A. General

1. Scope of Tender

1.1 This tendering document is for the delivery of Non-Consulting Services, as specified in Section V, Procuring Entity's Requirements. The name, identification and number of this tender are specified in the **TDS.**

2. Throughout this tendering document:

2.1 The terms:

a) The term "in writing" means communicated in written form (e.g., by mail, e-mail, fax, including if specified **in the TDS**, distributed or received through the electronic- procurement system used by the Procuring Entity) with proof of receipt;

b) if the contexts or esquires, "singular" means "plural" and vice versa; and

c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Procuring Entity. It excludes the Procuring Entity's official public holidays.

2.2 The successful Tenderer will be expected to complete the performance of the Services by the Intended Completion Date provided **in the TDS**.

3. Fraud and Corruption

3.1 The Procuring Entity requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015 (the Act), Section 62 "Declaration not to engage in corruption". The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.

3.2 The Procuring Entity requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the "Certificate of Independent Tender Determination" annexed to the Form of Tender.

3.3 **Unfair Competitive Advantage** - Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, the Procuring Entity shall indicate in the **TDS** and make available to all the firms together with this tender document all Information that would in that respect gives such firm any unfair competitive advantage over competing firms.

3.4 Unfair Competitive Advantage-Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

4. Eligible Tenderers

4.1 A Tenderer may be a firm that is a private entity, a state-owned entity or institution subject to ITT 4.6, or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a Form of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Tendering process and, in the event the JV is awarded the Contract, during contract execution. Members of a joint venture may not also make an individual tender, be a sub contract or in a separate tender or be part of another joint venture for the purposes of the same Tender. The maximum number of JV members shall be specified in the **TDS.**

4.2 Public Officers, of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse in which they have a substantial or controlling interest shall not be eligible to tender or be awarded contract. Public Officers are also not allowed to participate in any procurement proceedings.

4.3 A Tenderer shall not have a conflict of interest. Any Tenderer found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest for the purpose of this Tendering process, if the Tenderer:

a Directly or indirectly controls, is controlled by or is under common control with another Tenderer; or

b Receives or has received any direct or indirect subsidy from another Tenderer; or

c has the same legal representative as another Tenderer; or

d has a relationship with another Tenderer, directly or through common third parties, that puts it in a position to influence the Tender of another Tenderer, or influence the decisions of the Procuring Entity regarding this Tendering process; or

e oranyofitsaffiliatesparticipatedasaconsultantinthepreparationoftheProcuringEntity'sRequirements (including Activities Schedules, Performance Specifications and Drawings) for the Non-Consulting Services that are the subject of the Tender; or

f or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity or Procuring Entity for the Contract implementation; or

g would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the TDS ITT 2. 1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or

h has a close business or family relationship with a professional staff of the Procuring Entity or of the project implementing agency, who:

i. are directly or in directly involved in the preparation of the tendering document or specifications of the contract, and/or the Tender evaluation process of such contract; or

ii. Would be involved in the implementation or supervision of such contract unless the conflicts teeming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the procurement process and execution of the Contract.

4.4 A firm that is a Tenderer (either individually or as a JV member) shall not participate in more than one tender, except for permitted alternative Tenders. This includes participation as a subcontractor. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a Tenderer or a JV member may participate as a sub-contractor in more than one Tender.

4.5 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4 .9.

4.6 A Tenderer that has been sanctioned by PPRA or are under a temporary suspension or a debarment imposed by any other entity of the Government of Kenya shall be ineligible to be pre-qualified for, initially selected for, tender for, propose for, or be awarded a contract during such period of sanctioning. The list of debarred firms and individuals is available at the PPRA Website www.ppra.go.ke

4.7 Tenderers that are state-owned enterprises or institutions in Kenya may be eligible to compete and be awarded a Contract(s) only if they can establish that they: (i) are legally and financially autonomous; (ii) operate under Commercial law; and (iii) are not under supervision of the Procuring Entity.

4.8 Firms and individuals may be ineligible if (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations

Security Council take under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person or entity in that country.

4.9 A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub consultants for any part of the Contract including related Services.

4.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided in for this purpose is be provided in *"SECTION III-EVALUATION AND QUALIFICATION CRITERIA, Item 9".*

4.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not sub contract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

4.12 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke

4.13 A Tenderer may be considered ineligible if he/she offers goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

4.14 A Kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing a valid tax compliance certificate or tax exemption certificate is sued by the Kenya Revenue Authority.

5 Qualification of the Tenderer

5.1 All Tenderers shall provide in Section IV, Tendering Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

5.2 In the event that pre-qualification of Tenderers has been undertaken as stated in ITT 18.3, the provisions on qualifications of the Section III, Evaluation and Qualification Criteria shall not apply.

B. Contents of Tendering Document

6 Sections of Tendering Document

6.1 The tendering document consists of Parts 1, 2, and 3, which include all the sections indicated below and should be read in conjunction with any Addenda issued in accordance with ITT 10.

PART 1: Tendering Procedures

i) Section I - Instructions to Tenderers (ITT)
ii) Section II - Tender Data Sheet (TDS)
iii) Section III - Evaluation and Qualification Criteria
iv) Section IV - Tendering Forms

PART 2: Procuring Entity's Requirements

v) Section V-Procuring Entity's Requirements

PART 3: Contract

vi) Section VI - General Conditions of Contract (GCC)

vii) Section VII - Special Conditions of Contract (SCC)

viii) Section VIII - Contract Forms

6.2 The Invitation to Tender (ITT) notice or the notice to pre-qualify Tenderers, as the case may be, issued by the Procuring Entity is not part of this tendering document.

6.3 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Tender meeting (if any), or Addenda to the tendering document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

6.4 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the tendering document and to furnish with its Tender all information or documentation as is required by the tendering document.

7. Site Visit

7.1 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the Site of the Required Services and its surroundings and obtain all information that may be necessary for preparing the Tender and entering in to a contract for the Services. The costs of visiting the Site shall beat the Tenderer's own expense.

8 Pre-Tender Meeting

8.1 The Procuring Entity shall specify in the **TDS** if a pre-tender conference will be held, when and where. The Procuring Entity shall also specify in the **TDS** if a pre-arranged pretender site visit will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

8.2 The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later than the period specified in the **TDS** before the meeting.

8.3 Minutes of the pre-Tender meeting and the pre-arranged pre tender visit of the site of the service, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT6.3. Minutes shall not identify the source of the questions asked.

8.4 The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the service at the web page identified **in the TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-Tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT10 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9 Clarification of Tender Documents

9.1 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the TDS or raise its enquiries during the pre-Tender meeting and the pre- arranged pretender visit of the site of the Service if provided for in accordance with ITT 8.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender Documents in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If so specified in the **TDS,** the Procuring Entity shall also promptly publish its response at the webpage identified in the **TDS.** Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents appropriately following the procedure under ITT 8.4.

10 Amendment of Tender Documents

10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.

10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.

10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 24.2 below.

C. Preparation of Tenders

11 Cost of Tendering

11.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

12 Language of Tender

12.1 The Tender as well as all correspondence and documents relating to the Tender exchanged by the Tenderer and the Procuring Entity shall be written in the English language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate translation of the relevant passages into the English language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

13 Documents Comprising the Tender

13.1 The Tender shall comprise the following:

a **Form of Tender** prepared in accordance with ITT 14;

b **Schedules:** priced Activity Schedule completed in accordance with ITT 14 and ITT 16;

c **Tender Security or Tender-Securing Declaration** in accordance with ITT 21.1;

d **Alternative Tender**: if permissible in accordance with ITT 15;

e **Authorization:** written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3;

f **Qualifications:** documentary evidence in accordance with ITT 19 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;

g **Tenderer's Eligibility**: documentary evidence in accordance with ITT 19 establishing the Tenderer's eligibility to Tender;

h **Conformity**: documentary evidence in accordance with ITT 18, that the Services conform to the tendering document; and

i Any other document required in the **TDS.**

The Tenderer shall chronologically serialize pages of all tender documents submitted.

13.2 In addition to the requirements under ITT 13.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a Form of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed Agreement.

13.3 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

14 Form of Tender and Activity Schedule

14.1 The Form of Tender and priced Activity Schedule shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 22.3. All blank spaces shall be filled in with the information requested.

14.2 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

15 Alternative Tenders

15.1 Unless otherwise indicated **in the TDS**, alternative Tenders shall not be considered. If alternatives are permitted, only the technical alternatives, if any, of the Best Evaluated Tender shall be considered by the Procuring Entity.

15.2 When alternative times for completion are explicitly invited, a statement to that effect will be included **in the TDS** and the method of evaluating different time schedules will be described in Section III, Evaluation and Qualification Criteria.

15.3 When specified **in the TDS**, Tenderers a reemitted to submit alternative technical solutions for specified parts of the Services, and such parts will be identified **in the TDS**, as will the method for their evaluating, and described in Section VII, Procuring Entity's Requirements.

16. Tender Prices and Discounts

16.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Activity Schedule (s) shall conform to the requirements specified below.

16.2 All lots (contracts) and items must be listed and priced separately in the Activity Schedule(s).

16.3 The Contract shall be for the Services, as described in Appendix A to the Contract and in the Specifications (or Terms of Reference), based on the priced Activity Schedule, sub mitted by the Tenderer.

16.4 The Tenderer shall quote any discounts and indicate the methodology for their application in the Form of Tender in accordance with ITT 16.1.

16.5 The Tenderer shall fill in rates and prices for all items of the Services described in the in Specifications (or Terms of Reference), and listed in the Activity Schedule in Section VII, Procuring Entity's Requirements. Items for which no rate or price is entered by the Tenderer will not be paid for by the Procuring Entity when executed and shall be deemed covered by the other rates and prices in the Activity Schedule.

16.6 All duties, taxes, and other levies payable by the Service Provider under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the total Tender price submitted by the Tenderer.

16.7 If provided for **in the TDS**, the rates and prices quoted by the Tenderer shall be subject to adjustment during the performance of the Contract in accordance with and the provisions of Clause 6.6 of the General Conditions of Contract and / or Special Conditions of Contract. The Tenderer shall submit with the Tender all the information required under the Special Conditions of Contract and of the General Conditions of Contract.

16.8 For the purpose of determining the remuneration due for additional Services, a breakdown of the lump-sum price shall be provided by the Tenderer in the form of Appendices D and E to the Contract.

17 Currencies of Tender and Payment

17.1 The currency of the Tender and the currency of payments shall be Kenya Shillings.

18 Documents Establishing Conformity of Services

18.1 To establish the conformity of the Non-Consulting Services to the tendering document, the Tenderer shall furnish as part of its Tender the documentary evidence that Services provided conform to the technical specifications and standards specified in Section VII, Procuring Entity's Requirements.

18.2 Standards for provision of the Non-Consulting Services are intended to be descriptive only and not restrictive. The Tenderer may offer other standards of quality provided that it demonstrates, to the Procuring Entity's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Procuring Entity's Requirements.

18.3 Tender to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a Service provider or group of service providers. qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement processor contract management.

18.4 The purpose of the information described in ITT 18.3 above, overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.

18.4 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT18.3. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

18.6 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.

18.7 If a tenderer fails to submit the information required by these requirements, its tenderer will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.

18.8 If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

i) If the procurement process is still on going, the tenderer will be disqualified from the procurement process,

ii) if the contract has been awarded to that tenderer, the contract award will be set aside, pending the outcome of (iii),

iii) The tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

18.9 If a tenderer submits information pursuant to these requirements that is in complete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 18.9 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine err or which was not attributable to the intentional act, negligence or recklessness of the tenderer.

19 Documents Establishing the Eligibility and Qualifications of the Tenderer

19.1 To establish Tenderer's their eligibility in accordance with ITT4, Tenderers shall complete the Form of Tender, included in Section IV, Tendering Forms.

19.2 The documentary evidence of the Tenderer's qualification stopper form the Contract if its Tender is accepted shall establish to the Procuring Entity's satisfaction that the Tenderer meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

19.3 All Tenderers shall provide in Section IV, Tendering Forms, a preliminary description of the proposed methodology, work plan and schedule.

19.4 In the event that pre-qualification of Tenderers has been undertaken, only Tenders from prequalified Tenderers shall be considered for award of Contract. These qualified Tenderers should submit with their Tenders any information updating their original pre-qualification applications or, alternatively, confirm in their Tenders that the originally submitted pre-qualification information remains essentially correct as of the date of Tender submission.

19.5 If pre-qualification has not taken place before Tendering, the qualification criteria for the Tenderers are specified- in Section III, Evaluation and Qualification Criteria.

20 Period of Validity of Tenders

20.1 Tenders shall remain valid for the Tender Validity period specified in the TDS. The Tender Validity period starts from the date fixed for the Tender submission deadline date (as prescribed by the Procuring Entity in accordance with ITT 24.1). A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT20, it shall also be extended for a corresponding period. A Tenderer may refuse the request without forfeiting its Tender Security. A Tenderer granting the request shall not be required or permitted to modify its Tender.

21 Tender Security

21.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender security, as specified **in the TDS**, in original form and, in the case of a Tender Security, in the amount and currency specified **in the TDS**.

21.2 A Tender Securing Declaration shall use the form included in Section IV, Tendering Forms.

21.3 If a Tender Security is specified pursuant to ITT 21.1, from a reputable source, and an eligible country and shall be in any of the following forms at the Tenderer's option:

i) cash;

ii) a bank guarantee;

iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority; or

iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya,

21.4 If a Tender Security is specified pursuant to ITT 20.1, any Tender not accompanied by a substantially responsive Tender Security shall be rejected by the Procuring Entity as non-responsive.

21.5 If a Tender Security is specified pursuant to ITT 21.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the contract and furnishing the Performance Security pursuant to ITT 46. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.

21.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security.

21.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:

a. If a Tenderer withdraw sits Tender during the period of Tender validity specified by the Tenderer in the Form of Tender, or any extension there to provide by the Tenderer; or

b. if the successful Tenderer fails to:

c. sign the Contract in accordance with ITT 46; or

d. Furnish a performance security in accordance with ITT 47.

21.8 Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA that PPRA debars the Tenderer from participating in public procurement as provided in the law.

21.9 The Tender Security or Tender-Securing Declaration of a JV must be in the name of the JV that submits the

Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of Tendering, the Tender security or Tender-Securing Declaration shall be in the names of all future members as named in the Form of intent referred to in ITT 4.1 and ITT 13.2.

21.10 A tenderer shall not issue a tender security to guarantee itself.

22 Format and Signing of Tender

22.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 13, bound with the volume containing the Form of Tender, and clearly marked "Original. "In addition, the Tenderer shall submit copies of the Tender, in the number specified **in the TDS**, and clearly marked as "Copies. "In the event of discrepancy between them, the original shall prevail.

22.2 Tenderers shall mark as "CONFIDENTIAL "information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

22.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified **in the TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

22.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

22.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. Submission and Opening of Tenders

23 Sealing and Marking of Tenders

23.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

a. in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT13; and

b. in an envelope or package or container marked "COPIES", all required copies of the Tender; and

c. if alternative Tenders are permitted in accordance with ITT15, and if relevant:

i. in an envelope or package or container marked "ORIGINAL–ALTERNATIVE TENDER", the alternative Tender; and

ii. in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

a) Bear the name and address of the Procuring Entity.

b) Bear the name and address of the Tenderer; and

c) Bear the name and Reference number of the Tender.

23.2 If an envelope or package or container is not sealed and marked as required, the *Procuring Entity* will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.

24 Deadline for Submission of Tenders

24.1 Tenders must be received by the Procuring Entity at the address and no later than the date and time specified

in the TDS. When so specified **in the TDS**, Tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified **in the TDS**.

24.2 The Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders by amending the tendering document in accordance with ITT9, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

25 Late Tenders

25.1 The Procuring Entity shall not consider any Tender that arrives after the dead line for submission of Tenders, in accordance with ITT 24. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned un opened to the Tenderer.

26 Withdrawal, Substitution and Modification of Tenders

26.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by a n authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITT 21.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

a) Prepared and submitted in accordance with ITT 21 and ITT 22 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and

b) Received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 23.

26.2 Tenders requested to be withdrawn in accordance with ITT 25.1 shall be returned unopened to the Tenderers.

26.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

27 Tender Opening

27.1 Except as in the cases specified in ITT 23 and ITT 25.2, the Procuring Entity shall, at the Tender opening, publicly open and read out all Tenders received by the deadline at the date, time and place specified **in the TDS** in the presence of Tenderers' designated representatives and anyone who choose to attend. Any specific electronic Tender opening procedures required if electronic tendering is permitted in accordance with ITT 23.1 shall be as specified **in the TDS.**

27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Tender shall not be opened, but returned to the Tenderer. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Tenderer, the corresponding Tender will be opened. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.

27.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.

27.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.

27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Prices, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.

27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further. The Form of Tender and the priced Activity Schedule are to be initialed by representatives of the Procuring Entity attending Tender opening in the manner specified **in the TDS**.

27.7 The Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT25.1).

27.8 The Procuring Entity shall prepare are cord of the Tender opening that shall include, as a minimum:

a) The name of the Tenderer and whether there is a withdrawal, substitution, or modification;

b) The Tender Price, per lot (contract) if applicable, including any discounts; and

c) any alternative Tenders;

d) The presence or absence of a Tender Security or Tender-Securing Declaration, if one was required.

e) Number of pages of each tender document submitted

27.9 The Tenderers' representatives who a rep resent shall be requested to sign the record. The omission of a Tenderer's signature on the record shall not invalidate the contents and effect of the record. A copy of the tender opening register shall be distributed to Tenderer upon request.

E. Evaluation and Comparison of Tenders

28 Confidentiality

28.1 Information relating to the evaluation of Tenders and recommendation of contract award, shall not be disclosed to Tenderers or any other persons not officially concerned with the Tendering process until information on the Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 42.

28.2 Any effort by a Tenderer to influence the Procuring Entity in the evaluation or contract award decisions may result in the rejection of its Tender.

28.3 Notwithstanding ITT 28.2, from the time of Tender opening to the time of Contract Award, if any Tenderer wishes to contact the Procuring Entity on any matter related to the Tendering process, it should do so in writing.

29 Clarification of Tenders

29.1 To assist in the examination, evaluation, and comparison of Tenders, and qualification of the Tenderers, the Procuring Entity may, at the Procuring Entity's discretion, ask any tenderer for clarification of its Tender including break downs of the prices in the Activity Schedule, and other information that the Procuring Entity may require. Any clarification submitted by a Tenderer in respect to its Tender and that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the Tenders, in accordance with ITT32.

29.2 If a Tenderer does not provide clarifications of its Tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

30 Deviations, Reservations, and Omissions

30.1 During the evaluation of Tenders, the following definitions apply:

a) “Deviation” is a departure from the requirements specified in the tendering document;

b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tendering document; and

c) “Omission” is the failure to submit part or all of the information or documentation required in the tendering document.

31 Determination of Responsiveness

31.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the Tender itself, as defined in ITT 12.

31.2 A substantially responsive Tender is one that meets the requirements of the tendering document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

a) If accepted, would:

i. affect in any substantial way the scope, quality, or performance of the Non-Consulting Services specified in the Contract; or

ii. limit in any substantial way, inconsistent with the tendering document, the Procuring Entity's rights or the Tenderer's obligations under the Contract; or

b) if rectified, would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

31.3 The Procuring Entity shall examine the technical aspects of the Tender submitted in accordance with ITT 18and ITT 19, in particular, to confirm that all requirements of Section VII, Procuring Entity's Requirements have been met without any material deviation or reservation, or omission.

31.4 If a Tender is not substantially responsive to the requirements of tendering document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

31.5 Provided that a Tender is substantially responsive, the Procuring Entity may waive any non-conformity in the Tender.

31.6 Provided that a Tender is substantially responsive, the Procuring Entity may request that the Tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial non-conformities or omissions in the Tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the Tender. Failure of the Tenderer to comply with the request may result in the rejection of its Tender.

31.7 Provided that a Tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the TDS**.

32 Arithmetical Errors

32.1 The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity.

32.2 Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis:

a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.

b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive .and

c) If there is a discrepancy between words and figures, the amount in words shall prevail

32.3 Tenderers shall be notified of any error detected in their bid during the notification of a ward.

33 Conversion to Single Currency

33.1 For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted into a single currency **as specified in the TDS**.

34 Margin of Preference and Reservations

34.1 Margin of preference on local service providers may be allowed if it is deemed that the services require participation of foreign tenderers. If so allowed, it will be indicated in the **TDS.**

34.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, youth and /or persons living with disability, who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses/firms belonging to the specified group are eligible to tender as

specified in the **TDS**. Otherwise, if not so stated, the invitation will be open to all tenderers.

35 Evaluation of Tenders

35.1 The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies, the Procuring Entity shall determine the Best Evaluated Tender. This is the Tender of the Tenderer that meets the qualification criteria and whose Tender has been determined to be:

a) Substantially responsive to the tendering document; and

b) The lowest evaluated cost.

35.2 In evaluating the Tenders, the Procuring Entity will determine for each Tender the evaluated Tender cost by adjusting the Tender price as follows:

a) Price adjustment due to discounts offered in accordance with ITT 16.4;

b) price adjustment due to quantifiable non material non-conformities in accordance with ITT 31.3;

c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance withITT33; and

d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.

35.4 In the case of multiple contracts or lots, Tenderers are allowed to tender for one or more lots and the methodology to determine the lowest evaluated cost of the lot (contract) and for combinations, including any discounts offered in the Form of Tender, is specified in Section III, Evaluation and Qualification Criteria. For one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT

35.5. The methodology to determine the lowest evaluated tenderer or tenderers based one lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36 Comparison of Tenders

36.1 The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.2 to determine the Tender that has the lowest evaluated cost.

37 Abnormally Low Tenders and Abnormally High

Tenders Abnormally Low Tenders

37.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price.

37.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

37.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

Abnormally High Tenders

37.4 An abnormally high price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the

Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

37.5 In case of an abnormally high price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if he specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.

ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case maybe.

37.6 If the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

38 Unbalanced and/or Front-Loaded Tenders

38.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.

38.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:

a) Accept the Tender; or

b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding 10% of the Contract Price; or

c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works; or

d) Reject the Tender.

39 Qualification of the Tenderer

39.1 The Procuring Entity shall determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated cost and substantially responsive Tender is eligible and meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

39.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 18. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors or any other firm(s)different from the Tenderer that submitted the Tender.

39.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated cost to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

40 Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders

40.1 The Procuring Entity reserves the right to accept or reject any Tender, and to annul the Tendering process and reject all Tenders at any time prior to Contract Award, without there by incurring any liability to Tenderers. In case of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. Award of Contract

43 Award Criteria

43.1 The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

42 Notice of Intention to enter in to a Contract

42.1 Upon award of the contract and Prior to the expiry of the Tender Validity Period the Procuring Entity shall issue a Notification of Intention to Enter into a Contract/Notification of a ward to all tenderers which shall contain, at a minimum, the following information:

a) The name and address of the Tenderer submitting the successful tender;

b) The Contract price of the successful tender;

c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in(c) above already reveals the reason;

d) the expiry date of the Stand still Period; and

e) instructions on how to request a debriefing and/or submit a complaint during the stand still period;

43 Stand still Period

43.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

43.2 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter in to a Contract with the successful Tenderer.

44 Debriefing by the Procuring Entity

44.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 42, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing with in five days of receipt of the request.

44.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

45 Letter of Award

Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 43.1, upon addressing a complaint that has been filed within the Standstill Period, the Procuring Entity shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21 days of the date of the letter.

46 Signing of Contract

46.1 Upon the expiry of the fourteen days of the Notification of Intention to enter into contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

46.2 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.

46.3 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period

47 Performance Security

47.1 Within twenty-one (21) days of the receipt of the Form of Acceptance from the Procuring Entity, the successful Tenderer, if required, shall furnish the Performance Security in accordance with the GCC 3.9, using for that purpose the Performance Security Form included in Section VIII, Contract Forms, or another Form acceptable to the Procuring Entity. If the Performance Security furnished by the successful Tenderer is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Tenderer to be acceptable to the Procuring Entity. A foreign institution providing a bond shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent financial institution is not required.

47.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.

48 Publication of Procurement Contract

48.1 Within fourteen days after signing the contract, the Procuring Entity shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

a) Name and address of the Procuring Entity;

b) Name and reference number of the contract being awarded, a summary of its scope and the selection method used;

c) The name of the successful Tenderer, the final total contract price, the contract duration.

d) Dates of signature, commencement and completion of contract;

e) Names of all Tenderers that submitted Tenders, and their Tender prices as read out at Tender opening.

49 Adjudicator

49.1 The Procuring Entity proposes the person named **in the TDS** to be appointed as adjudicator or under the Contract, at an hourly fee specified in **the TDS**, plus reimbursable expenses. If the Tenderer disagrees with this Tender, the Tenderer should so state in the Tender. If, in the Form of Acceptance, the Procuring Entity has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by the Appointing Authority designated in the Special Conditions of Contract at the request of either party.

50 Procurement Related Complaints and Administrative Review

50.1 The procedures for making a Procurement-related Complaint are as specified in the **TDS**.

50.2 A request for administrative review shall be made in the form provided under contract forms.

SECTION II - TENDER DATA SHEET (TDS)

The following specific data for the Non-Consulting Services to be procured shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT).Whenever there is a conflict, the provisions here in shall prevail over those in ITT.

[Where a new-procurement system is used, modify the relevant parts of the TDS accordingly to reflect thee-procurement process].

[Instructions for completing the Tender Data Sheet are provided, as needed, in the notes in italics mentioned for the relevant ITT].

<table>
<tr><td>ITT Reference</td><td>PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS</td></tr>
<tr><td></td><td>A. General</td></tr>
<tr><td>ITT 1.1</td><td>The reference number of the Request for Tenders (ITT) is: Provision of Services for Medical at a Fixed Fee for Service(FFS)-MOH/SDMS/HI/OT/001/2023-2024
The Procuring Entity is: State Department for Medical Services
The name of the ITT is: Provision of Services for Medical at a Fixed Fee for Service(FFS)
The number and identification of lots (contracts) comprising this ITT is:
Lots /Contracts
<table>
<tr><th>Category</th><th>FFS</th><th>LOT</th></tr>
<tr><td>Diagnostics Imaging Xray</td><td>FFS</td><td>Lot 1</td></tr>
<tr><td>Diagnostics Imaging Sonography</td><td>FFS</td><td>Lot 2</td></tr>
<tr><td>Diagnostics Imaging Mammogram</td><td>FFS</td><td>Lot 3</td></tr>
<tr><td>Diagnostics Imaging CT</td><td>FFS</td><td>Lot 4</td></tr>
<tr><td>Diagnostics Imaging MRI</td><td>FFS</td><td>Lot 5</td></tr>
<tr><td>Radiation Oncology</td><td>FFS</td><td>Lot 6</td></tr>
<tr><td>Nuclear Medicine</td><td>FFS</td><td>Lot 7</td></tr>
<tr><td>Interventional Radiology</td><td>FFS</td><td>Lot 8</td></tr>
<tr><td>Cardiology</td><td>FFS</td><td>Lot 9</td></tr>
<tr><td>General Theatre</td><td>FFS</td><td>Lot 10</td></tr>
<tr><td>Specialised Cardiothoracic & Vascular</td><td>FFS</td><td>Lot 11</td></tr>
<tr><td>Specialised Urological</td><td>FFS</td><td>Lot 12</td></tr>
<tr><td>Specialised Maxillofacial</td><td>FFS</td><td>Lot 13</td></tr>
<tr><td>Specialised Orthopaedic</td><td>FFS</td><td>Lot 14</td></tr>
<tr><td>Specialised Neurosurgery</td><td>FFS</td><td>Lot 15</td></tr>
<tr><td>Specialised Ophthalmic</td><td>FFS</td><td>Lot 16</td></tr>
<tr><td>Specialised Ear Nose & Throat</td><td>FFS</td><td>Lot 17</td></tr>
<tr><td>Specialised Obs & Gyn</td><td>FFS</td><td>Lot 18</td></tr>
<tr><td>Specialised Paediatric</td><td>FFS</td><td>Lot 19</td></tr>
<tr><td>Specialised Plastic</td><td>FFS</td><td>Lot 20</td></tr>
<tr><td>Dialysis</td><td>FFS</td><td>Lot 21</td></tr>
<tr><td>Routine Laboratory</td><td>FFS</td><td>Lot 22</td></tr>
<tr><td>Specialised Laboratory</td><td>FFS</td><td>Lot 23</td></tr>
</table>
</td></tr>
</table>

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 2.1(a)	***Online electronic procurement procedures will be used to manage the issuance of tender document and tender clarifications as follows;*** Interested eligible candidates may obtain a complete set of tender documents at the Public Procurement Information Portal www.tenders.go.ke and at the Ministry of Health website: ***www.health.go.ke*** free of charge. Tenderers downloading documents from the designated websites should forward their particulars including email addresses and telephone numbers immediately to the email address procurement@health.go.ke to facilitate any further clarifications or addenda
ITT 2.2	The Intended Completion Date is ***Seven (7)Years upon contract Signing renewable for a further three(3) years subject to satisfactory performance***
ITT 3.3	Information that any unfair competitive advantage over competing firms is as follow: **NONE**
ITT 3.4	The firms that provided consulting services **NONE**
ITT 4.1	Maximum number of members in the Joint Venture (JV) shall be: ***Three*** *(3)*
	B. Contents of Tendering Document
ITT 8.1	(a) A pre-tender conference will **will not be held** (b) A pre-arranged pretender visit of the site of the works visit will **will not be held**
ITT 8.2	The questions in writing, to reach the Procuring Entity not later than _____N/A____(*specify date and time*)
ITT 8.4	Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the works shall be published on the website ____N/A_____
ITT 9.1	i) The Tenderer will submit any request for clarifications in writing at the Address procurement@health.go.ke to reach the Procuring Entity not later than **Four (4) days before the deadline for submission of tenders** ii) The Procuring Entity shall publish its response at the website www.health.go.ke and www.tenders.go.ke The Procuring Entity shall also promptly publish response at the website N/A
	C. Preparation of Tenders
ITT 13.1 (i)	The Tenderer shall submit the following additional documents in its Tender: ***[See eligibility and Qualification Criteria*** Other documents required are **See above**_____
ITT 15.1	Alternative Tenders ***"shall not be*** "considered.
ITT 15.2	Alternative times for completion ***"shall not be"*** permitted.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 15.3	Alternative technical solutions shall be permitted for the following parts of the Services: _____**NONE**_____ ***[insert parts of the Services]:***
ITT 16.7	The prices quoted by the Tenderer ***"shall not"*** be subject to adjustment during the performance of the Contract. Tenderers shall be allowed to quote for each lot or multiple LOTs separately, and the methodology to determine the lowest tenderer is specified in Section III, Evaluation and Qualification Criteria. Prices quoted for each lot (contract) shall correspond at least to 100% percent of the items specified for each lot (contract). Incomplete lots will be rejected and will not be evaluated further.
ITT 20.1	The Tender validity period shall be 210 days
ITT 21.1	A Tender Security ***"shall be"*** required in the amounts and currencies as indicated in each lot and must be in the form of a Demand Bank Guarantee valid for 28 days beyond tender validity

Lots /Contracts

Category	Lot	Tender Security(Ksh)
Diagnostics Imaging Xray	1	10,000,000.00
Diagnostics Imaging Sonography	2	3,000,000.00
Diagnostics Imaging Mammogram	3	3,000,000.00
Diagnostics Imaging CT	4	10,000,000.00
Diagnostics Imaging MRI	5	10,000,000.00
Radiation Oncology	6	10,000,000.00
Nuclear Medicine	7	10,000,000.00
Interventional Radiology	8	10,000,000.00
Cardiology	9	10,000,000.00
General Theatre	10	10,000,000.00
Specialised Cardiothoracic & Vascular	11	10,000,000.00
Specialised Urological	12	3,000,000.00
Specialised Maxillofacial	13	3,000,000.00
Specialised Orthopaedic	14	3,000,000.00
Specialised Neurosurgery	15	3,000,000.00
Specialised Ophthalmic	16	3,000,000.00
Specialised Ear Nose & Throat	17	3,000,000.00
Specialised Obs & Gyn	18	3,000,000.00
Specialised Paediatric	19	3,000,000.00
Specialised Plastic	20	3,000,000.00
Dialysis	21	5,000,000.00
Routine Laboratory	22	5,000,000.00
Specialized Laboratory	23	5,000,000.00

Note: Tender Security is required for each lot as per amounts indicated against each lot. Tenderers have the option of submitting one Tender Security for all lots (for the

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	combined total amount of all lots) for which Tenders have been submitted, however if the amount of Tender Security is less than the total required amount, the Procuring Entity will determine for which lot or lots the Tender Security amount shall be applied.]
ITT 21.3 (a)	The Contract price shall be adjusted by N/A %.
ITT 22.1	In addition to the original of the Tender, the number of copies is**: One Copy**
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of**: Power of Attorney**
	D. Submission and Opening of Tenders
ITT 24.1	For **Tender submission purposes** only, the Procuring Entity's address is: Attention: *Principal Secretary, State Department for Medical Services* P.O Box 30016-00100 Nairobi Afya House, Cathedral Road
ITT 24.1	**The deadline for Tender submission is:** Date: ***Tuesday 2nd July 2024*** Time: ***11:00 a.m.****]* Tenderers ***"shall not"*** have the option of submitting their Tenders electronically.
ITT 27.1	The Tender opening shall take place at: Physical Address: *[Afya House, GTZ Boardroom* Date: **Tuesday 2nd July 2024** Time:***11:00 a.m.***
ITT 27.1	The electronic Tender opening procedures shall be: _____***[insert a description of the electronic Tender opening procedures] N/A***
ITT 27.6	The Form of Tender and priced Activity Schedule shall be initialed by at least three(3) representatives of the Procuring Entity conducting Tender opening
	E. Evaluation and Comparison of Tenders
ITT 31.7	comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified as follows: The adjustment shall be based on the _____N/A_____ ***(insert "average" or "highest")*** price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.
ITT 33.1	The currency that shall be used for Tender evaluation and comparison purposes only to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is: ____Ksh._____ *[insert name of currency]* The source of exchange rate shall be: **The Central bank of Kenya** (mean rate) The date for the exchange rate shall be*:* **the deadline date for Submission of the Tenders.** *For comparison of Tenders, the Tender Price, corrected pursuant to ITT 31, shall first be*

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Tenderer in accordance with ITT 15.1. *In the second step, the Procuring Entity will convert the amounts in various currencies in which the Tender Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.*
ITT 34.1	Margin of preference allowed or not allowed YES
ITT 34.2	The invitation to tender is extended to the following group that qualify for Reservations _____ _____NONE_____ *(These groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be; describe precisely which groups qualify).*
ITT 35.2 (d)	Additional evaluation factors shall be N/A
ITT 35.4	Tenderers shall **be <u>allowed</u>** to quote separate prices for different lots (contracts) and the methodology to determine the lowest tenderer is specified in Section III, Evaluation and Qualification Criteria.
	F. Award of Contract
ITT 49.1	The Adjudicator proposed by the Procuring Entity is _____N/A_____. The hourly fee for this proposed Adjudicator shall be ___N/A_____. The biographical data of the proposed Adjudicator is as follows: __N/A_____.
ITT 50.1	The procedures for making a Procurement-related Complaint are available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke. If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to: For the attention: *[insert full name of person receiving complaints]* Title/position: *[insert title/position]* Procuring Entity: *[insert name of Procuring Entity]* Email address*: [insert email address]* In summary, a Procurement-related Complaint may challenge any of the following: (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract.

SECTION III – EVALUATION AND QUALIFICATION CRITERIA

1. General Provision

1.1 Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

a) For construction turnover or financial data required for each year-Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year are to be converted) was originally established.

b) Value of single Contract-Exchange rate prevailing on the date of the contract signature.

c) Exchange rates shall be taken from the publicly available source identified in the ITT. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

1.2 This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity should use **the Standard Tender Evaluation Report for Goods and Works** for evaluating Tenders.

1.3 Evaluation and contract award Criteria

The Procuring Entity shall use the criteria and methodologies listed in this Section to evaluate tenders and arrive at the Lowest Evaluated Tender. The tender that (i) meets the qualification criteria,(ii)has been determined to be substantially responsive to the Tender Documents, and(iii) is determined to have the Lowest Evaluated Tender price shall be selected for award of contract.

2 Preliminary examination for Determination of Responsiveness

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other mandatory requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements provided for in the preliminary evaluation criteria outlined below. The Standard Tender Evaluation Report Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered non- responsive and will not be considered further.

Preliminary Evaluation Criteria

At the Preliminary Evaluation Stage, Bidders will be evaluated on the following Criteria

1. Provision of Certificate of Incorporation or Registration.
2. Copy of CR12 not more than 6 months from the date of tender opening or CR13 for Partnership or Proprietor IDs for Sole Proprietors.
3. Valid Tax Compliance Certificate.
4. Valid Single Business Permit.
5. Duly filled, signed and stamped Confidential Business Questionnaire Form -
6. Duly filled, signed and stamped Form of Tender
7. Dully filled, signed and stamped price schedules conforming to 100% of all items specified in the lot(Contract)
8. Duly filled, signed and stamped Certificate of Independent Tender Determination –
9. Duly filled, signed and stamped SD 1 and SD 2 forms provided
10. Duly filled, signed and stamped - Declaration and commitment to the Code of Ethics.
11. A tender security as **indicated in the Tender Data Sheet**
12. Submission of Power of Attorney issued to the authorized signatory of all documents and the contract
13. Detailed Company profile.
14. All pages of both original and copy of the tender documents submitted MUST be sequentially serialized and initialized by the tenderers.

In case of foreign entity, provide the equivalent document from their respective country of incorporation where applicable)

N/B: - Full compliance by the tenderers shall be required to proceed to the next stage of evaluation. Failure to provide any of the listed requirements shall lead to disqualification.

TECHNICAL EVALUATION CRITERIA

Financial Capability:

a. The Tenderer shall demonstrate that it has access to, or has available liquid assets, lines of credit, or other financial means from a financial institution, Fund, Private Equity or Banks to procure the equipment in each lot that they are bidding. The bidder should produce the proof of evidence for fund for each LOT as follows

Lots /Contracts

Category	Lot	(Ksh)
Diagnostics Imaging Xray	1	200,000,000.00
Diagnostics Imaging Sonography	2	100,000,000.00
Diagnostics Imaging Mammogram	3	100,000,000.00
Diagnostics Imaging CT	4	200,000,000.00
Diagnostics Imaging MRI	5	200,000,000.00
Radiation Oncology	6	200,000,000.00
Nuclear Medicine	7	200,000,000.00
Interventional Radiology	8	200,000,000.00
Cardiology	9	200,000,000.00
General Theatre	10	200,000,000.00
Specialised Cardiothoracic & Vascular	11	200,000,000.00
Specialised Urological	12	100,000,000.00
Specialised Maxillofacial	13	100,000,000.00
Specialised Orthopaedic	14	100,000,000.00
Specialised Neurosurgery	15	100,000,000.00
Specialised Ophthalmic	16	100,000,000.00
Specialised Ear Nose & Throat	17	100,000,000.00
Specialised Obs & Gyn	18	100,000,000.00
Specialised Paediatric	19	100,000,000.00
Specialised Plastic	20	100,000,000.00
Dialysis	21	150,000,000.00
Routine Laboratory	22	150,000,000.00
Specialised Laboratory	23	150,000,000.00

b. Minimum average annual turnover of Kenya Shillings Three Billion (Ksh. 3,000,000,000.00) or equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 3 years, divided by 3 years for the lead bidder or the principal holding company as shall be confirmed by audited accounts for the last 3 years

Experience:

The bidder or its subcontractors, partners or joint venture members or consortium members has satisfactorily and substantially completed at least Two (2 No) contract(s) of a similar nature, as a prime supplier, as a sub-contract, a joint venture/consortium member, or a sub-contract member each of a minimum value in Kenya shillings 150,000,000.00 or equivalent in the last five (5)

years. (Provide evidence to support)		
The bidder or its subcontractors must provide proof of at least 5 similar contracts of equipment maintenance for Hospitals whether private or public successfully completed in the last 5 years indicating contract sums and client reference letters.		
Technical Staff Requirement		
1. <u>Team Leader</u> Minimum of ten (10) years' experience in the technical field and project management. Holder of minimum Degree with 10 year and above relevant experience Relevant experience and certificates must be provided (The Staffs whose documents are provided must be part of the bidder or its subcontractors, partners or vendors organization and should be nominated by the bidder for this assignment)		
2. Technicians At least 2 No. minimum Diploma holders of technicians in relevant field two (2No) Biomedical Engineering technologist -must have a Degree in biomedical engineering with at least 7 yrs. experience. Relevant experience and certificates must be provided (The Staffs whose documents are provided must be part of the bidder or its subcontractors, partners or vendors organization and should be nominated by the bidder for this assignment)		
3. Technicians Five (5No) Biomedical Engineering technicians -must have at least a diploma in Biomedical Engineering with 5 years' experience. Holder of minimum Certificate with 10 years and above (Must Attach CVS and certificates) (The Staffs whose documents are provided must be part of the bidder or its subcontractors, partners or vendors organization and should be nominated by the bidder for this assignment)		
Logistics Capability.		
Bidders to demonstrate ability to offer logistics in delivering the goods to point of use safely and in good condition. Provide a proposal in terms of transport /courier services. The bidder to demonstrate ownership of transportation equipment or ability to hire as the case may be (Provide documentary evidence)		
Product Evaluation		
a) Bidder to provide Original Manufacturers' Brochures containing technical data for all items quoted in the Lot where applicable and especially for equipment. **NB: Website downloads will be acceptable upon having an agreement with an authorized dealer or supplier or manufacturer** (Provide documentary evidence of the authorization or agreement)		
Manufacturer's Authorization		

Tenderers shall be required to provide a Manufacturer's Authorization / Prove of Dealership/ Agreements with the authorized Dealers (dealership authorization letter) for the equipment based on the LOT(S) they are bidding,

At least 3 Authorization per lot for LOT(S) where the number of equipment are higher than 5.

Certificate of Conformity

The tenderer shall be required to submit a letter of conformity to ensure the prescribed standards for each of the items offered within the prescribed turnaround time of 24hrs

The tenderer shall be required to submit a certificate of conformity for the Equipment in each lot they are bidding for,

Project Management Team and Timeline

Ability to put project management team and deliver the project within stipulated timelines.

Work plan and methodology of contract execution if awarded, including deployment of staff, repair and maintenance as per our service requirements, equipment and Tools owned by the firm to be used to undertake the repair and maintenance services.

A Detailed Operational Plan of the Project Implementation including but not limited to: -

a. Implementation Process
b. Plan to provide 95% uptime
c. Advantages of the proposed Implementation plan
d. Details of Equipment Planning
e. Delivery and Distribution Plan
f. Supply, Installation, Commissioning, Testing, and Maintenance plan
g. Inventory and Spare Parts Management Plan
h. Stakeholder Mapping and responsibilities
i. Complaint and Break down Management
j. ICT integration and report Generation
k. Governance and Due diligence

Gantt Chart with the timeline to execute the project (supply, installation, testing and commissioning)

Backup Support

Tenderers or its subcontractors or partners must offer items with service and spare parts back up including a schedule of preventive servicing and maintenance. Documentary evidence and locations of such back up must be provided

Training Plan and Schedule

Provide a training and upskilling schedule for the staff involved in the Project on the medical equipment management.
(Provide Training Schedule)

Quality Management Certification for the bidder

(Provide documentary evidence)

Technical Specifications Compliance

The proposed equipment is expected to meet the minimum technical specifications provided

3 **Tender Evaluation (ITT 35)**

Price evaluation: in addition to the criteria listed in ITT 35.2 (a)–(d) the following criteria shall apply:

i) **Alternative Completion Times, i**f permitted under ITT 15.2, will be evaluated as follows: ……

ii) **Alternative Technical Solutions** for specified parts of the Works, if permitted under ITT 15.3, will be evaluated as follows:…….....……

iii) **Other Criteria; i**f permitted under ITT 35.2 (e): ……...……

4 Multiple Contracts

Multiple contracts will be permitted in accordance with ITT 35.4. Tenderers are evaluated on basis of Lots and the lowest evaluated tenderer identified for each Lot. The Procuring Entity will select one Option of the two Options listed below for award of Contracts.

OPTION1

i) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.

ii) If a tenderer wins more than one Lot, the tender will be awarded contracts for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the Lots. The tenderer will be awarded the combination of Lots for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION 2

The Procuring Entity will consider all possible combinations of won Lots [contract(s)] and determine the combinationswiththelowestevaluatedprice.TenderswillthenbeawardedtotheTendererorTenderersinthe combinations provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots.

Tenderers shall be allowed to quote for each lot or multiple LOTs separately, and the methodology to determine the lowest tenderer is specified in Section III, Evaluation and Qualification Criteria.

Prices quoted for each lot (contract) shall correspond at least to 100% percent of the items specified for each lot (contract). Incomplete lots will be rejected and will not be evaluated further.

The maximum value of the award to any bidder shall be limited to half the turnover of the lead bidder or its principal holding company for the preceding year, for all the lots tendered and the procuring entity will award the selected lots based on the capability of the bidder. The final award shall be determined as per the financial strength and the technical capability of the bidder.

5 Alternative Tenders (ITT 15.1)

An alternative if permitted under ITT 13.1, will be evaluated as follows:
The Procuring Entity shall consider Tenders offered for alternatives as specified in Part 2- Procuring Entity's requirements. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

6 **MARGIN OF PREFERENCE**

Apply Margin of Preference, if so allowed to all evaluated and accepted tender as follows.

6.1 If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than fifty-one percent (51%).

6.2 Contractors applying for such preference shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractor's qualifies for a margin of preference.

6.3 After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:

i) Group A: tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
ii) Group B: tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

6.4 All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 3.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each ender from Group B. All tenders shall then be compared using

new prices with added prices to Group Band the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

7 Post qualification and Contract ward (ITT 39), more specifically,

a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.

b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.

i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings _____.

ii) Minimum average annual construction turnover of Kenya Shillings _____*[insert amount]*, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last_____*[insert of year]* years.

iii) At least_____(*insert number)* of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings _____equivalent.

iv) Contractor's Representative and Key Personnel, which are specified as _____
_____
_____

v) Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as *[specify requirements for each lot as applicable]* _____
_____
_____

vi) Other conditions depending on their seriousness.

a) **History of non-performing contracts**:

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last_____(*specify years*). The required information shall be furnished in the appropriate form.

b) Pending Litigation

Financial position and prospective long-term profitability of the Single Tenderer, and in the case the Tenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

c) Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last _____(*Specify years*). All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the year's specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

SECTION IV - TENDERING FORMS

1. FORM OF TENDER
(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS

i) All italicized text is to help the Tenderer in preparing this form.

ii) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.

iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (s) below.

Date of this Tender submission:.....*[insert date (as day, month and year) of Tender submission]* **Tender Name and Identification**:.....*[insert identification]* **Alternative No.**:.....*[insert identification No if this is a Tender for an alternative]*

To: ..... *[Insert complete name of Procuring Entity]*

a) **No reservations:** We have examined and have no reservations to the tendering document, including Addenda issued in accordance with ITT9;

b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITT4;

c) **Tender-Securing Declaration:** We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing Declaration or Proposal-Securing Declaration in Kenya in accordance with ITT21;

d) **Conformity:** We offer to provide the Non-Consulting Services inconformity with the tendering document of the following:[*insert a brief description of the Non-Consulting Services*];

e) **Tender Price:** The total price of our Tender, excluding any discounts offered in item(f) below is: *[Insert one of the options below as appropriate]*

Option1,in case of one lot: Total price is:[*insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*];
Or

Option 2, in case of multiple lots:(a)Total price of each lot[*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and (b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

f) **Discounts:** The discounts offered and the methodology for their application are:

i) The discounts offered are: [*Specify in detail each discount offered.*]

ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

g) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 19.1 (as amended if applicable) from the date fixed for the Tender submission deadline (specified in TDS 23.1(as amended if applicable),and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

h) **Performance Security:** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the tendering document;

i) **One Tender Per Tenderer:** We are not submitting any other Tender(s) as an individual Tenderer, and we are not participating in any other Tender(s) a s a Joint Venture member or as a subcontractor, and meet the requirements of ITT4.3, other than alternative Tenders submitted in accordance with ITT14;

j) **Suspension and Debarment**: We, along with any of our subcontractors, suppliers, consultants, manufacturers,orserviceprovidersforanypartofthecontract,arenotsubjectto,and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the PPRA. Further, we are not ineligible under Kenya's official regulations or pursuant to a decision of the United Nations Security Council;

k) **State-owned enterprise or institution**: [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITT 4.6*];

l) **Commissions, gratuities and fees**: We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering process or execution of the Contract: *[insert complete name of each Recipient, its full address, r gratuity].*

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

*a) [Delete if not appropriate, or amend to suit]*We confirm that we understand the provisions relating to Standstill Period as described in this tendering document and the Procurement Regulations.

m) **Binding Contract**: We understand that this Tender, together with your written acceptance thereof included in your Form of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

n) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Best Evaluated Tender or any other Tender that you may receive; and

o) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

p) **Collusive practices**: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent tender Determination" attached below.

q) **Code of Ethical Conduct:** We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from_____(*specify website*) during the procurement process and the execution of any resulting contract.

r) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:

i) Tenderer's Eligibility; Confidential Business Questionnaire–to establish we are not in any conflict to interest.

ii) Certificate of Independent Tender Determination–to declare that we completed the tender without colluding with other tenderers.

iii) Self-Declaration of the Tenderer–to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.

iv) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

Further, we confirm that we have read and understood the full content and scope of fraud and corruption as informed in **"Appendix 1- Fraud and Corruption**" attached to the Form of Tender.

Name of the Tenderer:..... *[*insert complete name of person signing the Tender*]

Name of the person duly authorized to sign the Tender on behalf of the Tenderer:.....**[*insert complete name of person duly authorized to sign the Tender*]

Title of the person signing the Tender:..... [*insert complete title of the person signing the Tender*]

Signature of the person named above: .....[*insert signature of person whose name and capacity are shown above*]

Date signed..... [*insert date of signing*] **day of** .....[*insert month*], [*insert year*]

i) TENDERER'S ELIGIBILITY - CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

Tender is instructed to complete the particulars required in this Form, *one form for each entity if Tender is a JV*. Tenderer is further reminded that it is an offence to give false information on this Form.

a) Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	
2	Reference Number of the Tender	
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (*postal and physical addresses, email, and telephone number*) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (*postal and physical addresses, email, and telephone number*) of state which stock exchange	

General and Specific Details

b) **Sole Proprietor,** provide the following details.

Name in full_____Age_____

Nationality_____Country of Origin_____

Citizenship _____

c) **Partnership,** provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

d) **Registered Company,** provide the following details.

i) Private or public Company _____

ii) State the nominal and issued capital of the Company-

Nominal Kenya Shillings (Equivalent) …….....…....

Issued Kenya Shillings (Equivalent) …….....…

iii) Give details of Directors as follows.

	Names of Director	**Nationality**	**Citizenship**	**% Shares owned**
1				
2				
3				

e) DISCLOSURE OF INTEREST-Interest of the Firm in the Procuring Entity.

i) Are there any person/persons in…….....…… (*Name of Procuring Entity)* who has/have an interest or relationship in this firm? Yes/No…….....……

If yes, provide details as follows.

	Names of Person	**Designation in the Procuring Entity**	**Interest or Relationship with Tenderer**
1			
2			
3			

ii) Conflict of interest disclosure

	Type of Conflict	**Disclosure YES OR NO**	**If YES provide details of the relationship with Tenderer**
1	Tenderer is directly or indirectly controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
	involved in the implementation or supervision of the Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract?		

f) Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name_____

Title or Designation_____

_____ _____

(Signature) *(Date)*

ii) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to the_____ *[Name of Procuring Entity]* for:_____ *[Name and number of tender]* in response to the request for tenders made by:_____ *[Name of Tenderer]* do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of_____ *[Name of Tenderer]* that:

1. I have read and I understand the contents of this Certificate;

2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;

4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
   a) Has been requested to submit a Tender in response to this request for tenders;
   b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;

5. The Tenderer discloses that [check one of the following, a s applicable]:
   a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
   b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;

6. In particular, without limiting the generality of paragraphs(5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   a) prices;
   b) methods, factors or formulas used to calculate prices;
   c) the intention or decision to submit, or not to submit, a tender; or
   d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5) (b) above;

7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;

8. The terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, which ever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5) (b) above.

Name_____

Title_____

Date

_____

[Name, title and signature of authorized agent of Tenderer and Date]

iii) SELF-DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015

I, ……., of Post Office Box ……. being a resident of…… …….. in the Republic of ……. do hereby make a statement as follows:-

1. THAT I am the Company Secretary/ Chief Executive/ Managing Director /Principal Officer/Director of …….. ……...…….. *(insert name of the Company)* who is a Bidder in respect of **Tender No.** ……... for.....*(insert tender title/description)* for ……..*(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.

3. THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

…….	…….	……
(Title)	(Signature)	(Date)

Bidder Official Stamp

FORM SD2

SELF DECLARATION THAT THE PERSON/TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE

I, ……of P. O. Box.....being a resident of ……. …….. in the Republic of ……..... do hereby make a statement as follows:-

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ..... ……..... *(insert name of the Company)* who is a Bidder in respect of Tender No…… …….. for ……..*(insert tender title/description)* for ……*(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of……. *(insert name of the Procuring entity)* which is the procuring entity.

3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of……. *(name of the procuring entity)*

4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender

5. THAT what is deponed to here in above is true to the best of my knowledge information and belief.

…… ……..……. .....
(Title) (Signature) (Date)

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I, ... (person) on behalf of ***(Name of the Business/ Company/Firm***) …..…… declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory.....

Sign…….....

Position…….....

Office address……. Telephone…….....

E-mail…….....

Name of the Firm/Company…….....

Date…….....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name…….....

Sign…….....

Date…….....

iv) APPENDIX1-FRAUDANDCORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

1.1 The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act *(no. 33 of 2015)* and its Regulation, and any other Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

2. Requirements

2.1 The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1above.

2.2 Kenya's public procurement and asset disposal act *(no. 33 of 2015)* under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted be low highlight Kenya's policy of no tolerance for such practices and behavior:

1) A person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;

2) A person referred to under sub section (1) who contravenes the provisions of that sub-section commits an offence;

3) Without limiting the generality of the subsection (1) and (2), the person shall be: -

   a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or

   b) if a contract has already been entered into with the person, the contract shall be voidable;

4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;

3. An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: -

a) Shall not take part in the procurement proceedings;

b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and

c) Shall not be a subcontractor for the tender to whom was awarded contract, or a member of the group of tenders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.

4. An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;

4.1 If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5) (a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the a warding officer. etc.

In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:

   i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii) “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v) “obstructive practice” is:

a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

b) acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3e. below.

c) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive he procuring entity of the benefits of free and open competition.

c) Rejects a proposal for award[1] of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

d) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or recommend to appropriate authority(ies) for sanctioning and debarment of a firm or individual, as applicable under the Act sand Regulations;

e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect[2]all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a “Self-Declaration Form” as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

---

[1] *For the avoidance of doubt, a party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in*
A consultancy, and rendering, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

[2] *Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/ audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format)deemed relevant for the investigation/ audit, and making copies there of as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.*

2. TENDERER INFORMATION FORM

[The Tenderer shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date:.....*[insert date (as day, month and year) of Tender submission*]

ITT No.:..... *[insert number of Tendering process]*

Alternative No:..... *[insert identification No if this is a Tender for an alternative]*

1. Tenderer's Name: .....*[insert Tenderer's legal name]*

2. In case of JV, legal name of each member: .....*[insert legal name of each member in JV]*

3. Tenderer's actual or intended country of registration: .....*[insert actual or intended country of registration]*

4. Tenderer's year of registration: .....*[insert Tenderer's year of registration]*

5. Tenderer's Address in country of registration: .....*[insert Tenderer's legal address in country of registration]*

6. Tenderer's Authorized Representative Information

   Name: .....*[insert Authorized Representative's name]*

   Address.....*[insert Authorized Representative's Address]*

   Telephone:.....*[insert Authorized Representative's telephone/fax numbers]*

   Email Address:.....*[insert Authorized Representative's email address]*

7. Attached are copies of original documents of..... *[check the box(es) of the attached original documents]*

   ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 4.4.

   ☐ In case of JV, Form of intent to form JV or JV agreement, in accordance with ITT 4.1.

   In case of state-owned enterprise or institution, in accordance with ITT4.6 documents

   establishing:

   i) Legal and financial autonomy

   ii) Operation under commercial law

   iii) Establishing that the Tenderer is not under the supervision of the agency of the Procuring Entity

   ☐ A current tax clearance certificate or tax exemption certificate in case of Kenyan tenderers issued by the Kenya Revenue Authority in accordance with ITT 4.14.

8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

OTHER FORMS

3. TENDERER'S JV MEMBERS INFORMATION FORM

[The Tenderers hall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Tenderer and for each member of a Joint Venture]].

Date: .....*[insert date (as day, month and year) of Tender submission*]

ITT No.: ..... *[insert number of Tendering process]*

Alternative No.: ..... *[insert identification No if this is a Tender for an alternative]*

1. Tenderer's Name: *[insert Tenderer's legal name]*
2. Tenderer's JV Member's name: *[insert JV's Member legal name]*
3. Tenderer's JV Member's country of registration: *[insert JV's Member country of registration]*
4. Tenderer's JV Member's year of registration: *[insert JV's Member year of registration]*
5. Tenderer's JV Member's legal address in country of registration: *[insert JV's Member legal address in country of registration]*
6. Tenderer's JV Member's authorized representative information Name: *[insert name of JV's Member authorized representative]* Address: *[insert address of JV's Member authorized representative]* Telephone/Fax numbers: *[insert telephone/fax numbers of JV's Member authorized representative]* Email Address: *[insert email address of JV's Member authorized representative]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 4.4. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 4.6.
8. Included are the organizational chart and a list of Board of Directors.

FORM OF TENDER SECURITY-[Option 1–Demand Bank Guarantee]

Beneficiary: _____

Request forTenders No:

_____

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

1. We have been informed that _____(here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of _____ under Request for Tenders No. _____("the ITT").

2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.

3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____(_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or

b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.

5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above onor before that date.

_____

[signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

1. Whereas …… [*Name of the tenderer]* (hereinafter called "the tenderer") has submitted its tender dated …… [*Date of submission of tender]* for the …… *[Name and/or description of the tender]* (hereinafter called "the Tender") for the execution of__under Request for Tenders No._____("the ITT").

2. KNOW ALL PEOPLE by these presents that WE …… of …… [**Name of Insurance Company**] having our registered office at …… (hereinafter called "the Guarantor"), are bound unto …….. [*Name of Procuring Entity*] (hereinafter called "the Procuring Entity") in the sum of …… (Currency and guarantee amount) for which payment well and truly to be made to the said Procuring Entity, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

   Sealed with the Common Seal of the said Guarantor this ___day of _____ 20 __.

3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Applicant:

   a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Principal; or

   b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers ("ITT") of the Procuring Entity's Tendering document.

   then the guarantee undertakes to immediately pay to the Procuring Entity up to the above amount upon receipt of the Procuring Entity's first written demand, without the Procuring Entity having to substantiate its demand, provided that in its demand the Procuring Entity shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii)twenty-eight days after the end of the Tender Validity Period.

5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

_____	_____
[Date]	*[Signature of the Guarantor]*
_____	_____
[Witness]	*[Seal]*

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

TENDER-SECURING DECLARATION FORM

[The Bidder shall complete this Form in accordance with the instructions indicated]

Date:.....*[insert date(as day, month and year) of Tender Submission]*

Tender No.:.....*[insert number of tendering process]*

To:.....*[insert complete name of Purchaser]* I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.

2. I/We accept that I / we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation (s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or(ii) fail or refuse to furnish he Performance Security, in accordance with the instructions to tenders.

3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:

   a) Our receipt of a copy of your notification of the name of the successful Tenderer; or

   b) thirty days after the expiration of our Tender.

4. I / We understand that if I am / we are / in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid , and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:……..…….....

Capacity / title (director or partner or sole proprietor, etc.) …….…….....

Name: …….....

Duly authorized to sign the bid for and on behalf of: ……*[insert complete name of Tenderer]*

Dated on …….....…. day of…… *[Insert date of signing]*

Seal or stamp

QUALIFICATION FORMS

6. FOREIGN TENDERERS 40% RULE

Pursuant to ITT 4.10, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

Item	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	Local Labor			
1				
2				
3				
4				
5				
B	Sub contracts from Local sources			
1				
2				
3				
4				
5				
C	Local materials			
1				
2				
3				
4				
5				
D	Use of Local Plant and Equipment			
1				
2				
3				
4				
5				
E	Add any other items			
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT		XXXXX	
	PERCENTAGE OF CONTRACT PRICE			

7. FORM EQU: EQUIPMENT

The Tenderer shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Tenderer.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment **Error! Reference source not found.** Owned **Error! Reference source not found.** Rented **Error! Reference source not found.** Leased**Error! Reference sour**	

Omit the following information for equipment owned by the Tenderer.

Owner	**Name of owner**	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

8. FORM PER - 1

Contractor's Representative and Key Personnel Schedule

Tenderers should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	**Title of position:** Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
2.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
3.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
4.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
5.	**Title of position:** *[insert title]*	
	Name of candidate	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]

9. FORM PER-2:

Resume and Declaration - Contractor's Representative and Key Personnel.

Name of Tenderer

Position [*#1*]: [*title of position from Form PER-1*]		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: *[language and levels of speaking, reading and writing skills]*	
Details		
	Address of Procuring Entity:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Procuring Entity:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	**Role**	**Duration of involvement**	**Relevant experience**
[main project details]	*[role and responsibilities on the project]*	*[time in role]*	*[describe the experience relevant to this position]*

DECLARATION

I, the undersigned.....*[insert either "Contractor's Representative" or "Key Personnel" as applicable]*, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Tender:-

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*
Time commitment:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*

I understand that any misrepresentation or omission in this Form may:

a) be taken into consideration during Tender evaluation;

b) result in my disqualification from participating in the Tender;

c) result in my dismissal from the contract.

Name of Contractor's Representative or Key Personnel: _____ [*insert name*]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

TENDERERS QUALIFICATION WITHOUT PRE-QUALIFICATION

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria the Tenderer shall provide the information requested in the corresponding Information Sheets included hereunder.

10 FORM ELI -1.1

Tenderer Information

Form

Date:_____

ITT No. and title:_____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 4.4 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 4.1 ☐ In case of state-owned enterprise or institution, in accordance with ITT 4.6, documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderer is not under the supervision of the Procuring Entity 2. Included are the organizational chart and a list of Board of Directors.

11. FORM ELI -1.2

Tenderer's JV Information Form
(to be completed for each member of Tenderer's JV)

Date:_____

ITT No. and title:_____

Tenderer’s JV name:
JV member’s name:
JV member’s country of registration:
JV member’s year of constitution:
JV member’s legal address in country of constitution:
JV member’s authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 4.4. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 4.6. 2. Included are the organizational chart and a list of Board of Directors.

12. FORM CON –2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name:_____

Date:_____

JV Member's Name_____

ITT No. and title:_____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non- performed portion of contract**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Reason(s) for nonperformance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	**Amount in dispute (currency)**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: ____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Procuring Entity" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

Financial Situation and Performance

Tenderer's Name:_____

Date:_____

JV Member's Name_____

ITT No. and title:

_____

Financial Data

Type of Financial information in_____ (currency)	**Historic information for previous _____*years*, _____ (amount in currency, currency, exchange rate*, USD equivalent)**				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITT 15 for the exchange rate

Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (Kenya Shilling equivalent)
1		
2		
3		

Financial documents

The Tenderer and its parties shall provide copies of financial statements for_____years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor3.1.The financial statements shall:

a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).

b) Be independently audited or certified in accordance with local legislation.

c) Be complete, including all notes to the financial statements.

d) Correspond to accounting periods already completed and audited.

Attached are copies of financial statements[1] for the_____years required above; and complying with the requirements

[2] *If the most recent set of financial statements is for a period earlier than 12 months from the date of Tender, the reason for this should be justified.*

Average Annual Construction Turnover

Tenderer's Name:_____

Date:_____

JV Member's Name_____

ITT No. and title:_____

	Annual turnover data (construction only)		
Year	**Amount Currency**	**Exchange rate**	**Kenya Shilling equivalent**
[indicate year]	*[insert amount and indicate currency]*		
Average Annual Construction Turnover *			

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

15. FORM FIN–3.3:

Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contractor contracts as specified in Section III, Evaluation and Qualification Criteria.

Financial Resources		
No.	**Source of financing**	**Amount (Kenya Shilling equivalent)**
1		
2		
3		

16. FORMFIN–3.4:

Current Contract Commitments / Works in Progress

Tenderers and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

No.	Name of Contract	Procuring Entity's Contact Address, Tel,	Value of Outstanding Work [Current Kenya Shilling /month Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]
1					
2					
3					
4					
5					

17. FORM EXP-4.1

General Construction Experience

Tenderer's Name:_____

Date:_____

JV Member's Name_____

ITT No. and title:_____

_____Page_____of

_____pages

Starting Year	**Ending Year**	**Contract Identification**	**Role of Tenderer**
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	

18. FORM EXP -4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name:_____

Date:_____

JV Member's Name_____

ITT No. and title:_____

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	
If member in a JV or sub-contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:				
1. Amount				
2. Physical size of required works items				
3. Complexity				
4. Methods/Technology				
5. Construction rate for key activities				
6. Other Characteristics				

19. FORMEXP-4.2(b)

Construction Experience in Key Activities

Tenderer's Name:_____

Date:_____

Tenderer's JV Member Name:_____

Sub-contractor's Name[3] (as perITT35):_____

ITT No. and title:_____

All Sub-contractors for key activities must complete the information in this form as per ITT 34 and Section III, Evaluation and Qualification Criteria, Sub-Factor 4.2.

1. Key Activity No One:_____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)		Actual Quantity Performed (i) x (ii)
Year 1				
Year 2				
Year 3				
Year 4				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				

[3] *If applicable*

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	
1	
2	
3	
4	
5	

2. Activity No. Two

3. ……

SCHEDULE FORMS

*[The Tenderer shall fill in these Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Activity Schedules** shall coincide with the List of Non-Consulting Services specified in the Procuring Entity's Requirements.]*

WORK SCHEDULES AND SPECIFICATIONS

1. The Specifications and Priced Activity Schedules

	Date: _____, ITT No: _____, Alternative No: _____ Page N° _____ of _____

1	2	3	4	5	6
Lot N°	Category(Sub Category)	Description of Service	Cost of Service(Ksh)	Any other incidental costs(Ksh)	Total Price of Service (Ksh) (Col. 4 +5)
[insert Lot number as described in tender]	*[insert name of category or sub category as provided in implementation oplan]*	*(Insert Procedure/Service Name)*	*[insert cost per Service]*		*[insert total price per unit service]*
Cost of all services in the Lot (Ksh)					

Name of Tenderer *[insert complete name of Tenderer]* Signature of Tenderer *[signature of person signing the Tender]* Date *[insert date]*

Name of Tenderer .....*[insert complete name of Tenderer] Signature of Tenderer [signature of person signing the Tender] Date [insert date]*

NOTE: Bidders are expected to transfer the total tender sums as computed above for all the lots to the Form of Tender indicating the respective lots for which they have participated.

At the point of implementation by the respective Implementing Agencies, the maximum value of the award to any bidder shall be limited to half the turnover of the lead bidder or its principal holding company for the year preceding year, for all the lots tendered and the implementing agency will assess the bidder's technical capability and financial strength to inform engagement.

Provision of Service using the Fixed Fee for Service
Terms of Reference

Introduction
This tender seeks proposals from qualified vendors to provide medical equipment to designated facilities under a reimbursement model based on utilization at a fixed fee for service. The objective is to equip facilities efficiently, ensuring optimal utilization of resources while adhering to social health insurance rates and applicable service guidelines. Competitive pricing is encouraged to capitalize on economies of scale.
The initial agreement period shall be determined based on negotiation and mutual agreement, with provisions for extension based on performance evaluation.

Vendor Obligations
a) The selected vendor will be responsible for supplying and equipping designated healthcare facilities with specified medical equipment. b) The vendor must ensure all equipment meets regulatory standards and specifications outlined in the tender. c) Equipment installation, setup, and configuration to be completed according to agreed timelines and facility requirements. d) Comprehensive training for facility staff on equipment operation, maintenance, and safety protocols. e) Regular monitoring and maintenance services to ensure optimal equipment performance throughout the agreement period.

Procurement Entity/Client Obligations
a) The procurement entity shall reimburse the vendor based on agreed utilization rates and fixed fee for service, aligned with social health insurance rates where applicable. b) Cooperation with the vendor to provide necessary site access, utilities, and support during equipment installation and ongoing operations. c) Timely reporting of equipment usage and performance metrics to facilitate reimbursement and service evaluation. d) Adherence to regulatory guidelines and quality standards in all procurement and operational activities. e) Facilitation of inspections, audits, and reviews as required to ensure compliance and quality assurance.

Scope of Services
The vendor must deliver the following services for equipping healthcare facilities under the reimbursement model:
Equipment Supply and Installation:

- Procurement and supply of specified medical equipment tailored to facility requirements.
- Installation, setup, and configuration of equipment in accordance with facility specifications and regulatory standards.
- Verification of equipment functionality and performance post-installation.

Training and Capacity Building:

- Provision of comprehensive training programs for facility staff on equipment usage, maintenance, and safety protocols.
- Ongoing support and refresher training to ensure effective utilization and operational efficiency.

Maintenance and Support:

- Scheduled preventive maintenance services to prevent equipment failures and ensure optimal performance.
- Prompt response and corrective maintenance services to address equipment breakdowns or malfunctions.
- Availability of spare parts and technical support to minimize downtime and maintain service continuity.

Reimbursement and Financial Management:

- Establishment of a transparent reimbursement mechanism based on agreed utilization rates and fixed fee for service.
- Submission of accurate usage reports and financial documentation to facilitate timely reimbursement.
- Pricing structures designed to be competitive and leverage economies of scale for cost efficiency.

IMPLEMENTATION PLAN

The implementation plan will include:

- Detailed timeline for equipment procurement, installation, and commissioning.
- Training schedules and content outline for facility staff.
- Maintenance schedule and procedures to ensure ongoing equipment reliability and compliance.

This plan will be adjusted based on specific facility needs and operational requirements to achieve optimal outcomes in healthcare service delivery.

List of Lots

Category	Fixed Fee for Service/(FFS)	LOT
Diagnostics Imaging X-ray	FFS	Lot 1
Diagnostics Imaging Sonography	FFS	Lot 2
Diagnostics Imaging Mammogram	FFS	Lot 3
Diagnostics Imaging CT	FFS	Lot 4
Diagnostics Imaging MRI	FFS	Lot 5
Radiation Oncology	FFS	Lot 6
Nuclear Medicine	FFS	Lot 7
Interventional Radiology	FFS	Lot 8
Cardiology	FFS	Lot 9
General Theatre	FFS	Lot 10
Specialised Cardiothoracic & Vascular	FFS	Lot 11
Specialised Urological	FFS	Lot 12
Specialised Maxillofacial	FFS	Lot 13
Specialised Orthopaedic	FFS	Lot 14
Specialised Neurosurgery	FFS	Lot 15
Specialised Ophthalmic	FFS	Lot 16
Specialised Ear Nose & Throat	FFS	Lot 17
Specialised Obs & Gyn	FFS	Lot 18
Specialised Paediatric	FFS	Lot 19
Specialised Plastic	FFS	Lot 20
Dialysis	FFS	Lot 21
Routine Laboratory	FFS	Lot 22
Specialised Laboratory	FFS	Lot 23

3. Work Plan

[Procuring Entity shall provide main features of the work plan that the Tenderer should provide in the tender for carrying out the contract, from beginning to the end].

4. Other Time Schedule

(to be used by Tenderer when alternative Time for Completion is invited in ITT14.2)

1. NOTIFICATION OF INTENTION TO AWARD

[*This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender.*] [*Send this Notification to the Tenderer's Authorized Representative named in the Tenderer Information Form*] For the attention of Tenderer's Authorized Representative

Name: .....*[insert Authorized Representative's name]*

Address: .....*[insert Authorized Representative's Address]*

Telephone numbers: .....*[insert Authorized Representative's telephone/fax numbers]*

Email Address:..... *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION:..... This Notification is sent by: [*email/fax*] on [*date*] (local time)

Procuring Entity: .....*[insert the name of the Procuring Entity]*

Contract title:..... *[insert the name of the contract]*

ITT No: .....*[insert ITT reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

a) Request a debriefing in relation to the evaluation of your Tender, and/or

b) Submit a Procurement-related Complaint in relation to the decision to award the contract.

I). The successful Tenderer

Name:	[*insert name of successful Tenderer*]
Address:	[*insert address of the successful Tenderer*]
Contract price:	[*insert contract price of the successful Tender*]

ii). **Other Tenderers** ***[INSTRUCTIONS: insert names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.]***

Name of Tenderer	Tender price	Evaluated Tender price (if applicable)
[*insert name*]	[*insert Tender price*]	[*insert evaluated price*]
[*insert name*]	[*insert Tender price*]	[*insert evaluated price*]
[*insert name*]	[*insert Tender price*]	[*insert evaluated price*]
[*insert name*]	[*insert Tender price*]	[*insert evaluated price*]
[*insert name*]	[*insert Tender price*]	[*insert evaluated price*]

iii). How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [*insert date*] (local time).

You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (3)Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

Attention: .....[*insert full name of person, if applicable*]

Title/position: .....[*insert title/position*]

Agency: .....[*insert name of Procuring Entity*]

Email address:..... [*insert email address*]

If your request for a debriefing is received within the3Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

iv. How to make a complaint

Period: Procurement-related Complaint challenging the decision to award shall be submitted by [*insert date and time*].

Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

Attention:.....[*insert full name of person, if applicable*]

Title/position:..... [*insert title/position*]

Agency: .....[*insert name of Procuring Entity*]

Email address:..... [*insert email address*]

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Stand still Period and received by us before the Stand still Period ends.
In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all of the information required to support the complaint.
5. The application must be accompanied by the fees set out in the Procurement Regulations, which shall not be refundable (information available from the Public Procurement Authority at info@ppra.go.ke or complaints@ppra.go.ke

v). Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).
The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.
If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Procuring Entity:

Signature:_____

Name:_____

Title/position:_____

Telephone:_____

Email: _____

2. REQUEST FOR REVIEW

FORM FOR REVIEW(r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO…….OF……..…20……...

BETWEEN

……...…….APPLICANT

AND

……RESPONDENT (Procuring Entity)

Request for review of the decision of the……. (Name of the Procuring Entity of ……dated the…day of ……..20…….in the matter of Tender No……..…of ……..20….. for .....(Tender description).

REQUEST FOR REVIEW

I/We……,the above named Applicant(s), of address: Physical address…….P. O. Box No……. Tel. No……..Email ……, hereby request the Public Procurement Administrative Review Board to review the whole/part of the above mentioned decision on the following grounds , namely:

1.

2.

By this memorandum, the Applicant requests the Board for an order/orders that:

1.

2.

SIGNED …….(Applicant) Dated on…….day of ……/…20……

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on……day of ……....20…..……

SIGNED

Board Secretary

3. LETTER OF AWARD

[Form head paper of the Procuring Entity]

.....*[date]*

To:.....*[name and address of the Service Provider]*

This is to notify you that your Tender dated*[date]*forexecutionofthe*[nameoftheContractandidentificationnumber, as given in the Special Conditions of Contract]* for the Contract Price of the equivalent of *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by us (Procuring Entity).

You are requested to furnish the Performance Security within 28days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the tender document.

Please return the attached Contract dully signed

AuthorizedSignature:.....

Name and Title of Signatory:.....

Name of Agency:.....

Attachment: Contract

4. FORM OF CONTRACT

[Form head paper of the Procuring

Entity] **LUMP SUM**

REMUNERATION

This CONTRACT(herein after called the "Contract") is made the *[day]* day of the month of*[month]*,*[year]*, between, on the one hand,*[name of Procuring Entity]*(herein after called the "Procuring Entity") and, on the other hand, *[name of Service Provider]*(hereinafter called the" Service Provider").

[***Note****: In the text below text in brackets is optional; all notes should be deleted in final text. If the Service Provider consist of more than one entity, the above should be partially amended to read as follows*:"…(herein after called the "Procuring Entity") and, on the other hand, a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Procuring Entity for all the Service Provider's obligations under this Contract, namely, *[name of Service Provider]*and*[name of Service Provider]*(herein after called the "Service Provider").]

WHEREAS

a) The Procuring Entity has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (herein after called the "Services");
b) the Service Provider, having represented to the Procuring Entity that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of……;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be as follows:
   a) The Form of Acceptance;
   b) The Service Provider's Tender
   c) The Special Conditions of Contract;
   d) The General Conditions of Contract;
   e) The Specifications;
   f) The Priced Activity Schedule; and
   g) The following Appendices: [***Note****: If any of these Appendices are not used, the words "Not Used" should be inserted below next to the title of the Appendix and on the sheet attached hereto carrying the title of that Appendix*.]

   Appendix A: Description of the Services
   Appendix B: Schedule of Payments
   Appendix C: Subcontractors

   Appendix D: Breakdown of Contract Price
   Appendix E: Services and Facilities Provided by the Procuring Entity

2. The mutual rights and obligations of the Procuring Entity and the Service Provider shall be as set forth in the Contract, in particular:
   a) The Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
   b) The Procuring Entity shall make payments to the Service Provider in accordance with the provisions of the Contract.

   IN WITNESS WHERE OF, the Parties here to have caused this Contract to be signed in their respective names as of the day and year first above written.

   For and on behalf of_____*[name of Procuring Entity]*

   _____*[Authorized Representative]*

For and on behalf of *[name of Service Provider]*

_____*[Authorized Representative]*

[***Note*** *:If the Service Provider consists of more than one entity, all these entities should appear as signatories, e.g., in the following manner*:]

For and on behalf of each of the Members of the Service Provider

.....*[name of member]*

.....*[Authorized Representative]*

..... *[name of member]*

.....*[Authorized Representative]*

4 FORM OF TENDER SECURITY (Bank Guarantee) *[The bank shall fill in this*

Bank Guarantee Form in accordance with the instructions indicated.] [Guarantor Form

head or SWIFT identifier code]

Beneficiary:.....*[Procuring Entity to insert its name and address]*

ITT No.:.....*[Procuring Entity to insert reference number for the Request for Tenders]*

Alternative No.*: .....[Insert identification No if this is a Tender for an*

alternative] **Date:** .....*[Insert date of issue]*

TENDER GUARANTEE No.:.....*[Insert guarantee reference number]*

Guarantor: .....*[Insert name and address of place of issue, unless indicated in the Form head]*

We have been informed that_____*[insert name of the Tenderer, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members there of]*(hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (hereinafter called "the Tender") for the execution of_under Request for Tenders No._____("The ITT").

Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) Has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Form of Tender ("the Tender Validity Period"), or any extension there to provide by the Applicant; or

(b) Having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension thereto provided by the Applicant, (i) has failed to sign the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Tenderers ("ITT") of the Beneficiary's tendering document.

This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the Contract agreementsignedbytheApplicantandtheperformancesecurityissuedtothe Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) twenty-eight days after the

end of the Tender Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

_____

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

5. FORM OF TENDER SECURITY (TENDER BOND) *[The Surety shall fill*

in this Tender Bond Form in accordance with the instructions indicated.] BOND NO.___

BY THIS BOND *[name of Tenderer]* as Principal (herein after called "the Principal"), and *[name, legal title, and address of surety],***authorized to transact business in Kenya** ,as Surety (hereinafter called "the Surety"), are held and firmly bound unto *[name of Procuring Entity]* as Obligee (hereinafter called "the Procuring Entity") in the sum of *[amount of Bond][amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHERE AS the Principal has submitted or will submit a written Tender to the Procuring Entity dated the_____ day of_____, 20_____, for the supply of *[name of Contract]*(herein after called the "Tender").

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

c) haswithdrawnitsTenderduringtheperiodofTendervaliditysetforthinthePrincipal'sFormofTender("the TenderValidityPeriod"),oranyextensiontheretoprovidedbythePrincipal;or

d) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension there to provide by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to Tenderers ("ITT") of the Procuring Entity's tendering document.

then the Surety undertakes to immediately pay to the Procuring Entity up to the above amount upon receipt of the Procuring Entity's first written demand, without the Procuring Entity having to substantiate its demand, provided that in its demand the Procuring Entity shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 28 days after the date of expiration of the Tender Validity Period set forth in the Principal's Form of Tender or any extension thereto provided by the Principal.

IN TESTIMONY WHERE OF, the Principal and the Surety have caused these presents to be executed in the irrespective names this_____day of_____20_____.

Principal:_____
Corporate Seal (where appropriate)

_____
(Signature)

(Printed name and title)

Surety:_____

_____
(Signature)

(Printed name and title)

6. FORM OF TENDER-SECURING DECLARATION

[The Tenderer shall fill in this Form in accordance with the instructions indicated.]

Date:.....*[date (as day, month and year)]*

ITT No.: .....*[number of Tendering process]*

Alternative No:..... *[insert identification No if this is a Tender for an alternative]*

To:..... *[complete name of Procuring Entity]* We, the undersigned, declare

that: We understand that, according to your conditions, Tenders must be supported by a Tender-Securing

Declaration.
We accept that we will automatically be suspended from being eligible for Tendering or submitting proposals in any contract with the Procuring Entity for the period of time of *[number of months or years]* starting on *[date]*, if we are in breach four obligation(s) under the Tender conditions, because we:

a) Have withdrawn our Tender during the period of Tender validity specified in the Form of Tender; or

b) having been notified of the acceptance of our Tender by the Procuring Entity during the period of Tender validity, (i) fail to sign the Contract agreement; or (ii) fail or refuse to furnish the Performance Security, if required, in accordance with the ITT.

We understand this Tender Securing Declaration shall expire if we are not the successful Tenderer, upon the earlier of (i) our receipt of your notification to us of the name of the successful Tenderer; or (ii) twenty-eight days after the expiration of our Tender.

Name of the Tenderer***** _____

Name of the person duly authorized to sign the Tender on behalf of the Tenderer****** _____

Title of the person signing the Tender _____

Signature of the person named above _____

Date signed _____ day of _____, _____

*****: In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer

**: Person signing the Tender shall have the power of attorney given by the Tenderer attached to the Tender

*[**Note:** In case of a Joint Venture, the Tender-Securing Declaration must be in the name of all members to the Joint Venture that submits the Tender.*

PART II – PROCURING ENTITY'S REQUIREMENTS

SECTION V - ACTIVITY SCHEDULE

Objectives

Provision of Service using the Fixed Fee for Service
Terms of reference

INTRODUCTION

This tender seeks proposals from qualified vendors to provide medical equipment to designated facilities under a reimbursement model based on utilization at a fixed fee for service. The objective is to equip facilities efficiently, ensuring optimal utilization of resources while adhering to social health insurance rates and applicable service guidelines. Competitive pricing is encouraged to capitalize on economies of scale.

The initial agreement period shall be determined based on negotiation and mutual agreement, with provisions for extension based on performance evaluation.

VENDOR OBLIGATIONS

a) The selected vendor will be responsible for supplying and equipping designated healthcare facilities with specified medical equipment. b) The vendor must ensure all equipment meets regulatory standards and specifications outlined in the tender. c) Equipment installation, setup, and configuration to be completed according to agreed timelines and facility requirements. d) Comprehensive training for facility staff on equipment operation, maintenance, and safety protocols. e) Regular monitoring and maintenance services to ensure optimal equipment performance throughout the agreement period.

PROCUREMENT ENTITY/CLIENT OBLIGATIONS

a) The procurement entity shall reimburse the vendor based on agreed utilization rates and fixed fee for service, aligned with social health insurance rates where applicable. b) Cooperation with the vendor to provide necessary site access, utilities, and support during equipment installation and ongoing operations. c) Timely reporting of equipment usage and performance metrics to facilitate reimbursement and service evaluation. d) Adherence to regulatory guidelines and quality standards in all procurement and operational activities. e) Facilitation of inspections, audits, and reviews as required to ensure compliance and quality assurance.

SCOPE OF SERVICES

The vendor must deliver the following services for equipping healthcare facilities under the reimbursement model:

Equipment Supply and Installation:

- Procurement and supply of specified medical equipment tailored to facility requirements.
- Installation, setup, and configuration of equipment in accordance with facility specifications and regulatory standards.
- Verification of equipment functionality and performance post-installation.

Training and Capacity Building:

- Provision of comprehensive training programs for facility staff on equipment usage, maintenance, and safety protocols.
- Ongoing support and refresher training to ensure effective utilization and operational efficiency.

Maintenance and Support:

- Scheduled preventive maintenance services to prevent equipment failures and ensure optimal performance.
- Prompt response and corrective maintenance services to address equipment breakdowns or malfunctions.
- Availability of spare parts and technical support to minimize downtime and maintain service continuity.

Reimbursement and Financial Management:

- Establishment of a transparent reimbursement mechanism based on agreed utilization rates and fixed fee for service.
- Submission of accurate usage reports and financial documentation to facilitate timely reimbursement.
- Pricing structures designed to be competitive and leverage economies of scale for cost efficiency.

IMPLEMENTATION PLAN

The implementation plan will include:

- Detailed timeline for equipment procurement, installation, and commissioning.

- Training schedules and content outline for facility staff.
- Maintenance schedule and procedures to ensure ongoing equipment reliability and compliance.

This plan will be adjusted based on specific facility needs and operational requirements to achieve optimal outcomes in healthcare service delivery.

List of Lots

Category	Fixed Fee for Service (FFS)	LOT
Diagnostics Imaging X-ray	FFS	Lot 1
Diagnostics Imaging Sonography	FFS	Lot 2
Diagnostics Imaging Mammogram	FFS	Lot 3
Diagnostics Imaging CT	FFS	Lot 4
Diagnostics Imaging MRI	FFS	Lot 5
Radiation Oncology	FFS	Lot 6
Nuclear Medicine	FFS	Lot 7
Interventional Radiology	FFS	Lot 8
Cardiology	FFS	Lot 9
General Theatre	FFS	Lot 10
Specialised Cardiothoracic & Vascular	FFS	Lot 11
Specialised Urological	FFS	Lot 12
Specialised Maxillofacial	FFS	Lot 13
Specialised Orthopaedic	FFS	Lot 14
Specialised Neurosurgery	FFS	Lot 15
Specialised Ophthalmic	FFS	Lot 16
Specialised Ear Nose & Throat	FFS	Lot 17
Specialised Obs & Gyn	FFS	Lot 18
Specialised Paediatric	FFS	Lot 19
Specialised Plastic	FFS	Lot 20
Dialysis	FFS	Lot 21
Routine Laboratory	FFS	Lot 22
Specialised Laboratory	FFS	Lot 23

List of Itemized Equipment and Services

SL No.	Lot No.	Category	Sub category	Procudure/Service Name	Procudure/Service Code
	Lot 1	Diagnostics Imaging Xray	Xray	Xray	
	Lot 2	Diagnostics Imaging Sonography	Basic	Obstertic	
				Abdominal	
				Pelvic	
				Others	

				FAST/POCUS	
			Specialised	Doppler	
	Lot 3	Diagnostics Imaging Mammogram	Mammogram	Mammogram	
	Lot 4	Diagnostics Imaging CT	CT	CT without Contrast	
				CT with Contrast	
	Lot 5	Diagnostics Imaging MRI	MRI	MRI without Contrast	
				MRI with Contrast	
		Diagnostic flouroscopy	Flouroscopy	Flouroscopy	
	Lot 6	Radiation Oncology		Brachytherapy	
				SBRT/SBRS	
				Radiotherapy	
	Lot 7	Nuclear Medicine		Bone Scan	
				PSMA PET scan	
				PET Scan	
				Radionucleide scan	
	Lot 8	Interventional Radiology	Interventional Radiology	4-vessel cereral Angiography / Carotid Angiography (unilateral or bilateral)	
	Lot 8			vertebral angiogram	
	Lot 8		Interventional Radiology	Balloon Angioplasty	
	Lot 8		Interventional Radiology	Bilateral nephrostomy tube insertion	
	Lot 8		Interventional Radiology	Biliary stenting	
	Lot 8		Interventional Radiology	CT guided bone biopsy	
	Lot 8		Interventional Radiology	CT guided lung biopsy	
	Lot 8		Interventional Radiology	DJ stenting bilateral	
	Lot 8		Interventional Radiology	DJ stenting unilateral	
	Lot 8		Interventional Radiology	Embolization/Carotid/Renal/Hepatic (no coils)	
	Lot 8		Interventional Radiology	Embolization/Carotid/Renal/Hepatic (no coils, embolization material and	
	Lot 8			microcatheter)	

	Lot 8		Interventional Radiology	Embolization/Carotid/Renal/Hepatic (no micro catheter)	
	Lot 8		Interventional Radiology	Fallopian tube Catheterization	
	Lot 8		Interventional Radiology	Flush Aortogram/Renal Artery/Hepatic (with embolization material and	
	Lot 8			microcatheter	
	Lot 8		Interventional Radiology	Image guided chemo port insertion (adult)	
	Lot 8		Interventional Radiology	Image guided chemo port insertion (paediatric)	
	Lot 8		Interventional Radiology	Image guided CVC insertion	
	Lot 8		Interventional Radiology	Image guided dialysis catheter insertion	
	Lot 8		Interventional Radiology	Image guided gastrotomy tube/nasojejunal tube insertion (without tube)	
	Lot 8		Interventional Radiology	Image guided PICC line insertion	
	Lot 8		Interventional Radiology	Internalization of biliary tube	
	Lot 8		Interventional Radiology	Lower limb/ upper limb arteriogram bilateral	
	Lot 8		Interventional Radiology	Lower limb/ upper limb arteriogram unilateral	
	Lot 8		Interventional Radiology	Neuro-embolization	
	Lot 8		Interventional Radiology	PTC/Biliary drainage	
	Lot 8		Interventional Radiology	PTC/Biliary drainage (tubes not available)	
	Lot 8		Interventional Radiology	PTC/Biliary drainage and stenting (stent available)	
	Lot 8		Interventional Radiology	Ultrasound guided abdominal and peripheral biopsies	

	Lot 8		Interventional Radiology	Ultrasound guided ascites drainage/abscess drainage	
	Lot 8		Interventional Radiology	Ultrasound guided bilateral pleural effusion drainage	
	Lot 8		Interventional Radiology	Ultrasound guided breast/prostate biopsies	
	Lot 8		Interventional Radiology	Ultrasound guided unilateral pleural effusion drainage	
	Lot 9	Cardiology	Cardiology	Aortic Valvuloplasty	
	Lot 9		Cardiology	ASD percutaneous device closure	
	Lot 9		Cardiology	Atrial Septostomy	
	Lot 9		Cardiology	Cardiac Resynchronization Therapy Defibrillator (CRT- D) device	
	Lot 9		Cardiology	Cardiac Resynchronization Therapy Pacemaker (CRT-P)	
	Lot 9		Cardiology	Coronary angiography (diagnostic)	
	Lot 9		Cardiology	Coronary Angioplasty (with single or Multiple Stents)	
	Lot 9		Cardiology	Diagnostic catheterization	
	Lot 9		Cardiology	Dual Chamber pacemaker insertion (permanent)	
	Lot 9		Cardiology	Implantable Converter Defibrillator (ICD) Dual chamber insertion	
	Lot 9		Cardiology	Implantable Converter Defibrillator (ICD) Single	
	Lot 9			chamber insertion	

	Lot 9		Cardiology	Intra- Aortic Balloon Pump	
	Lot 9		Cardiology	IVC Filter insertion	
	Lot 9		Cardiology	Loop recorder - reveal link	
	Lot 9		Cardiology	Loop recorder-reveal xt	
	Lot 9		Cardiology	Mitral Valvoplasty	
	Lot 9		Cardiology	PDA percutaneous device closure	
	Lot 9		Cardiology	Peripheral Angiography	
	Lot 9		Cardiology	Peripheral Angioplasty	
	Lot 9		Cardiology	Pulmonary artery catheterization	
	Lot 9		Cardiology	Pulmonary Valvoplasty	
	Lot 9		Cardiology	Renal artery stenting	
	Lot 9		Cardiology	Retrival of Foreign bodies	
	Lot 9		Cardiology	Right and Left Catheterization	
	Lot 9		Cardiology	Single Chamber pacemaker insertion (permanent)	
	Lot 9		Cardiology	Single pacemaker insertion (temporary)	
	Lot 9		Cardiology	Thoracic endovascular aortic repair (TEVAR)	
	Lot 9		Cardiology	VSD percutanoeus device closure	
	Lot 9		Cardiology	ECHO	
	Lot 10	General Theatre	General	Abdominoperineal resection (APR-tumor)	
	Lot 10		General	Anterior Resection of Rectum	
	Lot 10		General	Appendicectomy	
	Lot 10		General	Bilateral Herniotomy	
	Lot 10		General	Bilateral Herniotomy + orchidopexy	
	Lot 10		General	Bilateral inguinal herniorrapphy	

	Lot 10		General	Bilateral Orchidopexy	
	Lot 10		General	Bowel resection and anastomosis	
	Lot 10		General	Breast Lumpectomy under GA	
	Lot 10		General	Cervical lymph node biopsy	
	Lot 10		General	Cholecystectomy	
	Lot 10		General	Closure of Colostomy	
	Lot 10		General	Colostomy	
	Lot 10		General	diathermy excision of warts or subcutaneous tissue	
	Lot 10		General	Drainage of Breast abscess (only under GA)	
	Lot 10		General	Excision of Liver hydatid cyst	
	Lot 10		General	Excision of Thyroglossal cyst	
	Lot 10		General	Exploration of retroperitoneal mass	
	Lot 10		General	Exploratory Laparotomy	
	Lot 10		General	gastrojejunostomy	
	Lot 10		General	Haemorrhoidectomy	
	Lot 10		General	Hemicolectomy	
	Lot 10		General	Incision & Drainage (Peri anal Abscess)	
	Lot 10		General	Incision & Drainage Under GA	
	Lot 10		General	Incision +drainage head and neck abscess (I&D) under GA	
	Lot 10		General	Incision and drainage of ocular abscess or cyst (I&D)	
	Lot 10		General	Insertion of chest tube / chest aspiration	
	Lot 10		General	Intestinal resection + anastomosis	

	Lot 10		General	Laparoscopic Niessens fundoplication	
	Lot 10		General	Laparotomy for Pyloric stenosis	
	Lot 10		General	Lateral Sphincterotomy	
	Lot 10		General	Lumbar puncture	
	Lot 10		General	Lymph node biopsy	
	Lot 10		General	Minor Surgical Toilet Under GA	
	Lot 10		General	Needle biopsy: liver	
	Lot 10		General	Nerve release and decompression	
	Lot 10		General	Oesophagoscopy and removal of FB	
	Lot 10		General	Orchidectomy	
	Lot 10		General	Paediatric (below 6 years) Circumcision only under GA (phymosis)	
	Lot 10		General	Paracentesis	
	Lot 10		General	Partial Gastrectomy	
	Lot 10		General	Primary repair of incisional hernia laparoscopic	
	Lot 10		General	Radical Mastectomy (To include lymph nodes clearance)	
	Lot 10		General	Repair minor scalp wounds/lacerations under GA	
	Lot 10		General	Repair of burst abdomen	
	Lot 10		General	Repair of epigastric hernia	
	Lot 10		General	Repair of hiatus hernia	
	Lot 10		General	Repair of incisional hernia (with mesh)	
	Lot 10		General	Repair of perforated duodenal ulcer	
	Lot 10		General	Repair of previous incision in abdominal wall	

	Lot 10		General	Repair of strangulated hernias	
	Lot 10		General	Repair of umbilical hernia (with mesh)	
	Lot 10		General	Simple Mastectomy	
	Lot 10		General	Skin biopsy	
	Lot 10		General	Splenectomy	
	Lot 10		General	Stripping of bilateral varicose veins	
	Lot 10		General	Subdural haematoma Evacuation	
	Lot 10		General	Surgical Debridement/Escharectomy: (Minor, Medium & Major), traumatic,	
	Lot 10			pressure sores, diabetic and burns (Under GA)	
	Lot 10		General	Surgical toilet under GA	
	Lot 10		General	Thyroidectomy	
	Lot 10		General	Total Gastrectomy	
	Lot 10		General	Total Oesophagectomy	
	Lot 10		General	Tracheostomy	
	Lot 10		General	Transverse Colectomy	
	Lot 10		General	Unilateral Adrenalectomy	
	Lot 10		General	Unilateral femoral herniorrhaphy	
	Lot 10		General	Unilateral gynaecomastia correction	
	Lot 10		General	Unilateral Herniotomy	
	Lot 10		General	Unilateral Herniotomy + orchidopexy	
	Lot 10		General	Unilateral Orchidopexy	
	Lot 10		General	Unilateral sympathectomy	
	Lot 10		General	Vagotomy + drainage	

	Lot 11	Specialised Cardiothoracic & Vascular	Cardiothoracic and Vascular	Abdominal Aortic Aneurym Repair (Open)	
	Lot 11		Cardiothoracic and Vascular	Achalasia cardia/Diverticulum	
	Lot 11		Cardiothoracic and Vascular	Anterior Chest Wall Mass Excision and Reconstruction	
	Lot 11		Cardiothoracic and Vascular	Anterior Mediastinal Mass Resection	
	Lot 11		Cardiothoracic and Vascular	Aortic Valve Replacement (AVR)	
	Lot 11		Cardiothoracic and Vascular	Arteriovenous Malformation Resection	
	Lot 11		Cardiothoracic and Vascular	Atrial Septal Defect Closure	
	Lot 11		Cardiothoracic and Vascular	AV Fistula Take down	
	Lot 11		Cardiothoracic and Vascular	Bentall's Procedure	
	Lot 11		Cardiothoracic and Vascular	Bidirectional Glenn Shunt	
	Lot 11		Cardiothoracic and Vascular	Blalock Taussig (BT) Shunt	
	Lot 11		Cardiothoracic and Vascular	Bronchopleural fistula repair	
	Lot 11		Cardiothoracic and Vascular	Bronchoscopy and removal of FB	
	Lot 11		Cardiothoracic and Vascular	CABG + Double Valve Replacement	
	Lot 11		Cardiothoracic and Vascular	CABG + MWR/AVR	
	Lot 11		Cardiothoracic and Vascular	Carotid Artery Endarterectomy	
	Lot 11		Cardiothoracic and Vascular	Carotid Body Tumour Excision	
	Lot 11		Cardiothoracic and Vascular	Carotid Body Tumour Redo Surgery	
	Lot 11		Cardiothoracic and Vascular	Closed valvotomy	
	Lot 11		Cardiothoracic and Vascular	Coarctation of Aorta repair with graft	
	Lot 11		Cardiothoracic and Vascular	Coarctation of Aorta repair without graft	

	Lot 11		Cardiothoracic and Vascular	Complete Atrioventricular Canal Defect Repair	
	Lot 11		Cardiothoracic and Vascular	Complex repair for congenital heart disease	
	Lot 11		Cardiothoracic and Vascular	Congenital AV fistula malformation Resection	
	Lot 11		Cardiothoracic and Vascular	Conventional Elephant Trunk (CET) Procedure	
	Lot 11		Cardiothoracic and Vascular	Coronary artery Bypass Grafting (CABG)	
	Lot 11		Cardiothoracic and Vascular	Cox Maze IV Procedure	
	Lot 11		Cardiothoracic and Vascular	Diaphragmatic Hernia Repair	
	Lot 11		Cardiothoracic and Vascular	Dissected Aortic Aneurysm Repair (Open)	
	Lot 11		Cardiothoracic and Vascular	Double Valve Replacement	
	Lot 11		Cardiothoracic and Vascular	Endovascular Aneurysm Repair (EVAR)	
	Lot 11		Cardiothoracic and Vascular	Esophagostomy	
	Lot 11		Cardiothoracic and Vascular	ESRD AV Fistula Creation	
	Lot 11		Cardiothoracic and Vascular	ESRD AV Graft Surgery	
	Lot 11		Cardiothoracic and Vascular	Excision of Mediastinal Tumour	
	Lot 11		Cardiothoracic and Vascular	Fontan procedure	
	Lot 11		Cardiothoracic and Vascular	Frozen Elephant Trunk (FET) Procedure	
	Lot 11		Cardiothoracic and Vascular	Gastrostomy/Jejunostomy	
	Lot 11		Cardiothoracic and Vascular	Heller's myotomy	
	Lot 11		Cardiothoracic and Vascular	Insertion of MB tube	
	Lot 11		Cardiothoracic and Vascular	Lung decortication	

	Lot 11		Cardiothoracic and Vascular	Mitral Valve Replacement (MVR)	
	Lot 11		Cardiothoracic and Vascular	Mitral Valvotomy / Balloon	
	Lot 11		Cardiothoracic and Vascular	Myocardial Biopsy	
	Lot 11		Cardiothoracic and Vascular	Oesophageal perforation Repair	
	Lot 11		Cardiothoracic and Vascular	Oesophagectomy	
	Lot 11		Cardiothoracic and Vascular	Open Lobectomy	
	Lot 11		Cardiothoracic and Vascular	Open Lung Biopsy	
	Lot 11		Cardiothoracic and Vascular	Open Patent Ductus Arteriosus (PDA) surgery	
	Lot 11		Cardiothoracic and Vascular	Open Pneumonectomy	
	Lot 11		Cardiothoracic and Vascular	Open Removal of Esophageal Foreign Body	
	Lot 11		Cardiothoracic and Vascular	Open Removal of Tracheal/Bronchial Foreign Body	
	Lot 11		Cardiothoracic and Vascular	Other aneurysms repair	
	Lot 11		Cardiothoracic and Vascular	Pacemaker Change of battery	
	Lot 11		Cardiothoracic and Vascular	Partial Atrioventricular Canal Defect Repair	
	Lot 11		Cardiothoracic and Vascular	Pericardial Catheterization	
	Lot 11		Cardiothoracic and Vascular	Pericardial Window	
	Lot 11		Cardiothoracic and Vascular	Pericardiectomy	
	Lot 11		Cardiothoracic and Vascular	Pericardiocentesis	
	Lot 11		Cardiothoracic and Vascular	Peripheral Vascular Disease (PAD) Bypass Grafting	
	Lot 11		Cardiothoracic and Vascular	Peripheral Vascular Disease (PAD) Embolectomy	

	Lot 11		Cardiothoracic and Vascular	Peripheral Vascular Disease (PAD) Endovascular Balloon Angioplasty	
	Lot 11		Cardiothoracic and Vascular	Peripheral Vascular Disease (PAD) Endovascular Stenting	
	Lot 11		Cardiothoracic and Vascular	Peripheral Vascular Disease (PAD) Vascular Amputation	
	Lot 11		Cardiothoracic and Vascular	Pleurodesis	
	Lot 11		Cardiothoracic and Vascular	Primary Open Pacemaker implantation	
	Lot 11		Cardiothoracic and Vascular	Pulmonary Artery Banding	
	Lot 11		Cardiothoracic and Vascular	Repair of Ruptured Diaphragm	
	Lot 11		Cardiothoracic and Vascular	Simple Thoracotomy-Retained Haemothrax /Duct ligation/pleurodesis/FB	
	Lot 11			removal	
	Lot 11		Cardiothoracic and Vascular	Simple tracheal/Bronchial fistula repairs	
	Lot 11		Cardiothoracic and Vascular	Splenorenal shunt	
	Lot 11		Cardiothoracic and Vascular	Subfascial DVT ligation + skin graft	
	Lot 11		Cardiothoracic and Vascular	Tetralogy of Fallot Repair	
	Lot 11		Cardiothoracic and Vascular	Thoracic Aortic Aneurysm Repair (Open)	
	Lot 11		Cardiothoracic and Vascular	Thoracic Endovascular Aneurysm Repair (TEVAR)	
	Lot 11		Cardiothoracic and Vascular	Thoracotomy	
	Lot 11		Cardiothoracic and Vascular	Tracheal Stenosis Resection and Anastomosis	

	Lot 11		Cardiothoracic and Vascular	Tracheal/Bronchial Reconstruction	
	Lot 11		Cardiothoracic and Vascular	Transcatheter percutaneous device PDA closure	
	Lot 11		Cardiothoracic and Vascular	Traumatic Tracheal/Bronchial Disruption repair and anastomosis	
	Lot 11		Cardiothoracic and Vascular	Traumatic Vascular Injury Repair	
	Lot 11		Cardiothoracic and Vascular	Tube Thoracostomy	
	Lot 11		Cardiothoracic and Vascular	Vascular Exposure and Safeguarding for Anterior Lumbar Interbody Fusion	
	Lot 11		Cardiothoracic and Vascular	Venous Insufficiency Laser Ablation	
	Lot 11		Cardiothoracic and Vascular	Venous Insufficiency Perforator Ligation	
	Lot 11		Cardiothoracic and Vascular	Venous Insufficiency Radiofrequency Ablation	
	Lot 11		Cardiothoracic and Vascular	Venous Insufficiency Stripping	
	Lot 11		Cardiothoracic and Vascular	Ventricular Septal Defect Closure	
	Lot 11		Cardiothoracic and Vascular	Vessel bypass Surgery	
	Lot 11		Cardiothoracic and Vascular	Video Assisted Thoracoscopic Surgery (VATS) Decortication	
	Lot 11		Cardiothoracic and Vascular	Video Assisted Thoracoscopic Surgery (VATS) Lobectomy	
	Lot 11		Cardiothoracic and Vascular	Video Assisted Thoracoscopic Surgery (VATS) Pneumonectomy	
	Lot 12	Specialised Urological	Urological	Anastomotic urethroplasty	

	Lot 12		Urological	Anatrophic nephrolithotomy	
	Lot 12		Urological	Anterior exenteration and ileal conduit	
	Lot 12		Urological	Ascending urethrography	
	Lot 12		Urological	Aspiration of hydrocele	
	Lot 12		Urological	Bilateral modified inguinal node dissection	
	Lot 12		Urological	Bilateral ochidectomy	
	Lot 12		Urological	Bilateral radical inguinal node dissection	
	Lot 12		Urological	Bipolar fulgration of genital and perineal warts	
	Lot 12		Urological	Bipolar fulgration of urethral warts	
	Lot 12		Urological	Bladder augmentation surgery	
	Lot 12		Urological	Bladder biopsy	
	Lot 12		Urological	Bladder diverticulectomy	
	Lot 12		Urological	Bladder injury repair	
	Lot 12		Urological	Bladder washout	
	Lot 12		Urological	Bricker's ileal conduit	
	Lot 12		Urological	Combined ascending and descending urethrography	
	Lot 12		Urological	Creation of instestinal continent catherizable pouch	
	Lot 12		Urological	Cutaneous ureterostomy	
	Lot 12		Urological	Direct visual urethrotomy	
	Lot 12		Urological	Epispadia urethroplasty	
	Lot 12		Urological	Excision and graft peyronies repair	
	Lot 12		Urological	Excision of epididymal cyst	

	Lot 12		Urological	Excision of patent urachus	
	Lot 12		Urological	Female urethral diverticulectomy	
	Lot 12		Urological	Femoral hernia repair	
	Lot 12		Urological	Flexible cystoscopy and removal of JJ stent	
	Lot 12		Urological	Flexible cystoscopy and surveillance for bladder cancer	
	Lot 12		Urological	Flexible ureterorenoscopy and laser ablation of ureteric or renal neoplasm	
	Lot 12		Urological	Flexible ureterorenoscopy and laser lithotripsy	
	Lot 12		Urological	Flexible ureteroscopy	
	Lot 12		Urological	Flexible urethrocystoscopy	
	Lot 12		Urological	Fournier's gangrene necrosectomy	
	Lot 12		Urological	Graft urethroplasty	
	Lot 12		Urological	Hydrocelectomy	
	Lot 12		Urological	Hypospadia urethroplasty	
	Lot 12		Urological	Ileal replacement of ureter	
	Lot 12		Urological	Inguinal hernia repair	
	Lot 12		Urological	Inguinal ochidopexy	
	Lot 12		Urological	Insertion of artificial urethral sphincter	
	Lot 12		Urological	Insertion of female urethral sling	
	Lot 12		Urological	Intravesical instillation of chemotherapy for bladder cancer	
	Lot 12		Urological	JJ stent placement	
	Lot 12		Urological	Laparoscopic ablation of renal cyst	

	Lot 12		Urological	Laparoscopic adrenalectomy	
	Lot 12		Urological	Laparoscopic donor nephrectomy	
	Lot 12		Urological	Laparoscopic ochidopexy	
	Lot 12		Urological	Laparoscopic partial nephrectomy	
	Lot 12		Urological	Laparoscopic pyelolithotomy	
	Lot 12		Urological	Laparoscopic pyeloplasty	
	Lot 12		Urological	Laparoscopic radical nephrectomy	
	Lot 12		Urological	Laparoscopic radical nephroureterectomy	
	Lot 12		Urological	Laparoscopic radical ochidectomy	
	Lot 12		Urological	Laparoscopic radical prostatectomy	
	Lot 12		Urological	Laparoscopic simple nephrectomy	
	Lot 12		Urological	Laparoscopic ureterolithotomy	
	Lot 12		Urological	Laparoscopic varicocelectomy	
	Lot 12		Urological	Laser cystolithotripsy	
	Lot 12		Urological	Laser urethrolithotripsy	
	Lot 12		Urological	Laser urethrotomy	
	Lot 12		Urological	Mainz II urinary diversion	
	Lot 12		Urological	Meatoplasty	
	Lot 12		Urological	Micturating cystourethrography	
	Lot 12		Urological	Mitrofanoff's appendicovesicostomy	
	Lot 12		Urological	Open adrenalectomy	
	Lot 12		Urological	Open cystolithotomy	

	Lot 12		Urological	Open decortication of renal cyst	
	Lot 12		Urological	Open donor nephrectomy	
	Lot 12		Urological	Open drainage of renal abscess	
	Lot 12		Urological	Open nephrolithotomy	
	Lot 12		Urological	Open partial nephrectomy	
	Lot 12		Urological	Open pyelolithotomy	
	Lot 12		Urological	Open pyeloplasty	
	Lot 12		Urological	Open radical nephrectomy	
	Lot 12		Urological	Open radical nephrectomy with IVC thrombectomy	
	Lot 12		Urological	Open radical nephroureterectomy with bladder cuff	
	Lot 12		Urological	Open radical prostatectomy	
	Lot 12		Urological	Open Renorrhaphy	
	Lot 12		Urological	Open simple nephroureterectomy	
	Lot 12		Urological	Open simple prostatectomy	
	Lot 12		Urological	Open suprapubic catheterization	
	Lot 12		Urological	Open ureterolithotomy	
	Lot 12		Urological	Open varicocelectomy	
	Lot 12		Urological	Orthotopic neobladder reconstruction	
	Lot 12		Urological	Partial cystectomy	
	Lot 12		Urological	Partial glansectomy	
	Lot 12		Urological	Partial penectomy	
	Lot 12		Urological	Pelvic fracture urethral defect (PFUD) urethroplasty	
	Lot 12		Urological	Percutaneous ablation of renal cyst	

	Lot 12		Urological	Percutaneous cystolithotripsy	
	Lot 12		Urological	Percutaneous drainage of renal abscess	
	Lot 12		Urological	Percutaneous nephrolithotomy (PCNL)	
	Lot 12		Urological	Percutaneous nephrostomy	
	Lot 12		Urological	Percutaneous prograde JJ stenting	
	Lot 12		Urological	Percutaneous prograde nephrostogram	
	Lot 12		Urological	Percutaneous removal of retained JJ stent	
	Lot 12		Urological	Percutaneous resection and ablation of urothelial tumors	
	Lot 12		Urological	Percutaneous suprapubic catheterization	
	Lot 12		Urological	Pericatheter urethrography	
	Lot 12		Urological	Perineal urethrostomy	
	Lot 12		Urological	Plication Peyronie's repair	
	Lot 12		Urological	Post circumcision repair	
	Lot 12		Urological	Posterior urethral valve ablation	
	Lot 12		Urological	Prostate biopsy	
	Lot 12		Urological	Proximal shunt of priapism	
	Lot 12		Urological	Radical cystoprostatectomy and ileal conduit INC ICU stay	
	Lot 12		Urological	Radical inguinal ochidectomy	
	Lot 12		Urological	Radical penectomy with perineal urethrostomy	
	Lot 12		Urological	Radical urethrectomy	
	Lot 12		Urological	Recipient kidney transplantation	

	Lot 12		Urological	Repair of bladder extrophy	
	Lot 12		Urological	Repair of colovesical fistula	
	Lot 12		Urological	Repair of cystocele with mesh	
	Lot 12		Urological	Repair of fracture penis	
	Lot 12		Urological	Repair of ligated ureter	
	Lot 12		Urological	Repair of penile injury	
	Lot 12		Urological	Repair of ureter injury	
	Lot 12		Urological	Repair of urethral injury	
	Lot 12		Urological	Retrograde pyelography	
	Lot 12		Urological	Retroperitoneal lymph node dissection	
	Lot 12		Urological	Rigid Cystoscopy and Removal of JJ stent	
	Lot 12		Urological	Robotic radical prostatectomy	
	Lot 12		Urological	Scrotal exploration and ochidopexy of testicular torsion	
	Lot 12		Urological	Semi rigid ureteroscopy and laser ureterolithotripsy	
	Lot 12		Urological	Semi rigid ureteroscopy and removal of retained JJ stent	
	Lot 12		Urological	Semirigid ureteroscopy	
	Lot 12		Urological	Sentinel inguinal node biopsy	
	Lot 12		Urological	Simple cystectomy and ileal conduit	
	Lot 12		Urological	Simple nephrectomy	
	Lot 12		Urological	Simple ochidectomy	
	Lot 12		Urological	Testicular/penile biopsy	
	Lot 12		Urological	Total penectomy with perineal urethrostomy	

	Lot 12		Urological	Trasurethral resection of prostate (TURP)	
	Lot 12		Urological	Trauma nephrectomy	
	Lot 12		Urological	Ultrasound guided biopsy of renal masses	
	Lot 12		Urological	Unilateral modified inguinal node dissection	
	Lot 12		Urological	Unilateral radical inguinal node dissection	
	Lot 12		Urological	Ureter reimplantation	
	Lot 12		Urological	Ureteral dilation	
	Lot 12		Urological	Ureterolysis	
	Lot 12		Urological	Ureteroscopy and laser ablation of ureteric tumor	
	Lot 12		Urological	Ureteroscopy and laser incision of ureter stricture	
	Lot 12		Urological	Ureteroureterostomy	
	Lot 12		Urological	Urethral dilation	
	Lot 12		Urological	Urethroscopy and ablation of bleeding prostatic hemangioma	
	Lot 12		Urological	Vesicostomy	
	Lot 13	Specialised Maxillofacial	Maxillofacial	Bilateral Open Joint Arthroplasty with condylar add-on	
	Lot 13		Maxillofacial	Bilateral Open Joint Arthroplasty with costochondral graft+/- Temporalis fascia	
	Lot 13		Maxillofacial	Cheiloplasty without Flap closure	
	Lot 13		Maxillofacial	Closed reduction # Mandible/ Maxilla/MMF	
	Lot 13		Maxillofacial	Closed Rhinoplasty	
	Lot 13		Maxillofacial	Closure Cleft Oronasal Fistula + Bone graft	

	Lot 13		Maxillofacial	Closure Cleft Oronasal Fistula with no Bone graft	
	Lot 13		Maxillofacial	Closure Oro- Antral fistula without flap	
	Lot 13		Maxillofacial	Complex nerve exploration+microsurgical repair	
	Lot 13		Maxillofacial	Complex Salivary gland Sialedenectomy/Tumours excision+/-RMND	
	Lot 13		Maxillofacial	ComplexFacial STR+Viin/Parotid Duct Repair	
	Lot 13		Maxillofacial	Coronoidectomy	
	Lot 13		Maxillofacial	Costocondral graft to Mandible post Tumour resection and implant	
	Lot 13		Maxillofacial	Debridement of Necrotising Orofacial infections per	
	Lot 13			theatre encounter	
	Lot 13		Maxillofacial	Elevation # Zygoma: ORIF	
	Lot 13		Maxillofacial	Elevation #Zygoma: Closed	
	Lot 13		Maxillofacial	Enucleation Mandibular/ Maxillary cyst	
	Lot 13		Maxillofacial	EUA Diagnostic for Oro-facial / Biopsy	
	Lot 13		Maxillofacial	Excision of Complex facial Hemangioma/Lymphangioma	
	Lot 13		Maxillofacial	Excision of Head / Neck lipoma >8cm	
	Lot 13		Maxillofacial	Excision Of Oral / Facial Odontogenic tumors	
	Lot 13		Maxillofacial	Excision of Scalp lesion +/- Wolfe graft	

	Lot 13		Maxillofacial	Excision of Simple facial Hemangioma/Lymphangioma	
	Lot 13		Maxillofacial	Excision/ Revision Facial scar	
	Lot 13		Maxillofacial	Excisionof Oral/ Facial BCC + Local Flap Reconstruction	
	Lot 13		Maxillofacial	Exploration of Submandibular/ Parotid Gland duct w/ stent	
	Lot 13		Maxillofacial	Exploration/ removal Cranio-Facial Foreign bodies	
	Lot 13		Maxillofacial	Exploration/ removal Cranio-Facial Foreign bodies (minor)	
	Lot 13		Maxillofacial	Exploration/Graft orbital fracture	
	Lot 13		Maxillofacial	Facial Soft tissue Repair	
	Lot 13		Maxillofacial	Fractures of Upper face and cranioplasty	
	Lot 13		Maxillofacial	Full thickness skin graft to oral defect-	
	Lot 13		Maxillofacial	Functional Orthognathic surgeries of the Maxilla/Mandible	
	Lot 13		Maxillofacial	Lip shave and mucosal advancement flap	
	Lot 13		Maxillofacial	Mandibular fractures (ORIF)	
	Lot 13		Maxillofacial	Mandibular/Maxillary Autogenous bone graft	
	Lot 13		Maxillofacial	Mandibulectomy plus Reconstruction/Plating	
	Lot 13		Maxillofacial	Mandibulectomy/Maxillectomy plus Microvascular Bone graft	

	Lot 13		Maxillofacial	Maxillectomy + Obturator	
	Lot 13		Maxillofacial	Mid face fractures	
	Lot 13		Maxillofacial	Oral/ facial/ Catilage Onlay graft	
	Lot 13		Maxillofacial	Panfacial fractures	
	Lot 13		Maxillofacial	Post condylar cartilage Bilateral graft	
	Lot 13		Maxillofacial	Reduction of Alveolar fracture closed	
	Lot 13		Maxillofacial	Reduction of Alveolar fracture Open	
	Lot 13		Maxillofacial	Removal of Bone plates	
	Lot 13		Maxillofacial	Removal of branchial cyst/sinus/Ranula	
	Lot 13		Maxillofacial	Revision Cleft Lip/ Nose	
	Lot 13		Maxillofacial	Revision Palatoplasty-MicroVascular and Donor site graft	
	Lot 13		Maxillofacial	Revision Palatoplasty-Rotational Flap	
	Lot 13		Maxillofacial	Revision Vestibulopalsty + Skin graft	
	Lot 13		Maxillofacial	RMND+ Mandibulectomy/Maxillectomy with Microvascular Free Flap	
	Lot 13		Maxillofacial	RMND+Pedicled Flap Mandibulectomy/Maxillectomy	
	Lot 13			+/- Implant	
	Lot 13		Maxillofacial	Salivary Duct Redirection (Wilkie procedure)	
	Lot 13		Maxillofacial	Secondary Craniofacial Reconstruction	
	Lot 13		Maxillofacial	Segmental Osteotomy Mandible/Maxilla	

	Lot 13		Maxillofacial	Sequestrectomy/ Decortication Mandible Maxilla	
	Lot 13		Maxillofacial	Simple Nerve exploration + repair	
	Lot 13		Maxillofacial	Simple Salivary Gland Sialedonectomy /Sialolithectomy	
	Lot 13		Maxillofacial	Simple Vestibulopalsty + Skin graft	
	Lot 13		Maxillofacial	Superficial Parotidectomy	
	Lot 13		Maxillofacial	Temporalis/ Masseter Myotomy	
	Lot 13		Maxillofacial	TMJ Arthroscopy	
	Lot 13		Maxillofacial	Torticollis / Fibromatosis Colli Correction	
	Lot 14	Specialised Orthopaedic	Orthopaedic	Above elbow Amputation	
	Lot 14		Orthopaedic	Above knees Amputation	
	Lot 14		Orthopaedic	ACL/PCL repair	
	Lot 14		Orthopaedic	Angle plating fracture neck of femur	
	Lot 14		Orthopaedic	Arthrodesis Hip, Knee, Ankle or Elbow with implants	
	Lot 14		Orthopaedic	Arthrodesis vertebral joints	
	Lot 14		Orthopaedic	Arthroscopic Bankart repair	
	Lot 14		Orthopaedic	Arthroscopic Synovectomy	
	Lot 14		Orthopaedic	Arthrotomy	
	Lot 14		Orthopaedic	Below elbow Amputation	
	Lot 14		Orthopaedic	Below knees Amputation	
	Lot 14		Orthopaedic	Bone grafting	
	Lot 14		Orthopaedic	Carpal tunnel decompression	
	Lot 14		Orthopaedic	Cervical rib resection	
	Lot 14		Orthopaedic	Chondroplasty	

	Lot 14		Orthopaedic	Closed manipulation of dislocations/fractures under GA	
	Lot 14		Orthopaedic	Contracture release without flaps	
	Lot 14		Orthopaedic	Excision head of fibula	
	Lot 14		Orthopaedic	Excision head of radius	
	Lot 14		Orthopaedic	Excision of Bunion (simple and bilateral under GA)	
	Lot 14		Orthopaedic	Excision of calcaneal spurs	
	Lot 14		Orthopaedic	Excision of intervertebral disc	
	Lot 14		Orthopaedic	Exploration of Osteomyelitis / sequestrectomy	
	Lot 14		Orthopaedic	External clamp application and Debridement	
	Lot 14		Orthopaedic	Extra articular repair of joint ligament and implants	
	Lot 14		Orthopaedic	Fasciectomy	
	Lot 14		Orthopaedic	Femoral epiphysis reduction / fixation (SUFE)with implants	
	Lot 14		Orthopaedic	Hallux valgus operation	
	Lot 14		Orthopaedic	Ilizarov procedure	
	Lot 14		Orthopaedic	Insertion of Steinmann pin	
	Lot 14		Orthopaedic	Intra articular Surgery (large joints)	
	Lot 14		Orthopaedic	Intra articular Surgery (medium joints)	
	Lot 14		Orthopaedic	Intra articular Surgery (small joints)	
	Lot 14		Orthopaedic	Joint aspirations under GA	
	Lot 14		Orthopaedic	Meniscus repair	
	Lot 14		Orthopaedic	Menisectomy	

	Lot 14		Orthopaedic	Mild club foot correction	
	Lot 14		Orthopaedic	Moderate / severe club foot correction	
	Lot 14		Orthopaedic	Open bone biopsy	
	Lot 14		Orthopaedic	Open reduction and internal fixation: Clavicle	
	Lot 14		Orthopaedic	Open reduction and internal fixation: Femur	
	Lot 14		Orthopaedic	Open reduction and internal fixation: Humerus	
	Lot 14		Orthopaedic	Open reduction and internal fixation: Pelvis	
	Lot 14		Orthopaedic	Open reduction and internal fixation: Radius / Ulna	
	Lot 14		Orthopaedic	Open Synovectomy	
	Lot 14		Orthopaedic	Operative Arthroscopy with implants	
	Lot 14		Orthopaedic	Osteotomy and implants	
	Lot 14		Orthopaedic	Puttiplatt procedure for shoulder dislocation / Weber Osteotomy	
	Lot 14		Orthopaedic	Removal of hardware (plates & nails)	
	Lot 14		Orthopaedic	Removal of hardware (wires)	
	Lot 14		Orthopaedic	Removal of Steinmann pin	
	Lot 14		Orthopaedic	Revision of Total Hip or Knee (Including implants)	
	Lot 14		Orthopaedic	Rotator cuff repair	
	Lot 14		Orthopaedic	Scoliosis correction	
	Lot 14		Orthopaedic	Stabilisation of Patella	
	Lot 14		Orthopaedic	Subacromial decompression	

	Lot 14		Orthopaedic	Syndactyly / polydactyly correction	
	Lot 14		Orthopaedic	Synovectomy: Small joints	
	Lot 14		Orthopaedic	Tendon repair (others)	
	Lot 14		Orthopaedic	Tendon repair: Achiles tendon/Patella tendons/Quadriceps	
	Lot 14		Orthopaedic	Tendon transfer	
	Lot 14		Orthopaedic	Toes and fingers Disarticulation	
	Lot 14		Orthopaedic	Total hipreplacement (THR) (Including implants)	
	Lot 14		Orthopaedic	Total knee replacement (TKR) (Including implants)	
	Lot 14		Orthopaedic	Wedge tarsectomy	
	Lot 15	Specialised Neurosurgery	Neurosurgery	Anterior cervical fusion - AO plating/POSTERIOR DECOMPRESSION	
	Lot 15		Neurosurgery	Application of skull calipers	
	Lot 15		Neurosurgery	Brain abscess	
	Lot 15		Neurosurgery	Brain Biopsy procedure	
	Lot 15		Neurosurgery	Clipping of cerebral artery	
	Lot 15		Neurosurgery	Craniotomy for Aneurysm	
	Lot 15		Neurosurgery	Craniotomy for AV malformation	
	Lot 15		Neurosurgery	Craniotomy for Intracelebral haematoma	
	Lot 15		Neurosurgery	Craniotomy for Brain Tumour	
	Lot 15		Neurosurgery	Elevation of depressed skull fracture	

	Lot 15		Neurosurgery	Endoscopic Third Ventriculostomy w Choroid Plexux Cauterization (ETV/CPC)	
	Lot 15		Neurosurgery	EVD Insertion/ICP Monitoring	
	Lot 15		Neurosurgery	Excision of intracranial nerve lesions	
	Lot 15		Neurosurgery	Excision of spinal tumours	
	Lot 15		Neurosurgery	Extradural haematoma	
	Lot 15		Neurosurgery	Laminectomy for cervical / thoracic / or lumbar spine	
	Lot 15		Neurosurgery	Microdiscectomy	
	Lot 15		Neurosurgery	Microsurgical nerve graft / Nerve repair / exploration/microsurgical anastomosis	
	Lot 15		Neurosurgery	Posterior fossa surgery	
	Lot 15		Neurosurgery	Repair of Dura for non-trauma/non cancer related	
	Lot 15		Neurosurgery	Spina Bifida Surgery/encephalocoele	
	Lot 15		Neurosurgery	Spinal fusions with implants II level	
	Lot 15		Neurosurgery	Spinal fusions with implants III level	
	Lot 15		Neurosurgery	Spinal fusions with implants IV level	
	Lot 15		Neurosurgery	Surgical Toilet and repair of major scalp wounds under GA	
	Lot 15		Neurosurgery	Surgical Toilet for scalp tumour under GA	
	Lot 15		Neurosurgery	EEG	
	Lot 16	Specialised Ophthalmic	Ophthalmic	A/B Scan	
	Lot 16		Ophthalmic	Ahmed Valve	
	Lot 16		Ophthalmic	Amniotic Membrane grafting (Large)	

	Lot 16		Ophthalmic	Anterior Chamber reformation and bandage contact lens	
	Lot 16				
	Lot 16				
	Lot 16		Ophthalmic	Anterior Chamber Tap	
	Lot 16		Ophthalmic	Anterior Chamber Washout	
	Lot 16		Ophthalmic	Anterior Stromal Puncture with Bandage Contact Lens	
	Lot 16		Ophthalmic	Anterior Vitrectomy + Lensectomy	
	Lot 16		Ophthalmic	Biometry	
	Lot 16		Ophthalmic	Bleb revision	
	Lot 16		Ophthalmic	Blepharoplasty/Blepharotomy	
	Lot 16		Ophthalmic	Bullae Rupture with Bandage Contact Lens	
	Lot 16		Ophthalmic	Canthus Procedures (Cantholysis, Canthoplasty, Canthotomy)	
	Lot 16		Ophthalmic	Cataract extraction SICS	
	Lot 16		Ophthalmic	Cataract extraction with implant - Phaco ALCON	
	Lot 16		Ophthalmic	Cataract extraction with implant- Phaco IOL	
	Lot 16		Ophthalmic	Conjunctival DCR plus tube	
	Lot 16		Ophthalmic	Conjunctival Excision + Major Reconstruction	
	Lot 16		Ophthalmic	Conjunctival Incision biopsy (including histopathology)	
	Lot 16		Ophthalmic	Corneal Tomo/Topography	

	Lot 16		Ophthalmic	Corneal transplant + Cataract Extraction + Intraocular lens implant	
	Lot 16		Ophthalmic	Corneal/Scleral Perforation repair	
	Lot 16		Ophthalmic	Crosslinking	
	Lot 16		Ophthalmic	Cyclocryotherapy	
	Lot 16		Ophthalmic	Cyclophotocoagulation	
	Lot 16		Ophthalmic	DCR revision	
	Lot 16		Ophthalmic	DCR/Fistulectomy	
	Lot 16		Ophthalmic	Ectropion repair minor and major	
	Lot 16		Ophthalmic	Entropion repair minor and major	
	Lot 16		Ophthalmic	Epiblepharon repair	
	Lot 16		Ophthalmic	Evisceration + implant	
	Lot 16		Ophthalmic	Flourescein Angiography	
	Lot 16		Ophthalmic	Intraocular lens exchange	
	Lot 16		Ophthalmic	Intraocular lens redialing	
	Lot 16		Ophthalmic	Intravitreal Antibiotics/Steroid	
	Lot 16		Ophthalmic	Intravitreal AntiFungal Injection	
	Lot 16		Ophthalmic	Intravitreal Bevazicumab	
	Lot 16		Ophthalmic	Intravitreal Dexamethasone implant	
	Lot 16		Ophthalmic	Intravitreal Triamcinolone	
	Lot 16		Ophthalmic	Iridolysis	
	Lot 16		Ophthalmic	Lacrimal glands prolapse repair	
	Lot 16		Ophthalmic	Lacrimal Probing and Syringing (adults)	
	Lot 16		Ophthalmic	Lacrimal Probing and Syringing (pediatrics)	
	Lot 16		Ophthalmic	Laser suturelysis	
	Lot 16		Ophthalmic	Lash electrolysis	
	Lot 16		Ophthalmic	Lid splitting +cryotherapy	

	Lot 16		Ophthalmic	Lid tumour Excision + major reconstruction	
	Lot 16		Ophthalmic	Lid tumour Excision biopsy	
	Lot 16		Ophthalmic	Lid tumour Incision biopsy	
	Lot 16		Ophthalmic	Macula Hole Surgery	
	Lot 16		Ophthalmic	OCT Angiography	
	Lot 16		Ophthalmic	OCT Anterior	
	Lot 16		Ophthalmic	OCT Posterior	
	Lot 16		Ophthalmic	Ocular prosthesis	
	Lot 16		Ophthalmic	Orbital implant removal	
	Lot 16		Ophthalmic	Orbitotomy (lateral/anterior)	
	Lot 16		Ophthalmic	Penetrating Keratoplasty (PKP)	
	Lot 16		Ophthalmic	Photodocumentation	
	Lot 16		Ophthalmic	Posterior Victrectomy - Foreign Body	
	Lot 16		Ophthalmic	Posterior Victrectomy - Sunk Nucleus	
	Lot 16		Ophthalmic	Posterior Vitrectomy	
	Lot 16		Ophthalmic	Posterior Vitrectomy + band/buckle	
	Lot 16		Ophthalmic	Posterior Vitrectomy + band/buckle + Cataract surgery	
	Lot 16		Ophthalmic	Posterior Vitrectomy + Cataract surgery	
	Lot 16		Ophthalmic	Posterior Vitrectomy + Delamination + Oil	
	Lot 16		Ophthalmic	Pre-Descemets EndothelialKeratoplasty (DALK, DSAEK, DMEK)	
	Lot 16		Ophthalmic	Pterygium excision with conjunctival autograft	
	Lot 16		Ophthalmic	Ptosis repair/revision	

	Lot 16		Ophthalmic	Ptosis Surgery: Anterior levator repair/resection, frontalis sling susp	
	Lot 16		Ophthalmic	Punctoplasty/canaliculoplasty	
	Lot 16		Ophthalmic	Pupiloplasty	
	Lot 16		Ophthalmic	Retinopexy (Silicon Oil/Gas Insertion)	
	Lot 16		Ophthalmic	Scleral buckle + Cyrotherapy or Laser	
	Lot 16		Ophthalmic	Scleral buckle removal	
	Lot 16		Ophthalmic	Socket reconstruction minor	
	Lot 16		Ophthalmic	Specular Microscopy	
	Lot 16		Ophthalmic	Squint Surgeries (all)	
	Lot 16		Ophthalmic	Surgical Peripheral Iridectomy	
	Lot 16		Ophthalmic	Tarsorrhaphy temporary	
	Lot 16		Ophthalmic	Trabeculectomy + Phacoemulsification cataract surgery	
	Lot 16		Ophthalmic	Trabeculectomy + Small Incision Cataract surgery	
	Lot 16		Ophthalmic	Trabeculectomy with Mitomycin C	
	Lot 16		Ophthalmic	Trabeculotomy/Goniotomy	
	Lot 16		Ophthalmic	Ultrasound Biomicrcopy (UBM)	
	Lot 16		Ophthalmic	YAG Iridotomy	
	Lot 17	Specialised Ear Nose & Throat	Ear Nose & Throat	Block dissection of the neck	
	Lot 17		Ear Nose & Throat	Cochlea operations	
	Lot 17		Ear Nose & Throat	Excision and reconstruction of head and neck tumours	
	Lot 17		Ear Nose & Throat	Excision of pharyngeal diverticulum	
	Lot 17		Ear Nose & Throat	Facial nerve decompression	

	Lot 17		Ear Nose & Throat	Laryngectomy (Partial)	
	Lot 17		Ear Nose & Throat	Laryngectomy (Total)	
	Lot 17		Ear Nose & Throat	Laryngectomy with radical neck dissection	
	Lot 17		Ear Nose & Throat	Middle ear tumour excision	
	Lot 17		Ear Nose & Throat	Total/ Radical parotidectomy	
	Lot 17		Ear Nose & Throat	EUA and biopsy of nasopharynx, ears, nose	
	Lot 17		Ear Nose & Throat	Frontal sinus trephination	
	Lot 17		Ear Nose & Throat	Maxillary Artery Ligation	
	Lot 17		Ear Nose & Throat	MUA # nose	
	Lot 17		Ear Nose & Throat	Removal of FB in ear or nose (paediatrics under GA)	
	Lot 17		Ear Nose & Throat	Adenoidectomy	
	Lot 17		Ear Nose & Throat	Adenotonsillectomy (Ts 7 As)	
	Lot 17		Ear Nose & Throat	Cricotracheal reconstruction	
	Lot 17		Ear Nose & Throat	Direct laryngoscopy and biopsy	
	Lot 17		Ear Nose & Throat	Excision of submandibular gland	
	Lot 17		Ear Nose & Throat	Frontal mucocele	
	Lot 17		Ear Nose & Throat	Functional endoscopic sinus surgery (FESS)	
	Lot 17		Ear Nose & Throat	Hemiglossectomy	
	Lot 17		Ear Nose & Throat	Intranasal ethmoidectomy	
	Lot 17		Ear Nose & Throat	Laryngocele excision	
	Lot 17		Ear Nose & Throat	Lateral Rhinotomy (due to tumour, scars or congenital)	
	Lot 17		Ear Nose & Throat	Maxillectomy	

	Lot 17		Ear Nose & Throat	Myringoplasty	
	Lot 17		Ear Nose & Throat	Myringotomy	
	Lot 17		Ear Nose & Throat	Nasal polypectomy	
	Lot 17		Ear Nose & Throat	Radical mastoidectomy	
	Lot 17		Ear Nose & Throat	Rhinoplasty: Soft and bony tissue (Tumours, congenital, trauma)	
	Lot 17		Ear Nose & Throat	Rhinoplasty: Soft tissue (Tumors, congenital, trauma)	
	Lot 17		Ear Nose & Throat	Septoplasty (Tumors, congenital, trauma)	
	Lot 17		Ear Nose & Throat	Simple mastoidectomy	
	Lot 17		Ear Nose & Throat	Submucous resection of nasal septum	
	Lot 17		Ear Nose & Throat	Superficial Parotidectomy	
	Lot 17		Ear Nose & Throat	T.I.T. and Intranasal Antrostomy	
	Lot 17		Ear Nose & Throat	T.I.T. and Turbinoplasty	
	Lot 17		Ear Nose & Throat	Tonsillectomy	
	Lot 17		Ear Nose & Throat	Transplatatal excision of Choanal atresia	
	Lot 17		Ear Nose & Throat	Tympanoplasty	
	Lot 17		Ear Nose & Throat	Uvulopalatopharyngoplasty	
	Lot 17		Ear Nose & Throat	Vocal Cord lateralisation	
	Lot 18	Specialised Obs & Gyn	Obs & Gyn	AP colpoperineorrhaphy	
	Lot 18		Obs & Gyn	bilateral tubal ligation	
	Lot 18		Obs & Gyn	Cerclage	
	Lot 18		Obs & Gyn	Colposuspension + D&C	

	Lot 18		Obs & Gyn	Cornual Wedge resection for Interstitial Ectopic Pregnancy	
	Lot 18		Obs & Gyn	D & C + Cone biopsy	
	Lot 18		Obs & Gyn	Diagnostic / Dye Laparoscopy	
	Lot 18		Obs & Gyn	Dilation and Curettage for incomplete abortion/miscarriage	
	Lot 18		Obs & Gyn	Laparotomy: Endometriosis Surgery	
	Lot 18		Obs & Gyn	Laparotomy: Exploratory / Adhesiolysis	
	Lot 18		Obs & Gyn	Laparotomy: Hysterectomy (Abdominal)	
	Lot 18		Obs & Gyn	Laparotomy: Metroplasty / Uteroplasty	
	Lot 18		Obs & Gyn	Laparotomy: Myomectomy	
	Lot 18		Obs & Gyn	Laparotomy: Ovarian cystectomy	
	Lot 18		Obs & Gyn	Laparotomy: Pelvic Abscess	
	Lot 18		Obs & Gyn	Laparotomy: Ruptured ectopic pregnancy	
	Lot 18		Obs & Gyn	Laparotomy: Salpingo – oopherectomy	
	Lot 18		Obs & Gyn	Laparotomy: Tuboplasty	
	Lot 18		Obs & Gyn	Laparotomy: Vaginal Hysterectomy	
	Lot 18		Obs & Gyn	LLETZ (Loop excision)	
	Lot 18		Obs & Gyn	Manchester Repair	
	Lot 18		Obs & Gyn	Manual Vaccum Aspiriation	
	Lot 18		Obs & Gyn	Marsupialisation of Batholins Cyst / Abscess	

	Lot 18		Obs & Gyn	Obstetric Examination under GA	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Avulsion of Endometrial Polyps	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Biopsy	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Endometrial Ablation	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Resection of Submucous Fibroid	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Retrieval of lost/ fragmented IUCD	
	Lot 18		Obs & Gyn	Operative Hysteroscopy: Synechiolysis / Septolysis	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Adhesiolysis	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Ectopic Pregnancy	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Endometriosis Surgery	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Hysterectomy	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Myomectomy	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Ovarian Cystectomy / Drilling	
	Lot 18		Obs & Gyn	Operative Laparoscopy: Tuboplasty	

	Lot 18		Obs & Gyn	Ovarian cancer resection (Pelvic clearance)	
	Lot 18		Obs & Gyn	Radical Vulvectomy	
	Lot 18		Obs & Gyn	removal of retained placenta under GA	
	Lot 18		Obs & Gyn	Repair of rectovaginal fistula	
	Lot 18		Obs & Gyn	Repair of ruptured uterus/Caesarian Hysterectomy	
	Lot 18		Obs & Gyn	Repair of vesicovaginal fistula	
	Lot 18		Obs & Gyn	Resuturing of burst abdomen	
	Lot 18		Obs & Gyn	Simple Vulvectomy	
	Lot 18		Obs & Gyn	Wertheim’s Hysterectomy (Oncology only)	
	Lot 19	Specialised Paediatric	Paediatric	Hirschsprung's disease procedure a) Laparotomy, biopsy, colostomy	
	Lot 19		Paediatric	Hirschsprung's disease procedure b)	
	Lot 19			Abdominoperineal pull through (Soave, Swenson)	
	Lot 19		Paediatric	Hirschsprung's disease procedure c) Closure of Colostomy	
	Lot 19		Paediatric	Insertion of CAPD catheter	
	Lot 19		Paediatric	Insertion of underwater seal drainage (Paediatric under GA)	
	Lot 19		Paediatric	Laparotomy: Intestinal resection + anastomasis	
	Lot 19		Paediatric	Laparotomy: Intussusception	
	Lot 19		Paediatric	Laparotomy: Tumours	
	Lot 19		Paediatric	Laparotomy: Volvulus	

	Lot 19		Paediatric	Rectosigmoidectomy	
	Lot 19		Paediatric	Resection of posterior / anterior urethral valves	
	Lot 19		Paediatric	Urethroplasty for hypospadies and epispadies	
	Lot 20	Specialised Plastic	Plastic	Advancement flaps (CANCERS/TRAUMA)	
	Lot 20		Plastic	Cleft lip and palate repair (Unilateral/Bilateral)	
	Lot 20		Plastic	Cleft lip repair (Unilateral/Bilateral)	
	Lot 20		Plastic	Cleft palate repair	
	Lot 20		Plastic	Insertion of tissue expander	
	Lot 20		Plastic	Lip reconstruction (ONLY for RTA and Tumors)	
	Lot 20		Plastic	Posterior Sagittal Anorectalplasty (PSARP) for anorectal malformation (High	
	Lot 20			ARM)	
	Lot 20		Plastic	Posterior Sagittal Anorectalplasty (PSARP) for anorectal malformation (Low	
	Lot 20			ARM)	
	Lot 20		Plastic	Reduction Mammoplasty (bilateral)	
	Lot 20		Plastic	Removal of tissue expander	
	Lot 20		Plastic	Rotation flaps	
	Lot 20		Plastic	Skin graft <10 % TBSA	
	Lot 20		Plastic	Skin graft > 10% TBSA	
	Lot 21	Dialysis	Hemodialysis		
	Lot 21		Hemodiafiltration dialysis		
	Lot 21		Peritoneal dialysis		

	Lot 22	Routine Laboratory	Hematology Tests	Complete Blood Count (CBC)	
	Lot 22			Hemoglobin	
	Lot 22			Hematocrit	
	Lot 22			White Blood Cell (WBC) Count	
	Lot 22			Platelet Count	
	Lot 22		**Biochemistry Tests**		
	Lot 22		Basic Metabolic Panel (BMP):	Glucose	
	Lot 22			Calcium	
	Lot 22			Sodium	
	Lot 22			Potassium	
	Lot 22			Carbon Dioxide (Bicarbonate)	
	Lot 22			Chloride	
	Lot 22			Blood Urea Nitrogen (BUN)	
	Lot 22			Creatinine	
	Lot 22			U/E/C	
	Lot 22			Glucose	
			*on glucometer	Ketones (blood)	
				Blood Gas Analysis	
				Blood Gas Analysis + Lactate	
	Lot 22		Comprehensive Metabolic Panel (CMP):	BMP tests plus:	
	Lot 22			Albumin	
	Lot 22			Total Protein	
	Lot 22			ALP (Alkaline Phosphatase)	
	Lot 22			ALT (Alanine Aminotransferase)	
	Lot 22			AST (Aspartate Aminotransferase)	
	Lot 22			Bilirubin	
	Lot 22		Lipid Profile:	Lipid profile	
	Lot 22			Total Cholesterol	
	Lot 22			- LDL Cholesterol	
	Lot 22			- HDL Cholesterol	
	Lot 22			- Triglycerides	
	Lot 22			Liver Function Tests (LFTs):	
	Lot 22			- ALT	
	Lot 22			- AST	
	Lot 22			- ALP	
	Lot 22			- Bilirubin (Total and Direct)	

	Lot 22			- Albumin	
			Cardiac Markers	Troponin I	
				Troponin T	
				Creatinine Kinase	
				Myoglobin	
	Lot 22		Endocrinology Tests	Thyroid Function Tests (complete)	
	Lot 22			- TSH (Thyroid Stimulating Hormone)	
	Lot 22			- Free T4 (Thyroxine)	
	Lot 22			- Free T3 (Triiodothyronine)	
	Lot 22			Blood Glucose Tests:	
	Lot 22			- Fasting Blood Glucose	
	Lot 22			- Oral Glucose Tolerance Test (OGTT)	
	Lot 22			- Hemoglobin A1c (HbA1c)	
	Lot 22		Immunology and Serology Tests	C-Reactive Protein (CRP)	
	Lot 22			Erythrocyte Sedimentation Rate (ESR)	
	Lot 22			Rheumatoid Factor (RF)	
	Lot 22			HIV Antibody Test	
	Lot 22			Hepatitis B Surface Antigen (HBsAg)	
	Lot 22			Hepatitis C Antibody (anti-HCV)	
	Lot 22			Syphilis Test (Rapid Plasma Reagin, RPR)	
	Lot 22		Microbiology Tests	Urine Culture	
	Lot 22			Blood Culture	
	Lot 22			Sputum Culture	
	Lot 22			Stool Culture	
	Lot 22		Urinalysis	Routine Urinalysis:	
	Lot 22			- Specific Gravity	
	Lot 22			- pH	

	Lot 22			- Protein	
	Lot 22			- Glucose	
	Lot 22			- Ketones	
	Lot 22			- Microscopic Examination (RBC, WBC, Casts, Crystals)	
	Lot 22		Coagulation Tests	Prothrombin Time (PT)	
	Lot 22			International Normalized Ratio (INR)	
	Lot 22			Activated Partial Thromboplastin Time (aPTT)	
	Lot 22		Tumor Markers	Prostate-Specific Antigen (PSA)	
	Lot 22			CA-125 (Ovarian Cancer)	
	Lot 22			CEA (Carcinoembryonic Antigen for Colorectal Cancer)	
	Lot 22		Molecular Tests	Polymerase Chain Reaction (PCR) for specific pathogens	
	Lot 22			Genotyping for specific mutations	
	Lot 22		Parasitology Tests	Stool Examination for Ova and Parasites	
	Lot 22			Blood Smear for Malaria	
	Lot 23	Specialised Laboratory	Hematology Tests	Bone Marrow Aspiration and Biopsy	
	Lot 23			Coombs Test (Direct and Indirect)	
	Lot 23			Hemoglobin Electrophoresis	
	Lot 23			Flow Cytometry for Immunophenotyping	
	Lot 23		Biochemistry Tests	Insulin Assay	
	Lot 23			Cortisol Assay	
	Lot 23			Parathyroid Hormone Assay	

	Lot 23			Vitamin D Levels	
	Lot 23			Homocysteine Levels	
	Lot 23			Serum Osmolality	
	Lot 23			Protein Electrophoresis (Serum and Urine)	
	Lot 23		Endocrinology Tests	Adrenal Function Tests (e.g., ACTH Stimulation Test)	
	Lot 23			Dynamic Function Tests (e.g., Glucose Tolerance Test for Acromegaly)	
	Lot 23			Gonadotropin Levels LH	
				FSH	
	Lot 23			Sex Hormone Binding Globulin (SHBG)	
	Lot 23		Immunology and Serology Tests	ANA (Antinuclear Antibody)	
	Lot 23			Anti-dsDNA (Anti-double-stranded DNA Antibody)	
	Lot 23			ANCA (Antineutrophil Cytoplasmic Antibodies)	
	Lot 23			IgA (Immunoglobulin A)	
	Lot 23			IgG (Immunoglobulin G)	
	Lot 23			IgM (Immunoglobulin M)	
	Lot 23			IgE (Immunoglobulin E)	
	Lot 23			Allergy Testing (e.g., RAST, Specific IgE)	
	Lot 23			Complement Levels (C3, C4)	

	Lot 23		Microbiology Tests	Polymerase Chain Reaction (PCR) for Pathogen Detection	
	Lot 23			Mycobacterial Culture and Sensitivity	
	Lot 23			Viral Load Testing (e.g., HIV, Hepatitis C)	
	Lot 23			Fungal Culture and Sensitivity	
	Lot 23			Stool for Clostridium difficile Toxin	
	Lot 23		Urinalysis	Urine Protein Electrophoresis	
	Lot 23			Urine Cytology	
	Lot 23			24-Hour Urine Collection for Specific Analytes (e.g., cortisol, catecholamines)	
	Lot 23		Coagulation Tests	Factor VIII	
	Lot 23			Factor IX	
	Lot 23			D-Dimer	
	Lot 23			Thrombophilia Screen (e.g., Protein C, Protein S, Antithrombin)	
	Lot 23		Tumor Markers	Alpha-Fetoprotein (AFP)	
	Lot 23			CA 19-9 (Pancreatic Cancer)	
	Lot 23			Beta-HCG (Human Chorionic Gonadotropin)	
	Lot 23			BRCA1 and BRCA2 Gene Testing	
	Lot 23			LDH (Lactate Dehydrogenase) for Hematologic Malignancies	
	Lot 23		Parasitology Tests	PCR for Parasitic DNA	
	Lot 23			Serology for Parasitic Infections (e.g., Toxoplasma, Echinococcus)	
	Lot 23			Thick and Thin Blood Smear for Malaria	

	Lot 23			Stool Antigen Tests (e.g., Giardia, Entamoeba)	

Minimum specifications

The specifications outlined here aim to establish a minimum standard of care across facilities, ensuring consistency and smooth referrals while minimizing the need for repeat diagnostic investigations. These specifications serve as a guideline to standardize services, though they may not be exhaustive.

MRI 1.5 T	DIAGNOSTIC IMAGING	1. Operational requirements Whole Body 1.5T Magnetic Resonance Imaging system optimized for higher performance in Cardiac and Neuro-radiological examinations with shorter superconducting magnet, high performance gradients and digital Radio Frequency. All capabilities as detailed below should be integral part of the quotation and none of these essential requirements should be quoted as optional. If a supplier has any additional advanced applications or technique available with them, the same may be quoted as options. 2. Technical Specifications Magnet System 2.1 1.5 Tesla active shielded super conductive magnet. 2.2 Should state the magnet length preferred Ultrashort 2.3 It should have at least 50- 60 cm patient bore with flared opening; larger patient bore is preferable. The magnet should have facilities of better illumination, ventilation and designed to avoid patient claustrophobia 2.4 The magnet should be shielded from the external interferences. 2.5 The homogeneity of the magnet should be mentioned in relation to 10, 20, 30, 40 cm DSV. 2.6 Specify maximum FOV in all 3 axis (FOV to scan the largest possible human) 2.7 Specify Homogeneity at 50 (z) X 50 (x,y) cm DSV

MRI COMPATIBLE ANAESTHETIC MACHINE WITH VENTILATOR AND MONITOR	DIAGNOSTIC IMAGING	Machine should be constructed with sturdy frame of medical grade material / durable material having one drawer /shelves, mounted on 4 anti-static wheels, with top shelf for keeping the monitor. Should be MRI Compatible Anaesthetic machine for use in MRI Suite (1.5 and 3.0 Tesla). Integrated Magnetic Field Strength Monitor System should be FDA approved or have European CE Gas System: a) Separate cylinder and pipeline pressure gauges for Oxygen (O_2), Nitrous oxide (N_2O) and Air. b) Provision to attach pin type cylinders one each of O_2 and N_2O. c) Provision for non-interchangeable gas specific central pipeline inlet for O_2, N_2O and Air with connecting hoses. d) Dual cascaded rotameter tubes (flow meters) for O_2 and N_2O, and a single tube for Air. e) Oxygen shortage and failure indicator f) N_2O supply should be immediately shut off when O_2 pressure drops or interrupted. g) O2 ratio controller/inbuilt hypoxic guard to ensure minimum supply of 25% of Oxygen at any given time. h) The breathing system should have outlet for excess gas / pressure relief valve, semi-close mode and mounting for double /single chamber circle absorber.
MRI COMPATIBLE INJECTOR	DIAGNOSTIC IMAGING	Injection Volume: max 200 ml per piston, selectable partial injection volume 0.1-200 ml, programmable in 0.1 ml increments Keep Vein Open: 0.5 ml every 2 minutes Injection Pressure: max 21 bar, programmable from 5 to 21 bar in 1 bar increments Flow Rate: 0.1 - 10 ml/s, programmable in 0.1 ml/s increments, optional selection of fl ow rate or phase duration Number of Phases: 1 to 6 phases Filling Speed: 1 - 5 ml/s, CM/NaCl, programmable in 1ml/s increments Injection and Phase Delay: 1-255 s Injection Profiles: 80 profiles, Remote Control touch screen remote control including power supply FB886 Option 2nd Remote Control option for the use of two remote controls with holder for remote control = Software option enables the use of pre-filled syringes via = Adapter for the option "Empty Syringe" (64 ml NaCl) = Adapter Multi Hance for the option „Pre-Filled Syringe“ – Multi Hance = Adapter Long for 20 ml syringe= Keep Vein Open: every 2 min

MRI COMPATIBLE SYRINGE PUMPS	DIAGNOSTIC IMAGING	• Should be US FDA or CE or equivalent (Notified body) approved model. Manufacturer should be ISO 9001 & ISO 13485 certified for quality standards. • Shall comply to ISO/IEC 60601-1-2, Electro Magnetic Compatibility (EMC Standard): The pump confirms to EU Standard on electromagnetic compatibility and hence not affected by electromagnetic field from external sources and do not emit electromagnetic waves to affect other electronic devices. Technical Specification: 1. A handle for easy and convenient carrying. 2. Should be MRI compatible up to 3Tesla. 3. Should have the provision of status indicator on the control panel. 5. Should have (audio and visual alarms) warning light alerts for the operator for low battery, low volume, occlusion and internal malfunctioning. 6. Connects to external DC power source, enabling use of the pump in an ambulance. 7. Should be compatible with multiple brands of Syringes available in market. 8. Disposable Syringes in nominal sizes of 10 cc, 20 cc, 30 cc & 50 cc/60 cc should be used. 9. Maximum flow rate Rate from 0.1 ml/hr to 1,500 ml/h with steps of 0.1 ml/hr. 10. Accuracy of ±2% or better. 11. Check by indicator lights that the setting is right. 13. Automatically switches over to battery with alarm, if plug is accidentally pulled or there is a power failure. 16. Bolus rate should be programmable to approx. 500 ml, with infused volume display. 17. Selectable occlusion pressure trigger levels selectable from 300, 500 and 900 mmHg. 18. Continuously Monitors Plunger: A plunger detection sensor checks that the plunger is set properly and an internal mechanism continuously monitors plunger movement during infusion. 19. Should have occlusion detecting pressure alarm for detecting occlusion and setting off the occlusion alarm. 20. Facility to know the exact amount of infusion taken place any time. 21. Retains flow rate and total infusion volume settings - When the power is turned off, the unit stores and retains current flow rate and total infusion volume settings for the next use. 22. Power supply: 23. Power input to be 220 – 240V AC, 50Hz fitted with UK BS plug of appropriate rating.

PATIENT MONITOR	DIAGNOSTIC IMAGING	Portable Bedside monitor suitable for use in ICU. Should be capable of continuous measuring/ monitoring of the following parameters in adults, neonatal and pediatric. • SpO_2 • Temperature • Blood pressure • ECG • Respiration • CO_2 • Pulse Rate
LEAD APRONS	DIAGNOSTIC IMAGING	Radiation Protective Lead Apron with Thyroid Shield Size: Large LEAD protective wear
PREMIUM ULTRASOUND SYSTEM (WITH CARDIAC ECHO)	DIAGNOSTIC IMAGING	1.1. Should be USFDA or European CE approved product. 1.2. Manufacturer or Supplier should have ISO 13485 certification for quality standards. 1.3. Electrical safety conforms to the standards for electrical safety IEC 60601- General requirements (or equivalent BS Standard) Add specific safety standard for ultrasound machine updated/ current: IEC 60601- particular for U/S: current version 1.4. Shall meet internationally recognized for Electromagnetic Compatibility (EMI/EMC) Technical Specification: 1.5. Multipurpose High Density full digital colour Doppler system 1.6. Offered system should have whole body scanning Applications & software for a wide range of applications that includes: • abdominal, • OB/Gyn, • cardiology, • urology, • small parts, • vascular, • orthopedic, and • MSK applications 1.7. System should have following Scanning Modes: • B, Dual B, Quad B, • THI, PIH, Trapezoid Imaging, • Real-time Panoramic Imaging (B mode), M, Color M, • Anatomic M, Color Doppler, Power Doppler Imaging, • Directional PDI, TDI, PW with HPRF, CW, • Dual-Live, Duplex: B and Doppler/M, • Triplex: B, Color Flow, and PW/CW Doppler. 1.8. Should have Full digital ultrasound beam forming technology 1.9. Should have Auto Image optimization function, Physical key should be available on the keyboard for easy access. It should also offer 8 slider controls for TGC 1.10. System should have minimum 19" high resolution display with swivel and tilt facility. 1.11. System should have minimum 4 probe Connectivity ports as standard which can support all transducers. 1.12. Probes offered should be Broad band frequency probes offering at least user 3 selectable frequency range. 1.13. System should offer Scanning depth of more than 30 cm. 1.14. Should have at least 256 gray scale for

		better imaging 1.15. System should have 1TB or more hard disk for digital image storage 1.16. System should have at least 3 ports of Hi Speed USB for data transfer and inbuilt CD/DVD writer 1.17. System Should have multiple focusing method minimum 6 focus 1.19. System should have Tissue Harmonic Imaging Facility with all the probes 1.20. System should be provided with DICOM connectivity as standard. 1.21. System should have inbuilt Calculations of full OB/GYN calculation package(both early pregnancy and mid-third trimester calculations), Vascular calculations, Urology calculations, Cardiac Calculations, Doppler calculations, Auto Trace 1.22. Should be able to measure velocity without taking Doppler tracings. 1.23. System should be up-gradable to Volume 3D Imaging in Future. 1.24. System should be supplied with following probes. 1. Broad Band Convex probe (Frequency Range 2 – 6 MHz) 2. Broad Band Linear Probe for Vascular and small parts applications. (Frequency Range 5 – 12 MHz) 3. Broad Band Endocavitary / Transvaginal Probe (frequency range 4-9 MHz) 4. Broad Band sector transducer for cardiac studies Cardiac Probe i. Online UPS of appropriate KVA with 2 hr backup iii. For parallel processing of Imaging Data, System should be provide with a separate latest configuration with 1 Tera Byte Hard Disk based work station with USB and serial port with at least 19" TFT/LCD monitor with very high quality image Management Software with same capabilities as main machine such as retrieving data along Zoom, Pan, Volume Rendering Multi-planar Reformatting, MIP, retrieving information from CD/DVD with reporting and software exporting JPG & AVI file format to ink other stations in the hospital 1.26. Power Supply: • Power unit: Input voltage- 220V-240V AC, 50Hz Single-phase. • Should be provided with online UPS for power back up of minimum 30 minutes.

HIGH-END ULTRASOUND SYSTEMS	DIAGNOSTIC IMAGING	1. Description of the medical supply unit design type 1.1. Product & Manufacturer Quality Standards: a. Should be USFDA or European CE approved product. b. Manufacturer or Supplier should have ISO 13485 certification for quality standards. a. Electrical safety conforms to the standards for electrical safety IEC 60601- General requirements (or equivalent BIS Standard) Add specific safety standard for ultrasound machine updated/ current: IEC 60601- particular for U/S: current version b. Shall meet internationally recognized standards for Electromagnetic Compatibility (EMI/EMC) 1.2. Technical Specification: It should be robust state of art fully digital high end latest color Doppler ultrasound system under current production capable of performing imaging applications in abdominal a. Obst/gynae, b. Musculoskeletal, c. Cardiovascular, d. Small parts, e. Urology, f. Cardiology, g. Real time 4d, h. Tissue elastography, i. Contrast etc. a. System should have broad band beam former capable of processing signals from 2-13 MHZ b. System should incorporate facility for high resolution 2D, M-mode, PW, CW, Color Flow imaging, Color power Angio imaging, Directional Color Power angio imaging modes, live real time 3D/4D. c. System should have full spectrum imaging, Speckle Reduction Filter, Spatial Compound imaging, Pulse Inversion Harmonic Imaging, Trapezoidal Imaging & Contrast Enhanced Imaging (Low – MI) d. System should have oblique view, Multi Slice View, OVIX (Oblique View Extended Imaging), Multi OVIX, Volume Contrast Enhancement (VCE), Volume CT. e. System should have real time duplex and triplex mode facility in 2D, color and Doppler modes. f. System should have dynamic range of 190 db or higher, Higher will be preferred. g. System should have high PRF. h. System should have scan depth of up to 30 cm or more. Please specify through data sheet. i. System should have 256 shades of gray display j. System should have facility for real time and frozen, pan or point zoom. k. System should have cine lop review minimum 10,000 frames l. System should have minimum 10,00,000 or more receiving channels. Please specify through data sheet.

		m. System should have panoramic extended field of view. n. System should have independent steering of B mode and color on linear probe. o. System should have advanced real time 4D capabilities p. System should have Acoustic Radiation Force Impulsion (AFRI), Transient elastography and shear wave imaging. q. It should have extensive software and automatic and user programmable calculation package for gray scale, color Doppler, 3D and 4D applications. r. It should have minimum 20" high resolution medical grade TFT/LCD screen monitor with articulated arm s. System should have Touch Screen control 9" wide or more. t. It should be provided with following transducers. i. Convex abdominal 2-6 MHZ approximately ii. Endocavitary (TVS + TRUS) 4-9 MHZ approx. with 180 degree or more radius iii. Linear high frequency 5-13 MHZ approx. iv. Convex 4D probe 2-6 MHZ approx. v. Convex volume probe small parts, vascular, musculoskeletal 4D capability 6-12 MHz approx. vi. Cardiac echo/sector probe 2.5-4.5MHz. vii. It should be capable of supporting at least three or more transducers ports with switching form console. u. System should have built in image Management software, for offline application when patient has gone after examination, such as image manipulation, Multi Planner reformatting, surface & volume rendering etc. It should have hard disk memory of 1TB or more with built in CD/DVD/ USB read write. v. System should be capable to do Elastography with convex, TVS and linear probes. w. System should be capable to do Contrast Enhanced Ultrasonography x. System should be capable to do Volume NT. y. System should be capable to HDVI (high density volume imaging) z. System should be capable to do 3D MXI (Volume Slice View, Mirror View) bb. Accessories to be supplied along with i. Online UPS of appropriate KVA with 2 hr backup ii. Color Laser Printer for direct image and report print out iii. For parallel processing of Imaging Data, System should be provide with a separate latest configuration with 1 Tera Byte Hard Disk based work station with USB and serial port with at least 19" TFT/LCD monitor with very high quality image Management Software with same capabilities as main machine such as

		retrieving data along Zoom, Pan, Volume Rendering Multi-planar Reformatting, MIP, retrieving information from CD/DVD with reporting and software exporting JPG & AVI file format to ink other stations in the hospital Power Supply: i. Power unit: Input voltage- 220V-240V AC, 50Hz Single-phase.
PORTABLE ULTRASOUND	DIAGNOSTIC IMAGING	Portable Ultrasound 1. Description of the medical supply unit design type 1.1. Imaging modes and processing: Broadband, multi frequency imaging. 1.2. The unit should be state of the art latest high frequency linear probe and convex probe (additional linear probe or ability to add probes at a later date) and will provide high resolution musculoskeletal & vascular images. 1.3. Basic functionality, such as gain adjustment and depth measurement, Tissue harmonic imaging should be available for all probes. 1.4. Color and spectral Doppler capability for all probes 1.5. Ability to operate over both high & low frequencies. 1.6. Computer Package for measurement and calculation provision for the distance area volume and circumference complete vascular & other organs. 1.7. Image storage and extraction capability, ability to upload images to PACS. It should have at least USB Ports (at least 2 high speed USB 2.0 Ports) for external portable CD/DVD-RW/External hard-disk/ USB false driver or equivalent for transfer of images to PC. Export formats supported should be: MPEG-4. JPEG, BMP and HTML. 1.8. Screen with size (18”) and high spatial resolution to allow viewing from at least 2-3 ft. (60-90 cm) away. (NO - 15.6 inches/396 mm) 1.10. Mobility adequate to allow bedside examination. 1.12. Should operate on 220v 50z AC. 1.13. The unit should have the following two electronic probes: A) Linear array probe 6-14 MHz (+1 MHz) B) Convex probe 2-5 MHz (_+1 MHz) C) Endocavitary probe (4-9 MHZ) 1.14. Ability to run on batteries (rechargeable Lithium-ion, battery backup 2hrs. 1.15. Ability to record video, the system should have the capacity of storing on hard disk/flash card. 1.17. Adjustable stand, the system should have the capacity of storing at least 2 probes and Gel

		holder.
ULTRASOUND SCANNER (ROUTINE EXAMINATION)	DIAGNOSTIC IMAGING	1. General Description General ultrasound unit comprising of scanning unit, display, probes, console printer, jelly dispenser holder and U.P.S. all mounted on a dedicated trolley on four (4) antistatic castors, two (2) of which should have breaks. 2. Composition 2.1. Main unit 3. Description of the medical supply unit design type 3.1. Should be USFDA or European CE approved product. 3.2. Manufacturer or Supplier should have ISO 13485 certification for quality standards. 3.3. Electrical safety conforms to the standards for electrical safety IEC 60601- General requirements (or equivalent BS Standard) Add specific safety standard for ultrasound machine updated/ current: IEC 60601- particular for U/S: current version 3.4. Shall meet internationally recognized for Electromagnetic Compatibility (EMI/EMC) Technical Specification: 3.5. Multipurpose High Density full digital colour Doppler system 3.6. Offered system should have whole body scanning Applications & software for a wide range of applications that includes: • abdominal, • OB/Gyn, • cardiology, • urology, • small parts, • vascular, • orthopedic, and • MSK applications 3.7. System should have following Scanning Modes: • B, Dual B, Quad B, • THI, PIH, Trapezoid Imaging, • Real-time Panoramic Imaging (B mode), M, Color M, • Anatomic M, Color Doppler, Power Doppler Imaging, • Directional PDI, TDI, PW with HPRF, CW, • Dual-Live, Duplex: B and Doppler/M, • Triplex: B, Color Flow, and PW/CW Doppler. 3.8. Should have Full digital ultrasound beam forming technology 3.9. Should have Auto Image optimization function, Physical key should be available on the keyboard for easy access. It should also offer 8 slider controls for TGC 3.10. System should have minimum 19” high resolution display with swivel and tilt facility. 3.11. System should have minimum 4 probe Connectivity ports as standard which can support all transducers. 3.12. Probes offered should be Broad band

		frequency probes offering at least user 3 selectable frequency range. 3.13. System should offer Scanning depth of more than 30 cm. 3.14. Should have at least 256 gray scale for better imaging 3.15. System should have 1TB or more hard disk for digital image storage 3.16. System should have at least 3 ports of Hi Speed USB for data transfer and inbuilt CD/DVD writer 3.17. System Should have multiple focusing method minimum 6 focus 3.18. System should have Cine loop of minimum 500 Frames/sec or more. 3.19. System should have Tissue Harmonic Imaging Facility with all the probes 3.20. System should be provided with DICOM connectivity as standard. 3.21. System should have inbuilt Calculations of full OB/GYN calculation package(both early pregnancy and mid-third trimester calculations), Vascular calculations, Urology calculations, Cardiac Calculations, Doppler calculations, Auto Trace 3.22. Should be able to measure velocity without taking Doppler tracings. 3.23. System should be up-gradable to Volume 3D Imaging in Future. 3.24. System should be supplied with following probes. 1. Broad Band Convex probe (Frequency Range 2 – 6 MHz) 2. Broad Band Linear Probe for Vascular and small parts applications. (Frequency Range 5 – 12 MHz) 3. Broad Band Endocavitary / Transvaginal Probe (frequency range 4-9 MHz) 4. Broad Band sector transducer for cardiac studies Cardiac Probe 3.25. Color Printer: - a. Accessories to be supplied along with i. Online UPS of appropriate KVA with 2 hr backup • System should be offered with color Printer offering color prints of 6 X 8 Inch Size. • Color Printer should be able to connect directly to the Video Output of Ultrasound machine. • User selectable print options should be available to select from 1,2,4,6,9 Image formats on 1 sheet. • System should be supplied with following suitable Color Printer & Workstation PC 3.26. Power Supply: • Power unit: Input voltage- 220V-240V AC, 50Hz Single-phase. • Should be provided with online UPS for power back up of minimum 30 minutes. Should be CE and FDA marked.

ULTRASOUND EXAMINATION COUCHES	DIAGNOSTIC IMAGING	1 Constructed from round polished SS (stainless steel) Pipes 2 Fully adjustable headrest. Top of Polished SS Sheet. 3 Top is upholstered and covered with washable plastic material 4 Legs fitted with thick high-quality nylon gromets. 5 5 cm 50PU density foam cushioned top covered with leathered Rexene of 2mm thickness 6 Top dimensions – L = 72inch X W= 24inch H= 32 inches 7 All the Stainless Steel should be seamless conforming to 304 grade/ 16 gauge and polished finished 8 Box with three drawers and three cabinets. 9 Should have sliding footstep. 10 Adjustable height of the couch(vertical height) The head section should be raised with mechanical pneumatic
EMERGENCY TROLLEY	DIAGNOSTIC IMAGING	Resuscitation trolley for use in ICU. Epoxy coated mild steel or ABS trolley with drawers, protection perimeter and defibrillator holder. The Unit should be mobile on four castors, 2 lockable
WHEELCHAIRS	DIAGNOSTIC IMAGING	3.1. The wheelchair shall be suitable for adult patients and shall be capable of withstanding minimum patient weigh for 150 kg 3.2. The wheelchair shall be as light as possible and its frame shall only be manufactured from aluminum which is resistant to scratches and heavy detergents cleaning materials. 3.3. The wheelchair shall incorporate two handlebars for an attendant to be able to push the wheelchair from one place to another. 3.4. The wheelchair shall be both patient and attendant propelled. 3.5. The width of the seat shall measure not less than 460mm±30mm 3.6. The depth of the seat shall measure not less than 400mm ±50mm 3.7. The unit shall incorporate swinging detachable footrests or Fixed footrest, flip-up plate with leg strap 3.8. The armrests shall also be flipping back and/or detachable or fixed 3.9. The front and rear tyres shall be solid. 3.10. The rear tyres shall have a diameter of 610mm±200mm and shall also be solid. 3.11. The front tyres must be castor type and shall vary anywhere between 150mm and 200 mm in diameter. 3.12. The wheelchair shall be supplied fully assembled. 3.13. The wheelchair's upholstery shall be in welded nylon material 3.14. All materials from which this wheelchair is to be manufactured from shall be easy to

		clean and shall be resistant to various disinfectant solutions utilized in a hospital environment.
PATIENT STRETCHERS (WITH SIDERAILS)	DIAGNOSTIC IMAGING	• Shock absorbing, non-marking wrap around bumper system protects stretcher, and facility walls • 3in High density foam mattress • 24in Patient surface width • Collapsible side rails • 2 IV receptacles • 1 Stainless steel IV pole • Central locking brakes • Steering pedal activator • Integrated oxygen bottle holder • Storage compartment • Retractable 5th wheel steering system • Dual pneumatic assisted backrest (0-80 degrees) • Dual sided foot pedal for height adjustment • Hands free trendelenburg • Patient restraints • O_2 holder (requires shelf); holds E-size tank • Heavy-gauge, tubular frame, powder coated white • Continuous heavy rubber bumper • Overall length: 2-2.5M • Overall width(side rails up): 80-85cm • Overall width (side rails down): 60-70cm • High: 85-90cm • Low: 50-65cm • Backrest: 0-80 degrees • Trend/ Reverse trend: +18 degrees • Weight capacity: 300-350kg • Caster size: Approx. 200mm
PORTABLE ELECTRIC SUCTION UNITS	DIAGNOSTIC IMAGING	Suction machine suitable for use in theatre, for both adult and pediatric use. Should be constructed from coated non-corrosive, extreme heat resistance material and electrically insulated and mobile on antistatic castors φ 60 mm, 2 No. lockable, with high level push handle.

CR	DIAGNOSTIC IMAGING	Display LED Status Indicator, Status and error messages on external PC monitor. Greyscale Resolution Data acquisition: 20 bits/pixel , Output to processor: 16 bits/pixel Dimensions (WxDxH) 693 x 701 x464 nun(27.2 x 27.6 x 18.21 Depth including input tray: 769 mm (30.3") Power 220 - 240 V/50-60 Hz Standby 120W, max 320W, 16A fuse Minimum Requirements General Cassette, General Plate Temperature 15 - 30 "C (59 - 86 Degree F) Humidity 15 - 80% RH Magnetic Fields Max. 3.8 T in conformance with EN 61000-4-8: level 2, Rate of change of temperature: 0.5 Degree C/minute (0 Noise Level Max. 65 dB (A) Heat Dissipation standby 120 W, max. 320 W Approvals UL, cUL, CE or equivalent Product Description Throughput 24 x 30 cm (9.5 x 12")= approx. 71 plates/hour 18 x 24 cm (7 x 9.5") = approx. 76 plates/hour 15x 30cm(6 x12") = approx. 82 plates/hour. Transport Details Temperature: -25 to +55°C (-4 to 131°F), -25°C for max. 72 hours, +55°C for max. 96 hours. Humidity: 5 - 95% RH Cassette Sizes: General Cassettes Accepted Cassettes Size Spatial Resolution Pixel Matrix Size 24 x 30 cm 10 pixels / mm 2328x2928 18 x 24 cm 10 pixels / mm 1728x2328 15x 30 cm 10 pixels / mm 1440x2928
OPG	DIAGNOSTIC IMAGING	1. Digital OPG machine 2. Composition 2.1 Main unit 3. Performance Specifications 3.1.1 Performance Dental Panoramic with cephalometric features, clear radiography with 3 D capability 3.1.2 Technology Microprocessor based, high frequency inverter type 3.1.3 Control panel Digital, with touch screen button 3.1.4 Digital display of KVP and mAs 3.1.5 Column carriage Operated by foot switch and on control panel 3.1.6 Up and down movements 3.1.7 Motorized movements 3.1.8 KVP Variable, wide range for adult and children 50-90 kV with incremental steps of 1-2 kV 3.1.9 Exposure Parameters Programmable exposure parameters (Both manual and automatic exposure control) 3.1.10 Alarm Audio and vision alarm of exposure indication Workstation LCD Display monitor, with

		mouse, keyboard and laser printer 4 Operating environment 4. Power Requirements 240 V, a/c 50 Hz, Three phase, with PE conductor 5 Quality standards 5.1 Manufacturing standards IEC 60601-1, ISO 9001, ISO 13485 Conformity to CE or FDA standards
MAMMOGRAPHY	DIAGNOSTIC IMAGING	1. Should be an advanced high-end digital mammography machine which allows fast, low-dose, high-quality 3D imaging of the breast. 2. System should be up-gradable with latest technology available in future 1. GANTRY ASSEMBLY: • The system should consist of a tube head and detector assembly that has isocentric rotation for every positioning. The angle of C-arm movement shall be displayed. • The isocentric movements should be motorized. The patient Compression device should have automatic multi-speed variable compression system which senses the breast density and adjust the compression force. • Magnification devices of ratio 1.5 and 1.8 x • At least a pair of two foot switches should be provided for compression. • Digital display of motorized and manual compression force and compression thickness should be available on either side of gantry. • Grid ratio should be mentioned. Mention about grid/breast support assembly system. • The compression should be extremely smooth and there should be automatic decompression at the end of each exposure. • There should be a safety mechanism for compression with respect to power failure. • Two compression paddles for small and large breasts with Regular sliding movement. • Round spot and square spot compression paddle or equivalent. • Radiation field-provide protective lead glass shield 2. X-RAY GENERATOR: The X-ray generator should be high frequency with the following parameters: • KV range: at least 20-35 kV in steps of 1 kV. • mAs range: 2-500 mAS or more. • Exposure time: 10ms – 4 sec. or better. • Maximum mA: 200 mA or higher. • Exposure parameters should be displayed. • Should display the dose delivered after each exposure. • Automatic exposure control device should be provided. 3. X-RAY TUBE UNIT: • Dual focus rotating anode tube with Focal spot size: 0.1 mm and 0.3 mm. • Anode heat storage capacity should be at least

		130 KHU or higher. • Should have at least two filters. Please mention the material used in the filter and its thickness. • Tube heat storage capacity of 2 MHU or more. 4. FLAT PANEL DETECTOR: • Type of detector: should be amorphous selenium. • Direct Capture Technology or needle capture technology(please specify) • Detector size: 24cm x 29cm or more with two image format. Please mention the expected life time of the detector. Image matrix in pixels: Large sizes 3000X3500 or more Small Size: 2000X2500 or more. No Ghosting or lag effect should be present; image depth should be at least more than 12 bits. 5. DIGITAL ACQUISITION SYSTEM: • Storage capacity should be 10000 images or more. • Should provide Dual 5 Megapixel Grayscale medical grade LCD image monitor minimum 19' with high luminance. Retrieval of images from CD, DVD or PACS should be possible. • It should be DICOM 3.0 ready and should have the facilities for connectivity. • Film prints and CD, DVD copying should be possible. • Latest technology: Highly effective computer aided detection (CAD) digital mammography solution for early detection of cancer. There should be advanced technology for identification of micro calcification and suspicious lesions.

C ARM	DIAGNOSTIC IMAGING	Mobile C-arm Digital Imaging System on anti-static castors; easy to maneuver and capable of undertaking orthopedic and angiographic procedures 1.1. The system must be of state-of-the-art design and enable mobile Fluoroscopy and radiography of the complete skeletal system Chest and abdominal organs. 1.2. The system must have sufficient capability to provide high quality imaging on large and small patients, with no, or minimal deterioration in image quality. 1.3. The system must have a minimum of 30" free space between the x-ray tube and the image receptor. 1.4. The C-arm depth must be a minimum 24" in depth to provide C-arm clearance around the patient and table. 1.5. The C-arm must provide a minimum of 115˚ C-arm orbital rotation, 90˚ under-scan and 25˚ over-scan capabilities. 1.6. The system must allow user to reverse the x-ray tube and Image Intensifier positions and maintain C-arm under-scan and over-scan capabilities. 1.7. The C-arm must be able to rotate 180˚ to facilitate angled projections. 1.8. The system shall have a minimum of 18" of vertical C-arm travel for height adjustment. 1.9. The C-arm must provide side-to-side movement and horizontal travel to allow for "panning" during imaging. 1.10. Shall be counter-balanced in all positions. 1.11. Shall include a laser positioning system. 1.12. Generator Requirements 1.13. The generator must be a 60 KHz or higher high frequency inverter type, microprocessor controlled. 1.14. The output power rating of the generator must be 15 kW or greater. 1.15. The system shall be capable of performing examinations on large patients. 1.16. The generator shall be capable of providing a high dose fluoroscopic exposure at a minimum of 15mA. 1.17. The generator must be capable of providing pulse fluoroscopy. 1.18. The generator must be capable of providing cine pulse mode for cardiac & vascular imaging to reduce imaging lag caused by patient motion or C-arm movement with DSA digital subtraction angiography. 1.19. The mAs range in radiography mode must be approximately 1 to 300 mAs 1.20. The generator must meet the following minimum power requirements: • Radiographic kVp range: 40 – 120 kVp • Radiographic mA range: 50 mA or higher • Fluoroscopic mA range: 20mA or better • Fluoroscopic kVp range: 40 – 120 kVp

		1.24. The system should have a warning for the user before and when the anode reaches its maximum heat storage capacity 1.25. The anode temperature should automatically be monitored for its protection? 1.26. State the system dose management capabilities. 1.27. Imaging System 1.28. The system shall have a 12” tri-mode image intensifier. 1.29. State type of video capture device. 1.30. Monitors must be at least 16 and above ” dual monitors with 1 ? 2K or K2 resolution. Flat panel LCD type anti-glare 1.32. The system must provide an ambient room light sensor to automatically adjust the monitor brightness for optimum image display (Automatic Brightness Control). 1.33. Digital Image Processing 1.34. Shall have automatic brightness control. 1.35. Shall have noise filter. 1.36. Shall have motion artifact and noise reduction. 1.37. Shall have edge enhancements. 1.38. Shall have minimum of 1 TB image storage. 1.39. Shall have last image hold. 1.40. Shall have patient & image information annotation. 1.41. Shall have dose summary. 1.42. System Functions and Image Management 1.43. The system must provide a simple method to input patient information. 1.44. The system shall be equipped with a backlit X-ray control panel that allows for operation of the system in dim light situations. 1.45. The system shall allow for the change of image orientation on the display screen during exposure or using the last image hold. Functions should include: image rotation, left to right and top to bottom image reversals. 1.46. The system shall provide integration to a laser camera and shall include any & all required software/hardware. Please provide additional options for hard copy printing. 1.47. The system must provide a DICOM 3.0 interface capability that can be connected to the hospital’s network to facilitate the transfer of images for archiving and print purposes. 1.48. Networking 1.49. The system must be PACS / DICOM 3.0 & HL-7 compatible / compliant. 1.50. The system must support the following DICOM 3.0 interfaces: • DICOM print/store

DIGITAL GENERAL X-RAY	DIAGNOSTIC IMAGING	Max. Anode HU: 230kHU/163kJ Focus spot size: 0.6/1.2mm Max. kV:40~150KV Anode speed:2800r/min High Voltage Generator Power Rating: 50KW Line Nominal, Phase: 380VAC, 3Φ Working frequency:80kHz-300kHz kV Range: 40~150KV mA Range: 10~630mA mAs Range:0.1 ~630mAs Time Range:0.001~10 sec Tube Stand Wall Bucky Stand Flat panel Detector
DIGITAL MOBILE X-RAY ABOVE 100 MA	DIAGNOSTIC IMAGING	1. General Description 1.1. Compact, easily transportable with articulated/telescopic arm suitable for bedside X-ray with maximum positioning flexibility in any patient position. The angles in various planes to be specified by the manufacturer 2. The unit should be a digital system with flat panel detector 3. Power Line Connection: a. Should operate on single phase power supply with plug in facility to any standard wall outlet Yes b. Automatic adaptation to line voltage 200 to 240 Volts, 15 Amp plug 4. The Generator a. Must be microprocessor controlled high frequency, output 32 KW or above. b. It should have a digital display of mAs and kV and an electronic timer c. KV range: 40kV to 150kV or more d. Max. Current: 300 mA or 50 to 400 (not user selectable) * mA steps = 50, 100, 120, 150, 180, 250, 320, 400 f. Shortest exposure time: should be 1ms or less g. The dose delivered per exposure must be displayed 5. X-Ray Tube a. Output should match the output of the generator b. It must have a rotating anode with 3000 rpm or more c. Focal spot size should be 0.6mm/1.2mm or better d. Mention the heat storage capacity of Anode Heat Capacity 300 kHU (212 kJ) Battery a. The machine should be able to run on mains as well as on battery supply b. Battery powered, 240 Vdc (+20%, -10%) with Nominal voltage 12-volt. Typical charge time, 4 hours, Typical usage capacity: 5 hour run time (with full charge, new batteries), ~120 images alternating between 90 kVp / 4 mAs and 100 kVp / 2 mAs, and a total of 2 miles driving distance

		It should have quality certification CE/ FDA
CT SCAN 64 SLICE / 128 SLICE	DIAGNOSTIC IMAGING	Intended use: General radiology, spectral CT, emergency CT, cardiac CT, neuro perfusion with Dual Head Injector Geometry: Rotate-rotate, slip ring No. of rows: 64 / 128 slices Detector width, mm: 40 minimum or above Reconstructed slice width options, mm: 0.625 – 10 Rotation times, sec., 360 degrees: 0.35, 0.4, 0.5, 0.6, 0.7, 0.8,0.9, 1, 2
LEAD GLASS	DIAGNOSTIC IMAGING	Lead equivalent of 3 mm Portable wheels and breaks Height and width (confirm with standard market dimensions)
Nuclear Medicine		
GAMMA CAMERA (SPECT SCANNER	NUCLEAR MEDICINE	4.1.1. Be a variable angle dual-head SPECT digital gamma camera. Dual Head Digital SPECT Gamma Camera and Workstation Solution IAEA Specification Dated 09 Nov 2021 4.1.2. Voltage shall be 220V-240V. 4.1.3. At least two (2) workstations. Acquisition and processing shall be included. 4.1.4. Be fully compatible with the End-User's PACS/DICOM System if available. 4.1.5. Have high resolution parallel hole low and high energy collimators. Collimator cart/trays shall be included. 4.1.6. Shall include ECG trigger. 4.1.7. Have adequate connection and compatibility to colour and film printer. 4.2 Technical requirements: The System shall meet the following technical requirements and include: 4.2.1 Detectors: 4.2.1.1 Two rectangular detectors with NaI (Tl) scintillation crystals. 4.2.1.2 Detector crystal thickness of 3/8 in (9.5 mm). 4.2.1.3 Minimum UFOV of (38 to 40) x (51 to 54) cm. 4.2.1.4 At least 55 high quantum efficiency PMT per each head, characterized by improved energy resolution, magnetic shielding, and long-term stability, with 1 ADC/PMT. 4.2.1.5 The System shall be able to image at energies between 60-511 keV, including the possibility to acquire the data in multiple energy windows, both centered on photo-peak and offset. 4.2.1.6 Detectors shall be adequately shielded. 4.2.1.7 At least one of the two detectors shall allow for caudal/cephalic tilt. 4.2.2 Collimators: 4.2.2.1 One set of Low Energy (Tc99m) High Resolution collimators. 4.2.2.2 One set of High Energy (I-131) General Purpose collimators. 4.2.2.3 Collimator cart(s)/tray(s) to store the collimators offered shall be included or the possibility to store the collimators under the bed of the gamma camera. 4.2.3 Gantry: 4.2.3.1 The gantry shall support variable angle configurability of the detectors including 90° and 180°. 4.2.3.2 Gantry-mounted persistence

		display screen to assist in patient positioning. Dual Head Digital SPECT Gamma Camera and Workstation Solution IAEA Specification Dated 09 Nov 2021 Page 4 of 11 4.2.3.3 The System shall incorporate the ability to acquire contoured and uncontoured WB imaging, and circular and elliptical contoured and uncontoured SPECT acquisition. 4.2.3.4 Remote hand control for heads and table movement. 4.2.4 Patient table: 4.2.4.1 The patient table shall be composed of a low attenuation pallet and a soft mattress. 4.2.4.2 The patient table shall have motorized vertical motion activated from the hand control. 4.2.4.3 Maximum patient load shall be at least 200 kg. 4.2.4.4 Whole body scan length shall be at least 200 cm. 4.2.4.5 Patient table shall allow examination of seated and standing patients and patients on wheelchairs. 4.2.4.6 Minimum patient table height shall be ≤ 60cm for easy loading/ unloading of patients. 4.2.4.7 Rear bed patient bed pallet support for minimizing of deflection. 4.2.4.8 Paediatric pallet and immobilization kit for paediatric patients. 4.2.4.9 Monitor for patient positioning display, and display of different acquisition parameters (time, count rate and information about detector and patient table position). 4.2.5 Safety features: 4.2.5.1 Emergencies stop buttons on gantry and patient table. 4.2.5.2 Patient contact sensors (touch plates) mounted on each collimator. 4.2.5.3 Gantry linked to the patient table and with necessary sensors to always recognize the patient table position to prevent accidental collisions. 4.2.6 Acquisition workstation: 4.2.6.1 Independent acquisition workstation to be placed in the control room, with hardware and software for acquisitions as well as for quality controls and image display. 4.2.6.2 LCD monitor of at least 19 in. 4.2.6.3 Acquisition of a wide spectrum of studies shall be possible, including: 4.2.6.3.1 Planar static. 4.2.6.3.2 Planar dynamic. 4.2.6.3.3 Planar Whole body. Dual Head Digital SPECT Gamma Camera and Workstation Solution IAEA Specification Dated 09 Nov 2021 Page 5 of 11 4.2.6.3.4 SPECT and whole-body SPECT. 4.2.6.3.5 ECG gated planar and SPECT. 4.2.6.3.6 Automatic body contouring system. 4.2.7 Processing workstation: 4.2.7.1 The processing workstation shall be of the latest technology, with adequate storage capacity and be separated from the acquisition workstation. 4.2.7.2 Full DICOM 3.0 compatibility (send/receive, print, archiving, query/retrieve, work list) with RIS/HIS and PACS connectivity. 4.2.7.3 CD-DVD RW drive with ability to archive data to CD and DVD in DICOM. 4.2.7.4 Capability of connecting external hard drive for archiving

		DICOM data. 4.2.7.5 Two (2) LCD color monitors, min. 24” and 1920x1200 resolution. 4.2.7.6 Adequate connection and compatibility to colour printer. 4.2.8 Processing software: Clinical processing software and comprehensive protocols for a wide spectrum of static, dynamic, WB, SPECT and ECG gated SPECT studies, including: 4.2.8.1 Gated cardiac blood pool imaging (MUGA); 4.2.8.2 Cardiac SPECT (Myocardial perfusion imaging) including phase analysis. 4.2.8.3 Cardiac gated SPECT (Gated myocardial perfusion imaging). 4.2.8.4 Cardiac fist pass. 4.2.8.5 At least on cardiac quantification software package e.g., Emory cardiac toolbox, Cedars Sinai or Michigan 4DM SPECT. 4.2.8.6 SPECT bone and general. 4.2.8.7 Cerebral perfusion imaging (SPECT). 4.2.8.8 Dynamic renal analysis (3 phase, diuretic). 4.2.8.9 Static renal analysis (DMSA). 4.2.8.10 GI analysis including 4.2.8.10.1 Salivary gland quantification. 4.2.8.10.2 Esophageal transit. 4.2.8.10.3 Gallbladder ejection fraction. 4.2.8.10.4 Gastric emptying. 4.2.8.10.5 Liver SPECT and functional imaging. 4.2.8.11 Lung ventilation and perfusion imaging. 4.2.8.12 Quantitative lung analysis. Dual Head Digital SPECT Gamma Camera and Workstation Solution IAEA Specification Dated 09 Nov 2021 Page 6 of 11 4.2.8.13 Thyroid imaging quantification. 4.2.8.14 Whole body bone (99mTc and 131I). 4.2.8.15 Parathyroid imaging quantification analysis. 4.2.8.16 Kidney analysis. 4.2.8.17 Geometric mean. 4.2.8.18 FBP and Iterative reconstruction incorporating validated algorithms for measured and calculated attenuation correction, scatter correction, and compensation for detector system response. 4.2.8.19 Software for semi- and fully automatic image fusion with CT, MRI and PET DICOM images. 4.2.8.20 Software needed for QC and calibrations of the System, including: 4.2.8.20.1 Energy calibration (peaking). 4.2.8.20.2 Pulse height analysis. 4.2.8.20.3 Uniformity. 4.2.8.20.4 COR 4.2.8.20.5 Daily/weekly QC software 4.2.9 Ancillary equipment: 4.2.9.1 ECG trigger for acquisition of gated studies. 4.2.9.2 A means of support for the patient’s shoulders and arms such as is used for myocardial SPECT. 4.2.9.3 Low-attenuation removable head support for brain SPECT permitting immobilization of the head. 4.2.9.4 Fast cardiac acquisition, with hardware and software to reduce patient dose and exam time to up to 4 minutes or at least 50%. 4.2.9.5 4-Quadrant bar phantom. 4.2.9.6 Jaszczak SPECT phantom. 4.2.9.7 Equipment and phantoms needed to perform manufacturer's defined quality control tests and calibrations, including: 4.2.9.7.1

		Energy calibration (peaking) 4.2.9.7.2 PMT tuning. 4.2.9.7.3 Uniformity. 4.2.9.7.4 COR. 4.2.9.8 Color laser printer (at least 2400 dpi resolution) with network connection. 4.2.9.9 UPS (3000 – 5000 VA) to support the full System for adequate time to allow for proper shut-down of the System (at least 5 minutes in standby mode). Dual Head Digital SPECT Gamma Camera and Workstation Solution 4.2.10 Additional technical Requirements: The System shall meet the following technical requirements: 4.2.10.1 NEMA performance parameters: 4.2.10.1.1 Intrinsic flood field uniformity with 20% energy window and 20kcps for Tc-99m. 4.2.10.1.1.1. 4UFOV Integral ≤ 3.8%. 4.2.10.1.1.2. UFOV Differential ≤ 2.8%. 4.2.10.1.2 Intrinsic energy resolution (FWHM) at 140 keV:<10%. 4.2.10.1.3 Intrinsic spatial resolution (FWHM) with 20% energy window and 20kcps for Tc-99m. 4.2.10.1.4 UFOV: 4.2.10.1.5 FWHM < 4.1 mm. 4.2.10.1.6 FWTM <7.2 mm. 4.2.10.1.7 CFOV. 4.2.10.1.8 FWHM < 3.9 mm. 4.2.10.1.9 FWTM < 7.1 mm. 4.2.10.1.10 Intrinsic spatial linearity: UFOV: 4.2.10.1.10.1. Absolute: ≤ 0.5 mm. 4.2.10.1.10.2. Differential: ≤ 0.1mm. 4.2.10.1.11 Intrinsic Count rate at 20% count loss: ≥ 300 kcps. 4.2.10.1.12 System sensitivity (LEHR at 10 cm): >200 cpm/µCi 4.2.11 Optional Items and Accessories: The Contractor shall be able to supply and deliver the following items if so requested by the IAEA or the End-User: 4.2.11.1 One set of Medium Energy (In-111, Ga-67, Lu-177) General Purpose collimators. US FDA and CE approved
PET-CT SCANNER	NUCLEAR MEDICINE	Patient Handling System • Width: 42 cm (16 in) • Length: 379 cm (149 in) • Weight: 693 kg (1528 lb) • Maximum Patient Weight: 204 kg (449 lb) • Horizontal Scan Range (Head First): 156 cm (61.4 in) • Horizontal Scan Range (Feet First): 182 cm (71.1 in) • Horizontal Bed Travel: 269.5 cm (106 in) • Vertical Bed Travel: 53 - 107 cm (20-42 in) • ACPlus: Standard Detector Assembly • Detector Material Lutetium: Oxyorthosilicate (LSO) • Crystal Dimensions: 4.0 x 4.0 x 20 mm • Crystal's Per Detector Block: 169 • Number of Detector Blocks: 144 • Photomultiplier Tubes (PMTs): 4 per block • Detector Ring Diameter: 830 mm • Detectors Per Ring: 624 • Number of Detector Rings: 24 • Total Number of Detectors: 24336 • Transaxial Field of View: 585 mm • Axial Field of View: 162 mm • Number of Image Planes: 81 • Plane Spacing: 2 mm Performance - Transaxial resolution (NEMA 2001) • FWHM @ 1 cm 6.5 mm (4.6 mm) • FWHM @ 10 cm 7.5 mm (5.8 mm) Performance - Axial resolution (NEMA 2001)

		• FWHM @ 1 cm 6.5 mm (4.6 mm) • FWHM @ 10 cm 7.5 mm (5.8 mm) • Sensitivity @ 425keV 4.9 cps/kBq • Uniformity 5% variatin • Count rate peak NECR 85 kcps @ 33kBq/c CT Volume Aquisition • Max. No. of CT slices 16 • Number of detector rows 24 • Elements 16128 • Channels per slice 1344 • Number of projections up to 2320 (1/360 • CT Transverse Scan Field 50 cm • CT Rotation times 0.42, 0.5, 0.75, 1.0, 1.5s • CT Temporal resolution down to 105 ms Tube Assembly • Maximum generator power 60kW • Tube DURA Akron Q • Tube current 28 - 500 mA • Tube voltages 80, 120, 140 kV • Tube anode heat storage capacity: 5.3 MHU • Focal spot size according to IEC 60 336: 0.5 x 0.7 mml7 and 0.8 x 1.2 mml7 Image Quality • Low-Contrast Detectability: Technique: 20 cm Ø Catphan 120 kV, 0.75 s, 10 mm) Spiral 5 mm / 3 HU / 19 mGy+ at 180 mAs Sequence 5 mm / 3 HU / 20 mGy+ at 190 mAs High-Contrast Resolution (Technique: 150 mA/ 120 kV, 0.75 s, 1mm) 0% MTF ± 10% 30 lp/cm 0.17 mm, 2% MTF ± 10% 24 lp/cm 0.21 mm
RADIOISOTOPE GENERATORS	NUCLEAR MEDICINE	Produce short-lived radioisotopes for diagnostic imaging. Radionuclide extraction system elution mechanism.
RADIOPHARMACEUTICAL DOSE CALIBRATOR	NUCLEAR MEDICINE	Standard supply IBC-LITE Software (PC non included) Ionisation chamber (VIK-202 or VIK-203) Power supply for Ionisation chamber Well liner Sample holder Optional accessories Extra lead shielding (20/50 mm Pb) Mo-99 breakthrough set Copper dipper Extra well liner Extra dipper Label printer Fanless miniPC Dipper lift Check sources Features IBC-LITE software GAMP-5 validated Built-in isotope list Isotope preset list Suitable for measuring vials and syringes User-definable containers Future dose calculation Quality control tests for the Ionisation chamber: Stability, linearity and null effect Molybdenum breakthrough test Background subtraction Printing user-definable labels Touch screen control Minimum system specifications PC system with Windows XP or higher

		1x RS-232 interface for the Ionisation chamber 1x USB interface for the optionally label printer
RADIATION SHIELDING	NUCLEAR MEDICINE	Lead-lined rooms lead aprons lead glass windows radiation shielding barriers.
GLOVE BOXES AND HOT CELLS	NUCLEAR MEDICINE	Lead shielding, robotic manipulators, sealed transfer systems.
THYROID UPTAKE SYSTEM	NUCLEAR MEDICINE	Gamma probe, thyroid uptake probe, computer interface.
PATIENT RADIATION MONITORING SYSTEM	NUCLEAR MEDICINE	Badge dosimeters, data logging, dose reporting.
LEAD APRONS AND RADIATION ATTENUATING GLOVES	NUCLEAR MEDICINE	Lead lining, comfortable design, adjustable closures.
SHIELDED SYRINGE AND NEEDLE HANDLING DEVICES	NUCLEAR MEDICINE	Shielded syringe shields, lead-lined containers, remote manipulation.
CATHLAB	CARDIOLOGY	Detector size 20 x 20 cm / 30 x 30 cm. 1.5K x 1.5K resolution, DQE 80%. 55” high resolution, high luminous coloured monitor with multiple display options. Distortion free imaging. Motorized rotation and up / down movement of detector. 80 KW / 100 KW dual invertor based generator. Liquid metal tube for toughest clinical demands (only for 100 KW Online Digital Subtraction Angiography. ASSURE Protocols for radiation protection. Stent view.
EEG MACHINE	NEUROSURGERY	Digital, Portable, Video EEG, 32 and 24 channel Wearable Routine EEG, Brain-Computer interfacing, Long term Monitoring, Neuro Imaging, Neuro Marketing, Pediatric Neurology, Psychology, Routine EEG,Brain-Computer interfacing,Long term Monitoring, Neuro Imaging, Neuro Marketing,Pediatric Neurology,Psychology,Routine EEG EEG acquisition software for OS Android Photic stimulator Lab Streaming Layer QEEG analysis software Long-latency ERP

HEMATOLOGY ANALYZER (5 PART)	HAEMATOLOGY & SEROLOGY	1. General Description Hematology analyzer, capable of measuring HB, RBC, WBC, HCT, MCV, MCH, MCHC, PLT and histogram and at least 10 other parameters and 5 differential. The unit should be automatic, with electronic digital read out, with dilutor and in built printer. In addition it should have Automatic recovery after power failure without loss of data. 2. Composition 2.1 Main unit 3. Performance Specifications 3.1 Main Unit 3.1.1 Measuring parameters HB, RBC, WBC, HCT, MCV, MCH, MCHC, PLT with WBC 5 part differentials and at least 10 more, histogram for at least WBC, RBC, and PLT 3.1.2 Accuracy RBC ±2%, WBC ±3%, Hct ± 2%, Hb up to 25g/dl, PLT 5x109/L, leucocyte <0.2x109/L 3.1.3 Differential At least 5 3.1.4 Tests per hour Test mode Operation mode 60 or more Open, closed and on pre-dilution With Automatic recovery after power failure without loss of data. 3.1.6 Sample volume at most 20ụl 3.1.8 Temperature correction Automatic 3.1.9 Display Large LCD display 3.1.10 Printer In built, thermal type 3.1.11 QC Interface Provided, internal RS232 with data management software 4 Physical characteristics 4.1 Main unit Table Top Model 5 Operating environment 5.1 Power Requirements 240V, A/c 50 Hz, Single phase Ambient temperature 10o C to 40o C Relative humidity 20% to 90% 6 Accessories 6.1 UPS (1.25 X the power rating of the equipment) TOL 7 Quality standards 7.1 Manufacturing standards IEC 60601-1, ISO 9001, ISO 13485 and UL 3101-1 Conformity to standards IVD- Directive 98/79/EC ,CE and FDA marked Or Equivalent

AUTOMATIC ESR ANALYZER	HAEMATOLOGY & SEROLOGY	Auto Scan: Scan the computer automatically controls the timing of the blood cells and plasma interface position, accurate positioning. Display: LCD, direct display of measurement results by computer processing. Auto Print: built-in thermal printer can print the results of ESR and sedimentation curve. Results: Automatically detects the temperature (15 ℃ ~ 30 ℃) the results of ESR ESR values corrected to 18 ℃ when, Westergren method with good results. Strong anti-interference: the instrument and the test results are not affected by external factors interfering with pathological samples jaundice, hemolysis, chyle and so on. Equipped with RS-232 interface can be connected to communicate with an external computer. Technical Parameters: Application: for measuring human erythrocyte sedimentation rate Display: LCD liquid crystal display Measuring principle: infrared barrier method The fastest measurement speed: 20 samples / 1h or high Reading resolution: 0.2mm Sample volume: 0.32ml or above whole blood anticoagulant + 1.28ml At the same time the number of samples can be measured: 10 Working conditions: Temperature: 10 ℃ ~ 30 ℃, relative humidity: ≤85% Power supply voltage: a.c.110V-220V 50Hz / 60Hz Printer: Built-in thermal printer Dimensions (length × width × height): 320mm × 260mm × 158mm
AUTOMATED IMMUNOHAEMATOLOGY PLATFORMS- SCREENING, GROUPING	HAEMATOLOGY & SEROLOGY	Should be a Fully Automated Continuous Random-Access system. System should be covered to avoid dust contamination. System should have two separate pipetting arms for pipetting the reagents and samples. Should have STAT facility for emergency samples. System should automatically read barcodes over different plate and card individually or simultaneously. System should be based on column agglutination/microplate Technology. System should be able to perform blood grouping, coombs test, cross- matching, antibody screening, Antibody Identification, and minor red cell antigen phenotyping.
EDTA MIXURE ROLLER	HAEMATOLOGY	This is an equipment to make blood homogeneous. It is shake-less and gentle mixing process. It is essential pre-process for perfect result of RBC, WBC and platelet counting on Hematology Analyzer. RPM : 30/36 RPM Mixing Time : 15 to 20 Min. Mains Input : 230 Volts 50-60 Hz. Size : 440x280x150mm

CLINICAL MICROSCOPE	HAEMATOLOGY & SEROLOGY	All-purpose microscopes for general laboratory use, with binocular head, inclined 45o, build in graduated mechanical stage with control knob, with iris diaphragm, and filter holder, eye pieces, objective lens and illumination controls.
REFRIGERATORS 2-8 C	HAEMATOLOGY & SEROLOGY	Performance Specifications 1. Main Unit 1.1 Material: Insulated galvanized steel 1.2 Type: Compressor, electrical 1.3 Door: Single door / double door, glass type 1.4 Total net capacity: 350 litres 1.5 Temperatures range: +2oC to + 8oC stable 1.6 Ambient temperature: 10 oC to 35oC 1.7 Shelves: Provided, adjustable and extractable 1.8 Digital, external mounted, with temperature record history Control: Electronic, Microprocessor based 1.9 Refrigerant: CFC free 1.10 Alarm: Provided, audible and visible 1.11 Power: 240V, 50 Hz, a.c
AUTOMATIC URINE ANALYZER	CLINICAL PATHOLOGY	ANALYTICAL MODES Chemistry minimum 100 tests/h Sediment only 100 tests/h Hybrid 100 tests/h INTERFACE ASTM (RS323 + LAN), USB WORKING CONDITIONS Temperature 16 – 30 °C Humidity 0 – 90 % RH (noncondensing) UNITS SI, conventional, arbitrary SEDIMENT ANALYSIS METHOD Digital microscopy MEMORY > 500.000 results (incl. controls) MINIMAL SAMPLE VOLUME Primary tube 2 mL Micro tube 0,9 mL SAMPLE LOADING CAPACITY 100 samples (10 tubes x 10 racks) SUPPORTED BARCODES DIMENSIONS CHEMISTRY ANALYSIS METHOD Reflectance photometry PARAMETERS SG, LEU, NIT, pH, PRO, GLU, KET, UBG, BIL, BLD, ASC, Color, Clarity PARAMETERS WBC, WBCC, RBC, SQEP, NSE, HYA, CAST, CaOX, TRIP, UA, BACC, BACR, YST, SPRM, MUC, UNCC UNITS N/µL; N/x µL; Microscopy units, Total counts CE or equivalent certifications

CENTRIFUGE	CLINICAL PATHOLOGY	The unit should be a model or type on current production Maximum speed: above 4500 rpm Maximum RCF: 4600G Timer: Provided Brake system: Provided Safety System: Door open Rotor Type : Swing out and fixed angle rotor Tube adapter: 4/5 ml, 15ml X 12 pcs or more Rotor: 2 sets: fixed angle and swing out Tube adapter: 2 Sets for fixed angle and swing out
INTEGRATED CHEMISTRY-IMMUNOLOGY PLATFORMS	BIOCHEMISTRY	**Track-based Automation Technical Specifications** The track-based automation should be a high throughput automated sample handling system which processes Clinical Chemistry & Immunochemistry sample tubes on-line. The track-based automation connected to the Laboratory Information System (LIS) of the Hospital. The track-based automation should have a at least 2 lane traffic with the following modules: • Analyzer Connectivity with options to connect at least 2 modules each of Clinical Chemistry & Immunochemistry systems. • Should have a capacity to handle a test throughput of minimum 800- 1200 tubes/hour or more • Should support STAT/Priority sample handling. • Should support various blood collection sample tubes. • Should have ability to allow samples that are pre-spun to bypass the centrifuge module(s) or ability to bypass any step. • Should be able to identify insufficient volume in samples. • Supports various blood collection tubes simultaneously. • A throughput of minimum 500 tubes/hr. ANALYTICAL MODULES All Analytical modules should be automation ready (to be able to connect to Track based automation); multiple modules of each type should be able to be connected to track. Clinical Chemistry system: The system (Instrument) should have the following features: Two fully automated, open, random access, floor model biochemistry analyzers with a minimum throughput of 1000 tests/hour/analyzer (800 tests photometry/hr., 200 ISE /hr./analyzer) Sample handling: • Must facilitate continuous loading of samples through sample racks (minimum capacity to handle 100 samples at a time) • should have intermix sample containers • Must be able to handle bar coded samples

		• Must be able to handle various sample types including serum, plasma, body fluids, urine. • Must have facility of sample probe obstruction detection & correction. • Must have clot detection facility to detect sample clots & provide error free results. • Must be able to detect lipemic, icteric, hemolyzed samples (serum indices) which can be configurable assay specific. • Must have level sensing capability for probes with alarms on short samples • Must be capable of handling STAT Reagent's handling: • Must accommodate a minimum of 100 reagents on board • Menu of > 100 assays must be available (including general chemistry, specific proteins, TDMs, DAT & ISE) • Must have reagent area cooling to offer long on-board stability of reagents. • Must have on-board data storage of more than of 100 parameters (assays) Reaction System: • Must have disposable reaction cuvettes • Photometry & detection systems: • Must have a multi-wavelength, diffraction grating spectrophotometer. • Must have at least 10 different wavelengths between 340 – 800 nm • Must be able to handle Colorimetry, Potentiometry, turbidimetry, & homogenous EIA (Electro / chemi Immuno Assays) IMMUNOASSAY SYSTEM: System: • Two fully automated, random access, floor model Electro-Chemiluminescence Immunoassay analyzers with a minimum throughput of 200tests/hour. Sample handling: • Should be Automation compatible to link to track based automation. • Must be able to handle an intermix of sample containers and sample tubes sizes. • Must be able to handlebar coded samples. • Must be able to handle various sample types including serum, plasma & body fluids. • Must have level sensing capability for probes with alarms on short samples. Reagents handling: • Must accommodate a minimum of 30 assays on board to be simultaneously assayed on a sample • Must have reagent area cooling to offer long on-board stability of reagents • Must perform Real Time Reagent Tracking Management • Must be able to load reagents even while the instrument is processing samples

		Reaction System: • Must work on the principle of Electro Chemiluminescence or chemiluminescence Immunoassay technology R.O. water system: • Suitable R.O. water system to be provided and its installation & daily maintenance to be taken care of by the vendor Should be attached with a service contract UPS: • Suitable UPS systems to be provided and its installation & maintenance to be taken care of by the vendor • All equipment operating accessories must be provided such as printers, among others • should have a starter pack for initial testing and running"
AUTOMATIC ELECTROLYTE ANALYZER	BIOCHEMISTRY	• Should be able to analyze Sodium, Potassium, chloride, and Ionized Calcium based on ISE technique. • Should be able to process whole blood, serum, plasma, dialysate, urine, and other body fluids • Sample volume requirement should be equal to or less than 100µL • All the reagent solutions and waste container should all be sealed within a single user-friendly pack. • Should be compatible to process samples from sample cup, collection tube, capillary tube, syringe, etc • Fully automatic calibration cycles • Should be programmable to automatically enter the standby mode during periods of non-use • Should be provided with maintenance free electrodes. • Should have built in thermal printer. • Should have capability for bi-directional computer interface. • Should be supplied with appropriate UPS with at least 60 min back up. (Range 60-90 mins) IVD or equivalent certification

AUTOMATIC HBA1C ANALYZER	BIOCHEMISTRY	Measuring method: liquid chromatography Measurements: glycated hemoglobin HbA1c Measuring range: 3% to 18% Measurement parameters: precision (CV) ≤3%, accuracy (V) ≤1.5% Measuring time: 4 minutes (including the report) Sample Type: venous whole blood (EDTA anticoagulant), peripheral blood finger Sample volume: 5µl of whole blood / per sample Light Degrees: 415nm LED integrated flow colorimeter Injection: Automatic injector plate 25 (20-bit samples, two quality control bit, a bit of emergency, a cleaning position, a zero) Measurement: Automatic batch measurement, a single emergency measure Calibration methods: 2:04 point calibration selectable manual and automatic options, matching the level 2 group level calibrator Thermostat Control: column and reagents climate control: 25 ± 0.5 ℃ Reagents package: a chromatography column and ancillary reagents consumables / 300 test samples Reagent arrangement: Each is equipped with a standard set of A, B, C, D four kinds eluent, calibrators, hemolytic agent, a pump tube Display: 320 × 240LCD graphics display, real-time display test curve Report output: IFCC concentration, percentage NGSP area, ADAG average blood sugar, three parameters at the same time report Data storage: 1000 test report (including test curve) Communication interface: RS232 communication interface, can be connected with HIS / LIS system Power source: AC220V ± 22V 50Hz 215VA Should IVD or equivalent certification
REFRIGERATORS 2-8 C	BIOCHEMISTRY	Performance Specifications 1. Main Unit 1.1 Material: Insulated galvanized steel 1.2 Type: Compressor, electrical 1.3 Door: Single door / double door, glass type 1.4 Total net capacity: 350 litres 1.5 Temperatures range: +2oC to + 8oC stable 1.6 Ambient temperature: 10 oC to 35oC 1.7 Shelves: Provided, adjustable and extractable 1.8 Digital, external mounted, with temperature record history Control: Electronic, Microprocessor based 1.9 Refrigerant: CFC free 1.10 Alarm: Provided, audible and visible 1.11 Power: 240V, 50 Hz, a.c
LAMINAR FLOW	MICROBIOLOGY	Biosafety cabinet mobile on four antistatic castors. Class II, A, microprocessor controlled with digital display, UV light, and laminar air

		flow
AUTOCLAVE LABORATORY GRADE	MICROBIOLOGY	Internal Tank Capacity- 70 to 100 liters Load: 4KW Chamber dimension: Minimum 18" x 24" No.of Drums & Sizes minimum 2 (12" x 15"), Working Pressure: 1.2 kgf/cm sq.g (15 psi - 17 psi) (Can be Upgraded up to 30 PSI), Sterilizing Temperature 121°C to 134°C (150°C - Optional) Heat Average <=±1°C Sterilization Time 25 to 30 Minutes Digital Timer 0 to 99 min Construction Double / Triple wall & SS GMP construction Outer Chamber Mild Steel (304 stainless Steel – Optional) Inner Chamber 304 SS (316 / 316L grades Stainless Steel – Optional) Insulation Glass Wool Waste Container Stainless Steel Door / Lid Foot lifted with safety and interlock device Door Locking type Radial Type (Wing Nut Optional) Water Filling & Removal Manual Safety Features Radial locking, safety valve, low water detector and pressure interlock Accessories - PID controller - Low / High water cut-off device - Digital alarm - Temperature chart recorder - RS 232 / USB PC Connection Port - Stainless Steel wire mesh carrier - Dressing drum - Sterilization indicator tape - Autoclave bags - PLC control system - Extra Silicion gas cutter to be provided along with 2 heating coils
BACTERIOLOGICAL INCUBATOR	MICROBIOLOGY	Capacity (liters) minimum 40 ltrs and above Temperature Range Ambient +5 to +90°C Temperature Uniformity + / - 0.35°C at 37°C Temperature Control Thermostat Display thermometer Door Solid door w/ glass window & lock Exterior MS painted Interior aluminum Safety Features Over-temperature Thermostat Shelves aluminium Power Supply 220 Volts
WATER BATH	MICROBIOLOGY	To be used in laboratory. Constructed from robust, high grade stainless steel. It should have an inbuilt temperature control and indicator. The unit should be capable of attaining uniform and constant liquid temperature. The unit should be capable of accommodating 150 pieces of test tubes of sizes 16mm diameter each.

HOT-AIR OVEN	MICROBIOLOGY	1.1. Specification of Hot Air Oven 90-120 Ltr. 1.2. Programmable Microprocessor control with vacuum fluorescent/LED display 1.3. Capacity: 90-120 liters. 1.4. Exterior in mm less than (W x H x D):650 x 850 x 600 1.5. Broad temperatures range 50 to 250°C 1.6. Temperature Uniformity/Deviation at 150°C:±0.5°C 1.7. Stainless steel perforated shelf at least: 3-4 1.8. Machine should have to 2 PT-100 Sensor for Sample protection. 1.9. Inner chambers corrosion-resistant stainless steel 1.4016/AISI 430 with rounded corners for easy cleaning. 1.10. Automatic over temperature alarm system to protect samples. 1.11. Access port allows the introduction of sensors for independent data monitoring system. 1.12. Ovens should come standard with a RS232 data interface. 1.13. Machine should have an optional facility for wireless temperature monitoring. 1.14. Compatible servo stabilizer for the Machine.
ANALYTICAL BALANCE	MICROBIOLOGY	Technical Specifications 1. Capacity x Readability: 220 g x 0.01 mg; 2. Repeatability: 0-60g ± 0.015 mg / 60-220g ± 0.25 mg; 3. Linearity: ± 0.1 mg; 4. Corner Load (g) : ± 0.15 mg (100 g) (Test Load [g]); 5. Minimum Sample Weight (mg): 20 mg minimal initial weighing; 6. Tare Range: 0.01mg to minimum of 220 g; 7. Stabilization Time (avg): < 2 second; 8. Response Time (avg): < 6 second; 9. Sensitivity Drift: 10°-30°C: ± 1 ppm / °C; 10. Selectable Weight Units: g, kg; 11. Touch Screen, Keys for main basic functions; 12. Adjustment of the display and control unit. 13. 8 No. selectable application programs: Mass unit conversion by toggling, SQ min function for minimum sample weigh, according to the USP, automatic calibration / adjustment function, Density determination, averaging (weigh averaging), Formulation, Weighing in percent, Counting. 14. 7 No. Additional Selectable Application Programs: Customized identification, Statistics, Calculation, Time-Controlled Functions, Totalizing, Second tare memory, Over/ under check weighing. 15. Allowable Ambient Operating Temperature: 5°C to 40°C 85% RH or less; 16. Draft Shield protection against dust and water. 17. Motorized Internal Calibration.

		18. External Calibration: 200 g Class 1; 19. Weighing Pan Size: min 8.5 cm x 8.5 cm; 20. Standard interface ports: USB (built into weighing module), RS-232C port for connecting. 21. Power Source: 220 -240 V/50-60Hz.
WATER JACKETED/CO2 ANAEROBIC INCUBATOR	MICROBIOLOGY	1.1. Item Specifications: - 1.2. Capacity: 6.0 cu. ft. / 170 Lt. or more 1.3. Co2 range: 0.2-20%, with ±0.1% control 1.4. Co2 stability at 5% Co2: ±0.2% stability. 1.5. Co2 uniformity: ±0.1% 1.6. Temperature range: 4°C above ambient to 50°C with temp control: ±0.1°C 1.7. Temp stability at 37°C: ±0.1°C 1.8. Temp uniformity: ±0.3°C 1.9. Six-Sided Direct Heating to ensure stable temperature control, excellent uniformity, and rapid recovery with no overshoot. 1.10. Large Display & Intuitive Controls Simplify Operation. Features help text, real-time data graphing, programmable alarms, diagnostics & more. 1.11. Fanless design & Ductwork to increase usable chamber space & simplified cleaning. Gentle, fanless convection circulation to provide perfect chamber homogeneity, and to eliminate vibration & reduced sample evaporation. 1.12. Infrared [IR] CO2 Sensor to provide superior accuracy and stability over conventional thermal-conductivity sensors. 1.13. High Humidity – Dry Wall Chamber to achieve 95% RH, minimizing sample evaporation. Independent door heater to eliminate condensation on inner glass surfaces. 1.14. 72-Hour Data Storage. CO2 concentration, temperature, alarms and door openings to record automatically for on-screen display. Optional communications package to enable data logging to PC to quote separately. 1.15. High-Temperature Decontamination Mode to simplify Maintenance. System should

		be able to use 120°C dry heat to decontaminate the chamber, all internal sensors, racks & humidity pan. 1.16. CO2 Sensor Auto-Zero to adjust baseline automatically for optimum accuracy. User-programmable. Should not require any manual measurements or operator intervention. 1.17. Seamless Chamber, Rounded Corners, and external front flange to prevent contamination and simplify cleaning. 1.18. Easily Removable Shelving (Four shelves). Stainless rack & shelves should be quickly removable, without tools. 1.20. Comprehensive Two-Level Alarm System to include audio and screen-displayed alarms for system status, with programmable alarms for CO2 and temperature set points, delays & duration. 1.22. Separate Over-Temperature Cutout to prevent over-heating condition, in event of a control failure. 1.23. Non-Volatile Memory to guarantee data integrity, regardless of length of time or frequency of power interruption. 1.24. Alarm Set points to Reset Automatically to ±0.5ºC and 0.5% above and below the new temperature/CO2 set point. 1.25. HEPA Filter on CO2 Inlet to provide added protection from potential contamination sources. 1.26. RS 323 port for communication. 1.27. Suitable Servo Voltage Stabilizer, Co2 gas cylinder with 30kg Co2 gas, Two-Stage QC mark CO2 Gas Regulator should be supplied along with instrument.
BACTEC MACHINE	MICROBIOLOGY	Key Features: LIS Connectivity, EpiCenter Connectivity, Blood Volume Monitoring, Sattelite Blood Culturing. Fluorescent Technology at its best with eXceptional performance, improving workflow efficiencies from specimen collection to actionable results. Physical Dimensions Single Instrument Stack Height 88.9 cm (35.0 in) 190.5 cm (75.0 in) Width 63.5 cm (25 in) 63.5 cm (25 in) Depth 86.4 cm (34 in) 86.4 cm (34 in) Clearance (rear, left, right) 1.3 cm, 0 cm, 0 cm 1.3 cm, 0 cm, 0 cm Clearance (front) 68.6 cm (27.0 in) 68.6 cm (27.0 in) Weight (empty) 187.5 kg (413.4 lb) 384.8 kg (848.4 lb) Weight (full) 220.4 kg (485.9 lb) 451 kg (994.2 lb) Stand weight 63.5 kg (140 lb) N/A Counterweights (countertop, unanchored) 47.6 kg (105 lb) N/A Vial Capacity 200 400

AEROBIC/ANAEROBIC BACTERIAL AND FUNGAL IDENTIFICATION SYSTEM	MICROBIOLOGY	Automated Microbial identification with Phenotypic characterization and Antibiotic Susceptibility Testing system (for identification of Aerobic and Anaerobic bacteria, yeast, and fungi)
ELISA READER AND WASHER	MICROBIOLOGY	**ELISA READER.** 1. Should have 96 wells and should have reading capability of 1 to 96 wells individually. 2. Should have a linear measurement range of 0 to 3.000 Abs. 3. Should have wavelength range from 400 to 750nm. 4. Should have a photometric accuracy of ±3% or better. 5. Should have a resolution of 0.001Abs. 6. Should have variable speed plate shaking capability. 7. Should have easy access 8 position filter wheel 8. Machine should be supplied with 4 standard filters. 9. Should have automatic filter selection. 10. Should have automatic calibration before each reading. 11. Should have at least 6 second reading speed. 12. Should have facility for storage of calibration curves. 13. Capable of doing multi standard tests and controls. 14. Should have different types of blanking facility like air wise and well wise. 15. Should be capable of reading U, V and flat type wells 16. Should be capable of reading 8 or 12 well strip plates. 17. Should use halogen light source and two spare bulbs should be provided. 18. Should have internal thermal printer and 5 rolls of thermal should be supplied along with the unit. 19. Should have external printer connectivity option. 20. Should work with input 200 to 240Vac 50 Hz supply. **ELISA WASHER** 1. Should have capability to wash flat, U or V bottomed micro plates or 8 or 12 well strip plates. 2. Should have 8 or 12 way manifold. 3. Should have 25 wash program memory or more. 4. Should have programmable washing time, volume and soaking time. 5. Should have minimum 6 wash cycles. 6. Should have continuous operating cycle. 7. Should have residual volume less than 5µl. 8. Should have removable and autoclavable plate carrier.

		9. Should have in-built vacuum and dispensing pumps to ensure accurate and quite washing. 10. Should have waste bottle with full bottle alarm or sufficient mechanism to avoid spillage and damage to equipment 11. Should have solution based wash buffer intake. 12. Should work with input 200 to 240Vac 50 Hz supply. 13. Should have safety certificate from a competent authority
BACTERIOLOGICAL INCUBATOR	MICROBIOLOGY	Capacity (liters) minimum 40 ltrs Temperature Range Ambient +5 to +90°C Temperature Uniformity + / - 0.35°C at 37°C Temperature Control Thermostat Display thermometer Door Solid door w/ glass window & lock Exterior MS painted Interior aluminum Safety Features Over-temperature Thermostat Shelves aluminium Power Supply 220 Volts
MICROTOME	HISTOPATHOLOGY	• Smooth-working handwheel to minimize muscle strain. • Big capacity and easy to mount waste tray. Ergonomic design that includes surface for arm rest. • Automatic fixation of the knife carrier to the microtome base (patent pending) • Removable lever for locking the clearance angle of the blade holder. Design without levers for improved cleanliness and ease of use. • 'Blade holder can be moved sideways both to the right and the left for an optimal use of the cutting edge. • Equipped with a specimen orientation head that works with different specimen clamp types and an easy-to-operate • Change system thanks to the blocking

		mechanism. • Indication of 0-position in x and y direction by palpable click for the precise position of the specimen. • Cutting-edge design of the specimen clamp that prevents building up of dirt and facilitates operations with the microtome. Accessories Needed: Microtome blades, compatible with selected microtom
FLOTATION BATHS	HISTOPATHOLOGY	Flotation baths are baths that are designed to prevent wrinkling and distortion during preparation of paraffin-embedded tissue sections. Incubations can be performed over a range of temperatures. Temperature Accuracy ±1°C Length (Metric) 36.2 cm Controller Type Digital Microprocessor Wattage 272 w Length 14.25 in. Frequency 50/60 Hz Certifications/Compliance UL61010-1, CSA C22.2, or equivalent certificate
LEAN HIGH THROUGHPUT TISSUE PROCESSOR	HISTOPATHOLOGY	Lean High- Throughput Tissue processor • Rapid on demand processing: <50 mins for needle biopsies (fixation included) • High productivity: up to 300 cassettes, 24 SuperMega cassette, 40 slim SuperMega cassette • No limits in samples thickness with both Standard and SuperMega cassettes • Xylene and Xylene-free protocols*; Formalin and formalin-free protocols* • Open reagent system (no proprietary reagents) and possibility of alternative Fixative • Direct reagents exchange procedure via 5L commercial tanks • Bar Code Checks* • No Down time for Reagents Exchange as possible to be done in Process • On-Board reagent quality sensor* • No tissues pre-treatment* • Neither down time for post run cleaning cycle nor wax transfers • Hybrid heating system: electric resistance + microwave heating for an optimized processing • Paraffin always ready to use (no pre-heating cycle needed – auto re-filling) • Triple cavity system with a dedicated impregnation and wax refilling cavity (Magnus plus) • Isolated and vented working area with charcoal and dust pack filters*

		• Easy and intuitive software, icon driven* • Visual unit status via LED lights • UPS module and Safe Mode as tissue protection procedure in case of power failure* • Antimicrobial powder coating • 24/7 Remote system surveillance • Batch samples' tracking • Automatic Embedding system for an All-in-One system Accessories Needed: Embedding Molds: 100 pieces needed, 30 for small biopsies, 50 for medium sized biopsies, 20 for large biopsies.should be ivd or equivalent certified
INTERGRATESD AUTOMATED STAINER FOR H/E AND SPECIAL STAINS (HISTOCHEMISTRY), WITH AUTOMATED COVER SLIPPER	HISTOPATHOLOGY	**AUTOMATED STAINER** • Through put upto 200 plus slides per hour • Continuous loading and unloading of slides • In-built automated cover slipper (integrated cover slipper) • Full Automation from Baking to Drying • Integrated baking and Heating, with minimum capacity of 120 slides,12 racks from 50'-70' • In built vacuum exhaust to extract xylene fumes • System should be mobile for Laboratory space efficiency. • Intuitive software to facilitate rapid start up and operation. • Automated tank filling and disposal into closed containers. • Incorporation of reagent management system (RMS) • Allows use of ready To use reagents. • The system must have CE/ FDA Certification. • Standardized validated protocols • • Automated reagent handling system (RMS) • Touch Screen. **AUTOMATED STAINER for SPECIAL STAINS** • Compact benchtop workstation • Touch screen computer system with Link • Four separate Waste containers • Risk management compliance • Barcode reading for reagents and slides • LAN and LIS Connectivity • Automates the process of slide drying and dewaxing onboard • Total reagent capacity; minimum of 50 reagent packs • Reagent waste capacity; Two 2L bottles, two 4L Bottles, or better • Bulk fluid capacity; Six 1L bottles, or better.

PARRAFIN WAX DISPENSER AND EMBEDDING STATION	HISTOPATHOLOGY	Non-drip, three-position lever tap–push dispense, lock open for rapid delivery, or lock closed for safety • High tap position (153mm from the bench) accommodates large containers for transferring molten wax • Integral tap filter screen (0.5mm mesh) prevents coarse particles from blocking the delivery tap • Anti-microbial coating (Ag+) inhibits growth of bacteria • Ultra-fast heating system minimises wait times • Digital temperature control–high-capacity model features individual controls for each of the dual reservoirs • Aluminium inner tank provides good thermal conductivity and improved temp control • Insulated paraffin tank prevents heat loss from the tank and ensures that outer surfaces of the tank are safe to touch • Dedicated tap-heating system prevents blockages and ensures even flow of wax
GROSSING STATIONS, WITH ERGONOMIC CAPACITY (EG HYDRAULICS) AND INTEGRATED COMPUTING, PHOTOGRAPHY	HISTOPATHOLOGY	1. Should be constructed from high-quality stainless steel. 2. The elevating switch should be located on the front of station and allows the unit to elevate from 32” to 44” (81.3 cm to 111.8 cm) if required 3. A large 19” x 8 ¾” x 14” (48.3 cm x 22.2 cm x 35.6 cm) sink with radiused corners should be built in the station. 4. The sink also houses a mixing faucet with a gooseneck spout. The mixing faucet should be operated by foot controls and comes with built in vacuum breaker protection. 5. Vacuum breaker protected water supply preventing contaminated water from getting into the potable water or the natural drinking water. 6. The water temperature should controlled by the mixing valve located inside the sink cabinet. 7. Should have 0.65 Horse Power disposal. When activated, the heavy duty motor runs on a continuous basis and has a manual reset overload switch if needed. 8. The dissecting area rinse should be provided with a constant flow of water to remove debris from the work area to the sink. The rinse can be operated by foot controls. 9. A polyethylene dissecting board should be included to assist with specimen grossing. The durable white surface provides an excellent background for cutting specimens. 10. Grossing Stations should have facility to be ducted to an outside ventilation system for removal of hazardous fumes, vapors and odor. 11. The GFIC waterproof electrical receptacles should be available on quoted model and are

		located on the front of each station for easy accessibility. 12. A flex arm halogen light is mounted on the station to direct focused light over the work area. The flexible arm allows the light to be adjusted in a variety of positions. 13. The recessed halogen lighting provides proper lighting across the entire work area for better illumination. 14. A stainless steel, braided, handheld spray nozzle with thumb control should be located in the sink area near the mixing faucet. Depress the thumb control to start the water flow. A manual shut off valve should be located under the sink in case of an emergency. Easily accessible control panel. 15. Should have fluorescent magnifier lighting Should have IVD or equivalent certified
HOT-AIR OVEN	HISTOPATHOLOGY	1.1. Specification of Hot Air Oven 90-120 Ltr. 1.2. Programmable Microprocessor control with vacuum fluorescent/LED display 1.3. Capacity: 90-120 liters. 1.4. Exterior in mm less than (W x H x D):650 x 850 x 600 1.5. Broad temperatures range 50 to 250°C 1.6. Temperature Uniformity/Deviation at 150°C:±0.5°C 1.7. Stainless steel perforated shelf at least: 3-4 1.8. Machine should have to 2 PT-100 Sensor for Sample protection. 1.9. Inner chambers corrosion-resistant stainless steel 1.4016/AISI 430 with rounded corners for easy cleaning. 1.10. Automatic over temperature alarm system to protect samples. 1.11. Access port allows the introduction of sensors for independent data monitoring system. 1.12. Ovens should come standard with a RS232 data interface. 1.13. Machine should have an optional facility for wireless temperature monitoring. 1.14. Compatible servo stabilizer for the Machine.
WATER BATH	HISTOPATHOLOGY	To be used in laboratory. Constructed from robust, high grade stainless steel. It should have an inbuilt temperature control and indicator. The unit should be capable of attaining uniform and constant liquid temperature. The unit should be capable of accommodating 150 pieces of test tubes of sizes 16mm diameter each.

HOT PLATE MAGNETIC STIRRER	HISTOPATHOLOGY	1. Technical specifications: 1.1. Instrument type: Independently operated Heating plate with magnetic Stirring option. 1.2. Maximum Stirring Speed: 100 to 2000 rpm with at least 5litrs stirring capacity 1.3. Display: Should have digital temperature and speed display 1.4. Should have extra temperature probe and controller for measuring sample temperature with display temperature. 1.5. Hotplate surface: Should not be less than 180mm dia / 15 x 15 cm square or more 1.6. Body: body should be built with chemical, and corrosion resistant materials and surface should be seamless and corrosion resistant. 1.7. Temperature Accuracy: Temp. accuracy of ±2°C 1.8. Temp setting Range: Ambient to 100°C 1.9. Power supply: 230-240Volts, 50 Hz
VORTEX MIXER	HAEMATOLOGY	1. Speed range 500-3000 rpm, with manually controllable knob 2. Acceleration time – 3 sec 3. Orbit-2mm. 4. Power supply: External power supply DC 12 V, 500mA 5. To be supplied with DC adapter if not built in.
ANTIBIOTIC ZONE READER	MICROBIOLOGY	Magnification Factor 2.25 Measuring range 0–35 mm Resolution 0.1 mm Mains 100/240V 50/60Hz Power 15W
STORAGE FOR SLIDES AND FORMALIN FIXED PARAFFIN EMBEDDED TISSUE BLOCKS (10000 CAPACITY)	HISTOPATHOLOGY	Slide Cabinet, 50 drawers of 200 slides : Total Capacity 10000 slides. For keeping 75mm x 25mm glass slides in horizontal position in plastic groves individually. Cabinet frame made of Stainless Steel 304 grade. Hinged door with lock. Drawer frame of ABS Plastic fitted with knob, index card holder. Extra drawer in base with printed index sheets.
WATER DISTILLER/DEIONIZER	BIOCHEMISTRY	Operational Requirements Double distillation plant with stand, not wall mounted and approx. 5 – 10 litres/ hour output. Instant distilled water flow should be there Easy to operate, durable, safe for routine use. Re-do specifications for de-ionizer Technical Specifications Quartz distiller, Demountable boiler Panel box and stand to accommodate regulator and electrical supply, clamps etc Quality of distillate – pyrogen free, PH- 6.9-7.0. High purity, low conductivity. Distilled water should be heavy metal, salts, pyrogon and iron free. Specific Conductivity at 25 deg C less than 0.4 x 10-6S/cm Glass material (or chemical inert material) Equipment should be thermal shock proof.

CRYOSTAT MICROTOME	HISTOPATHOLOGY	The 10-inch color LCD touch screen can separately display the total number of slices and the total slice thickness, slice thickness, specimen retraction value, temperature control, date, time, temperature, timing sleep switch, defrost and other functions. ● Humanized hibernation function: After selecting the hibernation state, the temperature of the freezer compartment can be automatically controlled between -1 and -9°C. After the hibernation is canceled, the sectioning temperature can be reached within 15 minutes. ● Imported dual compressors refrigerate the freezing box, freezing table, knife holder, sample chuck, and tissue presser at five points respectively. ● The knife holder is equipped with a blade thruster and a knife guard to cover the full length of the blade, which protects the user safely. ● Equipped with rubber instrument rack and waste box ● X-axis 360°, Y-axis 12°universal rotation, snap-on tissue chuck, easier and faster to install the organization ● Anti-adhesive tissue flattening device, with specimen refrigeration, the temperature can reach -50°, which is convenient for freezing the tissue and saving operation time ● The temperature sensor self-checking function can automatically detect the working status of the sensor ● Single-layer heated glass door, effectively preventing water mist condensation ● Hand wheel positioning 360° locking function at any point ● The sample chuck travels to the limit position and automatically returns to the starting position function Chamber Temperature from 10°C ~ -50°C Freezing Shelf Temperature 0°C ~ -50°C Temperature control range of sample chuck 10°C ~ -50°C Additional semiconductor refrigeration in the freezer -60°C Number of freezing stations 36 pcs Pelletier number 8 pcs Semiconductor fast cooling working time 15 minutes Maximum specimen size 55mm×80mm Vertical stroke 65mm Horizontal stroke 22mm Electric feed speed 0.9mm/s, 0.45mm/s Disinfection method UV Section thickness range 0.5μm~100μm Adjustable 0.5μm~5μm Increment0.5μm 5μm~20μm Increment1μm 20μm~40μm Increment2μm 40μm~100μm Increment5μm

		Trimming thickness range 10µm~600µm Adjustable 10µm~50µm Increment5µm 50µm~100µm Increment10µm 100µm~600µm Increment50µm Specimen retraction 0~100µm Adjustable, Increment5µm Dimension size 700×760×1160mm
FLUORESCENCE MICROSCOPE	LABORTORY	Microscope frame fluorescence microscope with transmitted light LED illumination for brightfield, phase contrast, fluorescence, DIC and upgradable to dark-field option for Bio-Medicine Applications. Should have integrated compensation mechanism to eliminate any focus drift during long term observation to ensure consistent sharp image. Light source Auto-off function, LED with service life of minimum 50,000 hours or better, constant color temp.
LIQUID CHROMATOGRAPHY-MASS SPECTROSCOPY+ ATOMIC ABSORPTIOMETRY AND RELATED WORKFLOWS	MOLECULAR LAB	A Bench Top High Sensitive Triple/Tandem Quadrupole LCMS/MS System with facility to either use as standalone or connect to a Fast Liquid Chromatography system using lesser than 2 µm particle size columns for high sensitivity for both qualitative and quantitative analysis. Certification as per standards
PROTEIN ELECTROPHORETIC MACHINE	BIOCHEMISTRY	Fully automated instrument meets the needs of the laboratory while providing clear-cut and precise separations utilizing capillary electrophoresis technology. This multi-parameter, compact, automated capillary electrophoresis instrument offers a comprehensive menu on serum and whole blood for Protein, Immunotyping, HbA1c, Hemoglobin and CDT (Carbohydrate Deficient Transferrin) testing. One workstation to pilot the instrument and manage results Barcoded rotating sampler Sampling from open and capped tubes (cap piercing). Efficient mixing system with multiple sample inversions. Certifications as per standards

WHOLE SLIDE SCANNER WITH FLUORESCENT, BRIGHTFIELD, DARKFIELD AND POLARIZED MICROSCOPY, WITH CAPACITY FOR MULTIPLEX AND AUTOMATED ANALYSIS	HISTOPATHOLOGY	TECHNICAL SPECIFICATION OF SLIDE SCANNER 1.1. General Specification Fully automated high performance whole sidewalk away scanner for histopathology glass slides. 1.2. Slide Capacity Sample throughout with loading capacity of minimum 200 or more glass slides. 1.3. Slide Dimension Should handle glass slides having dimensions of 25x75 mm with a thickness of0.9-1.39 mm including the coverslip. 1.4. Slide loader Should have an inbuilt automatic slide loader. 1.5. Random Access Scanner should have capability to load slides while some of the sliders are being scanned without interrupting the ongoing scanning run-Random Access. 1.6. Slide throughput Should be a high-speed scanner with minimum throughput of 50 slides per hourfor 15x15mm tissue sample at 20X objective and precise scanning at 40x objective Software should be provided Should have a camera with compatible LED screen, 150 inch. 1.7. Stat Access Ability to prioritize slide scan to support Stat workflow. 1.8. Barcode reading Should read 1D and 2D barcode labels 1.9. Z-stacking Should allow scanning of multiple planes. 1.10. Image management Image management software should facilitate image acquisition, annotations, FOV capture, cell counts, customized reporting and synchronized viewing. 1.11. Archival and Retrieval Should provide with a strong database support for image acquisition, archival and retrieval and slide sharing for Telepathology. 1.12. Light Source LED light source should be provided with due consideration to its longevity, less power consumption with preference to “automatic switch on” while scanning. 1.13. Digital Slide Storage Format Slide storage format should be BIF, TIFF or JPEG 2000. Should have US FDA approved Image Analysis algorithms for HER2 (4B5),PR (1E2), ER (SP1), p53 (DO-7) and Ki-67 (30-9).
STRETCHING TABLE	HISTOPATHOLOGY	1STRETCHING TABLE (HOT PLATE) • Safe and great drying • Electronic temp control adjustment and indication via a digital display • Safety the thermostat dial

		• Dimensions: 250x200x80mm (W x D x H) • Working temp range: from room temperature to 70'c
SLIDE PRINTER	HISTOPATHOLOGY	SLIDE PRINTER Any other technology which is superior can be considered • Printing technology: Thermal transfer • Print speed: Up to 12 cassettes/minutes • Print resolution: 300 dpi • Ink type: Resin thermal transfer • Ribbon types: Print kit colour: 1.000 prints • Print kit black: about 5.000 prints • Printable colors: 8 solid colors, others are available through color combination and dithering • Loader capacity: minumum 30 biopsy / cassettes • Loader number: 4 loaders (up to 16 loaders manageable) • Output capacity: Up to 7 cassettes (without tray) 10 cassette for each tray • Construction: Iron and plastic • Cabinet color: Medical white • Data interface: USB 2.0 • Power requirements: 100 – 240 VAC, 50 – 60 Hz, 60 watts
CRYOEMBEDDING SYSTEM FOR FROZEN SECTION	HISTOPATHOLOGY	Cryoembedding System for Frozen Sections • Patented face down technique allowing a perfectly “flat plane” surfaces which does not requires trimming. • Only 60 seconds to freeze up to 6 specimens simoultaneously. • Antimicrobial powder paints. • Stirling cooler freezing module, maintenance free • No dangerous solution used to freeze sample. No liquid nitrogen, no CO2, no isopentane. No operation inside the cryostat chamber during the freezing step. HEPA cap filter.) • Operator Independent – (Presto Chill ™ or equivalent) has standard and preset protocol to support and guide users to obtain great quality. • Auto Defrost cycle available with the possibility for delay start in order to avoid any interfere on the routine work. • Instrument interface: USB port for downloading event logs • Table top unit, small footprint to be installed easily to small working bench. • HEPA cap filter • Anodized aluminium freezing platform to better transmit cold temperature to samples. • 4,3” touchscreen terminal, 1 USB port

CASSETTE PRINTER	HISTOPATHOLOGY	CASSETTE PRINTE • Printing technology: Thermal transfer • Printing speed: 5 cassettes/minute or better • Printing resolution: 300 dpi • Ink type: Resin thermal transfer • Ribbon type: Print kit black: about 5,000 prints • Printable colors: 8 solid colors, others are available through color combination and dithering • Loader capacity: 40 biopsy cassettes • Loader number: 4 Loaders (up to 16 loaders manageable) • Output capacity: Up to 7 cassettes (without tray) 10 cassettes for each tray • Construction: Iron and Plastic • Data interface: USB 2.0 • Power requirements: compatible with 240V AC, 50/60 Hz, 60watts
AEROBIC INCUBATORS (BOD)	MICROBIOLOGY	A laboratory incubator is a heated, insulated box used to grow and maintain microbiological or cell cultures. The incubator maintains optimal temperature, humidity and gaseous content of the atmosphere inside Requirements or technical specifications include but are not limited to the following; 1.1 Should be made of double –walled chamber 1.1.1 Inner wall made of stainless steel 304 grade 1.1.2 Powder coated outer surface 1.2 Should have air circulating fan 1.3 Must be fitted with a variable microprocessor based digital temperature control system with digital display. 1.4 Should have at least three heating elements on the three sides of the equipment for uniform temperature control on all shelves 1.5 Should operate within a temperature range of 50OC to 200OC 1.6 Should be fitted with air ventilators 1.7 Should have air circulating fan. Either bench or floor standing

ANALYTICAL BALANCE	MOLECULAR LAB	Technical Specifications 1. Capacity x Readability: 220 g x 0.01 mg; 2. Repeatability: 0-60g ± 0.015 mg / 60-220g ± 0.25 mg; 3. Linearity: ± 0.1 mg; 4. Corner Load (g) : ± 0.15 mg (100 g) (Test Load [g]); 5. Minimum Sample Weight (mg): 20 mg minimal initial weighing; 6. Tare Range: 0.01mg to minimum of 220 g; 7. Stabilization Time (avg): < 2 second; 8. Response Time (avg): < 6 second; 9. Sensitivity Drift: 10°-30°C: ± 1 ppm / °C; 10. Selectable Weight Units: g, kg; 11. Touch Screen, Keys for main basic functions; 12. Adjustment of the display and control unit. 13. 8 No. selectable application programs: Mass unit conversion by toggling, SQ min function for minimum sample weigh, according to the USP, automatic calibration / adjustment function, Density determination, averaging (weigh averaging), Formulation, Weighing in percent, Counting. 14. 7 No. Additional Selectable Application Programs: Customized identification, Statistics, Calculation, Time-Controlled Functions, Totalizing, Second tare memory, Over/ under check weighing. 15. Allowable Ambient Operating Temperature: 5°C to 40°C 85% RH or less; 16. Draft Shield protection against dust and water. 17. Motorized Internal Calibration. 18. External Calibration: 200 g Class 1; 19. Weighing Pan Size: min 8.5 cm x 8.5 cm; 20. Standard interface ports: USB (built into weighing module), RS-232C port for connecting. 21. Power Source: 220 -240 V/50-60Hz.

DNA ANALYZER EQUIPMENT	MOLECULAR LAB	1.1. Purpose: DNA Forensics for human identification 1.2. 24-Capillary, fluorescence based capillary electrophoresis system used for genetic analysis. 1.3. Fully automated for polymer loading and replacement. 1.4. DNA separation, detection and data analysis to generate base-called or size-called results 1.5. Integrated 5 & 6-dye chemistry capabilities 1.6. PCR Plate format: 8-tube standard and fast strips as well as 96 well standard and fast strips and 384- well plates. 1.7. LASER: single-line, solid-state, long-life 505 nm laser that utilizes a standard power supply and requires no heat removal ducting. 1.8. Thermal systems: Designed to improve temperature control and can maintain temperatures from 18 to 70 degrees C. 1.10. Instrument consumables: instrument designed with pre-packaged, single-use consumables; Performance Optimized Polymer 4, buffer containers for anode and cathode solutions. 1.11. Computer Specifications: Latest Computer Workstation with a flat-screen monitor of at least 19'': Hard Drive: 2x 1TB SATA 3.0 Gb/s and 16 MB Data Burst Cache, Memory: 16 GB (2x 8GB) 1600 MHz DDR3 Non-ECC. 5th Gen Intel Core I7 Processor- 3.1 GHz Turbo Processor, the instrument to work with a workstation running the latest windows operating system. 1.12. Instrument Operating Environment: Humidity: 20%-80% (non-condensing), Room temp: <2° fluctuation during runs, Temperature: 15°C-30°C 1.13. The genetic analyzer system fits should be in standard ABIF format which must be reviewed on a windows computing system. Sample files should be compatible with secondary analysis applications for post processing such as sequence analyzing V514 van ant report V1.1, Gene mapper ID –X V1.6 data collection V5.4 SOFTWARE PROGRAMES. 1.14. The genetic analyzer capillary arrays should be designed to detect and analyze six fluorescent dyes simultaneously for DNA Fragment analysis 1.15. The genetic analyser capillary arrays should be designed for at least 150 injections. 1.16. The genetic analyser should be designed to support human identification applications using POP-4 Polymer and at least 36cm arrays. 1.17. Electrophoresis voltage limit: up to 20Kv 1.18. Dimensions: Use less lab bench space with not more than a width of 65cm (closed door) and not more than 125 cm (open door); a

		depth of not more than 65 cm and height of 75cm 1.19. Installation: System installation and basic operator training performed by an authorized service engineer, together with reagents and consumables for system qualification for DNA/Human Identification (HID) forensics. End user training on instrument and software for DNA forensics for at least four people.
DNA QUANTIFICATION FLUOROMETER	MOLECULAR LAB	1.1. Specifications for Fluorometer Design: 1.1.1. System should be of user-friendly benchtop design for simple, fast, and highly accurate quantitation of DNA, RNA, and protein. 1.1.2. System should use fluorophore-based detection methods for quantification of DNA/RNA/Protein. 1.1.3. System should use disposable assay tubes that eliminate washing steps and cross contamination between samples. 1.2. Sample Volume: 1.2.1. 1 microliter or less 1.3. Assay: 1.3.1. System should use assays that contain advanced dyes that only fluoresce when bound to DNA, RNA, or protein 1.3.2. Detection should be reasonably fast. 1.3.3. The technology should only report the concentration of the molecule of interest, not contaminants. 1.4. Report: 1.4.1. System should have ability to produce comprehensive data with graphic reports and a .CSV (comma separated value) file for sample comparisons. 1.4.2. Dynamic range: 5 orders of magnitude 1.4.3. Processing time: ≤5 seconds/sample 1.4.4. Light sources: Blue LED (max ~470 nm); Red LED (max ~635 nm) 1.4.5. Excitation filters: Blue 430–495 nm; Red 600–645 nm 1.4.6. Emission filters: Green 510–580 nm; Red 665–720 nm 1.4.7. Detectors: Photodiodes 1.4.8. Measurement capability: from 300–1,000 nm

		1.4.9. Warm-up time: <35 seconds 1.4.10. Memory: machine should save at least 1000 reports in inbuilt memory
FLOW CYTOMETER (> 4 COLOUR)	MOLECULAR LAB	1. The flow cytometer should be easy to use, simple to maintain, and affordable. 2. Should be small enough to easily fit on a benchtop. 3. The system should be equipped with appropriate lasers, appropriate scatter detectors, appropriate fluorescence detectors. 4. Should be compact optical design, fixed alignment, and pre-optimized detector settings to make the system easier to use. 5. Should have a unique pumping system that drives the fluidics. 6. The accessory should be able to streamline sample processing with reliable and easy-to-use automation. 7. The software should be appropriately designed to provide quick access to the collection, analysis, and statistics functions. The Analysis should be performed easily with the internal system
HOT PLATE MAGNETIC STIRRER	MOLECULAR LAB	1. Technical specifications: 1.1. Instrument type: Independently operated Heating plate with magnetic Stirring option. 1.2. Maximum Stirring Speed: 100 to 2000 rpm with at least 5litrs stirring capacity 1.3. Display: Should have digital temperature and speed display 1.4. Should have extra temperature probe and controller for measuring sample temperature with display temperature. 1.5. Hotplate surface: Should not be less than 180mm dia / 15 x 15 cm square or more 1.6. Body: body should be built with chemical, and corrosion resistant materials and surface should be seamless and corrosion resistant. 1.7. Temperature Accuracy: Temp. accuracy of ±2°C 1.8. Temp setting Range: Ambient to 100°C 1.9. Power supply: 230-240Volts, 50 Hz
HUMIDIFYING CHAMBER	MOLECULAR LAB	Dehumidifier chamber Lower water capacity for rapid achievement of optimum operating temperature and minimal temperature fluctuations. Gas Flow Diverters Flow is routed through the chamber to maximise efficiency of warming and humidification of the gases. Heat Transfer Flat base for complete contact with the heater plate for efficient, rapid and responsive water heating. Highly Compatible Clear Construction Transparent construction, red fill indicator and clear markings for quick and easy monitoring

		of water level. Overfill Protection Primary and a secondary seals to regulate the flow of water and provide protection against overfilling.
MULTIPLEX PROTEIN ASSAYS ANALYZER (WITH SOFTWARE)	MOLECULAR LAB	Multiplex Protein Array System based on xMAP Technology 1.1. Multiplex Bead based Suspension assay system for detection and analysis of more than 25 proteins, DNA (genotyping, presence absence experiments) and RNA (gene expression, detection) in a single sample at same time. 1.2. System should have LED excitation and CCD as a detector for reporter and classification channels. 1.3. Complete system with all sample processing, acquisition and analysis components and calibration/validation kits included. 1.5. Have option to design custom assays for specific application in lab for DNA, RNA and protein detection and analysis. 1.6. Dedicated software for complete acquisition, analysis, calculation, and export of data in publication quality format. 1.7. A branded compatible online UPS (minimum 2 hrs backup) and a compatible Latest computer system with all required software 2. Accessories needed: 2.2. 1.5 ml tube and plate mixer with heating block. 2.3. 2 additional conjugation/coupling kits. 2.4. 2 calibration/verification kits. 2.5. Magnetic separator/ washing block for 96 well flat bottom and conical well plates. 2.6. At least 3 different colour microsphere beads included (minimum 106 beads of each colour)
PCR COOLER	MOLECULAR LAB	iceless cold storage system for 96 well plates and PCR tubes PCR cooler for 0.2 mL and 0.5 mL reaction tubes/PCR tubes, tube strips and 96 well PCR plates, pink, 1/cs material pink plate pink wells sterility non-sterile feature lid: no temperature safety is indicated by color change when temperature is exceeded: violet or dark blue when ice cold, pink or light blue above

		7°C
PHOTO GEL SYSTEM BASIC WITH FILTER FOR THERMOCYCLER	MOLECULAR LAB	The following features must be standard part of the system and documentary evidence of the same should be provided along with technical bid. 1. Computer controlled Chemiluminescence Western blot, Trans-UV for DNA, RNA gel and colorimetric protein gel imaging system with extensive analysis tool for molecular weight calculation, band distance, colony counting, etc. 2. System must allow for future upgrade for fluorescence based imaging and multiplexingapplication with the choice of UV, visible (Red, Green, Blue), near IR, IR and deep IR spectral excitation. 3. Scientific Grade EVO-6 CCD camera with sensor size of 1 inch and f0.84 aperture must for high sensitivity and extremely high level of resolution 4. Camera should give 6.3 megapixels native and 20 megapixels extended with image resolution of 2838 x 2224 densities 5. Camera must be a cooled CCD with -55˚C maximum differential cooling from the ambient with -30˚C absolute and regulated cooling by three stage peltier thermoelectric cooler. 6. Interface must be USB 3.0 for faster image transfer to help image before signal gets weaker. 7. Should be a lab proof compact design, require minimal bench space, robust and chemical resistant system made of Stainless steel, aluminum and steel 8. Superbright Technology to visualize faint bands thereby increased sensitivity with no visible light background while performing gel documentation 9. High sensitivity reading technology for isolation of the electronic components of the camera during the light capture in order to avoid noise 10. Should have smart auto exposure mode with optimum exposure time calculation by the software based on the signal output from the sample 11. Software should provide options for 1x1, 2x2, 3x3, 4x4 binning. 12. 4-position filter wheel allows for dye flexibility of different fluorescent stains. 13. Pre-calibrated focus for all defined sample height. Easy and convenient adjustment of lens

		settings 14. Light safety switch override for safety and for preparative work when the door is open 15. Software should be provided for analysis and must include features for auto exposure and 3D Dynamic scan. 16. Software should have Apps Studio with library of applications for better ease of use 17. Must be supplied with branded (Dell / HP) desktop computer to operate the system as well as for image analysis. 18. Must include multiuser licensed image analysis software. 19. Suitable SERVO Stabilizer for smooth operation Optional accessories: The order placed would have a total of 0-5units of each type a) Interference Filter Emission maxima to acquire image from gel stained with dyes, Ethidium bromide, Gel Red, Gel Green, SYBR Green, SYBR Safe, lumitein, SYPRO Ruby, etc. b) UV / WL Conversion Screen c) A UV transilluminator of filter Size 21 x 26 cm having a 312nm wavelength tube with separate stand-alone camera to capture the gel image.
REFRIGERATED MICROCENTRIFUGE	MOLECULAR LAB	Refrigerated centrifuge. Widely used for laboratory, Pre-cooling design, 10 kinds of acceleration and deceleration 3. More than 10 rotors for your choice 4. High speed, low noise, compact design and small vibration 5. User-friendly digital display provides speed, time and temperature parameters Max speed: 16000rpm Max RCF: 20600xg Max volume 6x100ml Noise: ≤48dBA Timer 1~99h59min Net weight: 82KG Dimension(HxDxW): 380×608×570mm Power supply AC 220V 50HZ 10A Temperature Range: -20°C~40°C Temperature Accuracy ±1°C Speed accuracy: ±20rpm Package wooden box

ULTRA-LOW FREEZER (-80°C)	MOLECULAR LAB	1.1. Capacity: Upright Vertical -80°C deep freezer with 550 litres or above capacity with at least three adjustable compartments of stainless-steel shelves. 1.2. Interior: 304L grade SS; Exterior: powder coated finish on heavy duty steel gauge. 1.3. The Operating temperature should be programmable up to -80°C with 1°C increments 1.4. Should work even at ambient temperature of upto 350C. 1.5. Compressors: It should have two fully functional compressors (operational at 220-240V, 50 Hz) with 10-year warranty. In case of failure of one compressor, the other compressor should continue to the cooling function. 1.6. Refrigerant: CFC-FREE, HCFC-FREE non-inflammable or eco-friendly natural hydrocarbon refrigerants, Refrigeration system: hermetically sealed cascade refrigeration system. 1.7. Should have provision for CO2/ LN2 backup systems. 1.8. Should have microprocessor based programmable control panel with LED/LCD digital display. 1.9. Should have battery back-up and; audible and visual alarms for temperature, power failure, system failure, battery low etc. 1.10. Noise output should be ≤56 dB. 1.11. Should have Heavy duty lockable castors and lockable outer doors and lids. 1.12. It should be supplied with 5KVA servo voltage stabilizer with HI-LO Cut off on delay and output of 230V+10V.
VORTEX MIXER	MOLECULAR LAB	1. Speed range 500-3000 rpm, with manually controllable knob 2. Acceleration time – 3 sec 3. Orbit-2mm. 4. Power supply: External power supply DC 12 V, 500mA 5. To be supplied with DC adapter if not built in.
FREEZER (-20°C)	MOLECULAR LAB	Main Unit Material: Insulated galvanized steel Type: Compressor, electrical Door: Single door Net storage capacity : 350 litres Temperatures range: Up to -30oC Ambient temperature: 10 o C to 45oC Blood storage capacity: About 350 litre Shelves: Provided, adjustable and extractable Temperature Display: Digital Control: Electronic, Microprocessor based Refrigerant: CFC free Alarm: Provided, audible and visible Power 240V, 50 Hz, a.c
LAMINAR FLOW	MOLECULAR LAB	Biosafety cabinet mobile on four antistatic castors. Class II, A, microprocessor controlled with digital display, UV light, and laminar air

		flow
AUTOCLAVE LABORATORY GRADE	MOLECULAR LAB	Internal Tank Capacity- 70 to 100 liters Load: 4KW Chamber dimension: Minimum 18" x 24" No.of Drums & Sizes minimum 2 (12" x 15"), Working Pressure: 1.2 kgf/cm sq.g (15 psi - 17 psi) (Can be Upgraded up to 30 PSI), Sterilizing Temperature 121°C to 134°C (150°C - Optional) Heat Average <=±1°C Sterilization Time 25 to 30 Minutes Digital Timer 0 to 99 min Construction Double / Triple wall & SS GMP construction Outer Chamber Mild Steel (304 stainless Steel – Optional) Inner Chamber 304 SS (316 / 316L grades Stainless Steel – Optional) Insulation Glass Wool Waste Container Stainless Steel Door / Lid Foot lifted with safety and interlock device Door Locking type Radial Type (Wing Nut Optional) Water Filling & Removal Manual Safety Features Radial locking, safety valve, low water detector and pressure interlock Accessories - PID controller - Low / High water cut-off device - Digital alarm - Temperature chart recorder - RS 232 / USB PC Connection Port - Stainless Steel wire mesh carrier - Dressing drum - Sterilization indicator tape - Autoclave bags - PLC control system
DRY BATH	MOLECULAR LAB	1. General Description The dry bath incubator is required for incubation of biological and chemical sample tubes at required temperature. 2. Technical specifications: 2.1. Temperature Range: Ambient +5 °C to 100 °C 2.2. Temperature resolution: ± 0.1 °C 2.3. Temperature uniformity: ± 0.2 °C 2.4. Temperature accuracy: ± 0.3 °C 2.5. Block chamber: Stainless steel 2.6. Dry bath blocks: 1.5 mL, 15 mL, and 50 mL centrifuge tube 1.5ml & 2ml tubes 2.7. Should contain LCD display for time and temperature 2.8. Easy user calibration 2.9. The system should have better heating and cooling speeds. 2.10. Should have ergonomic design for avoiding burn accidents 2.11. Should have high temperature accuracy and uniformity (±1°C) in all blocks. 2.12. The system should display actual block

		temperature 2.13. Power supply: 230-240volts 2.14. Should supply one extra Digital thermometer with Probe for temperature monitoring 2.15. Should provide Installation Qualification (IQ), Operational Qualification (OQ) certificates for the Instruments at free of cost 2.16. Should provide proper calibration certificates, Instruction manuals and any other compliance certificates along with the system.
REFRIGERATORS 2-8 C	MOLECULAR LAB	Performance Specifications 1. Main Unit 1.1 Material: Insulated galvanized steel 1.2 Type: Compressor, electrical 1.3 Door: Single door / double door, glass type 1.4 Total net capacity: 350 litres 1.5 Temperatures range: +2oC to + 8oC stable 1.6 Ambient temperature: 10 oC to 35oC 1.7 Shelves: Provided, adjustable and extractable 1.8 Digital, external mounted, with temperature record history Control: Electronic, Microprocessor based 1.9 Refrigerant: CFC free 1.10 Alarm: Provided, audible and visible 1.11 Power: 240V, 50 Hz, a.c
CENTRIFUGE	MOLECULAR LAB	The unit should be a model or type on current production Maximum speed: above 4500 rpm Maximum RCF: 4600G Timer: Provided Brake system: Provided Safety System: Door open Rotor Type : Swing out and fixed angle rotor Tube adapter: 4/5 ml, 15ml X 12 pcs or more Rotor: 2 sets: fixed angle and swing out Tube adapter: 2 Sets for fixed angle and swing out
HOT-AIR OVEN	MOLECULAR LAB	1.1. Specification of Hot Air Oven 90-120 Ltr. 1.2. Programmable Microprocessor control with vacuum fluorescent/LED display 1.3. Capacity: 90-120 liters. 1.4. Exterior in mm less than (W x H x D):650 x 850 x 600 1.5. Broad temperatures range 50 to 250°C 1.6. Temperature Uniformity/Deviation at 150°C:±0.5°C 1.7. Stainless steel perforated shelf at least: 3-4 1.8. Machine should have to 2 PT-100 Sensor for Sample protection. 1.9. Inner chambers corrosion-resistant stainless steel 1.4016/AISI 430 with rounded corners for easy cleaning. 1.10. Automatic over temperature alarm system to protect samples. 1.11. Access port allows the introduction of sensors for independent data monitoring system.

		1.12. Ovens should come standard with a RS232 data interface. 1.13. Machine should have an optional facility for wireless temperature monitoring. 1.14. Compatible servo stabilizer for the Machine.
MICROCENTRIFUGE	MOLECULAR LAB	Brushless DC motor – maintenance free, delivers better power to weight ratio and fit for extended runs Imbalance detection with auto cut off Lid lock safety – Lid opens automatically on run completion Intuitive simple interface for quick and convenient setting 1 to 999 Mins countdown timer with Min sec display One touch Short – Spin operation Rotor Capacity 12 place closed rotor with metal safety lid Maximum Speed RPM / RCF (g) 15000 rpm / 15596 g Display Large Backlit LCD display Imbalance detection Imbalance Detection with auto cut – off Noise Level ≤ 60 dB Motor Type (BLDC) Brushless DC motor Timer setting 1 to 999 mins Speed / Time setting 500 to 15000 RPM / Min-Sec timer Dimensions (WxDxH) in mm 230 x 262 x 131 mm Rotors and Adaptors (included in standard pack) 12 place x 1.5/2.0 ml microtubes Reduction Adaptors for 0.2 ml microtubes Reduction Adaptors for 0.4/0.5 ml microtubes PCR Strip Rotor (2 x 8 x 0.2 ml with metal safety lid)

REAL TIME PCR	MOLECULAR LAB	SPECIFICATIONS FOR REAL TIME PCR • An automated system for both real-time PCR and post-PCR (end-point) analysis using inbuilt Peltier based PCR machine. Fast Real Time PCR with run time of less than 45 minutes. The machine should provide five color multiplexing. The system must be open for all chemistries including SYBR Green, Taqman, Molecular Beacons and Scorpion Probes. • System should support applications including absolute quantitation, simultaneous analysis data for relative quantitation of 10 plates of 96 wells each, multiplex-PCR, allelic discrimination (SNP), dissociation curve analysis as well as pathogen detection and plus/minus assay. The system must provide advanced single source detection, the system must be able to detect wavelength from 350 - 750nm range. • The system must be able of custom filter alignment(e.g. mismatch excitation and emission filters: FAM excitation / ROX emission) • The system must offer user customizable filter wheel design, to accommodate custom excitation and emission filter pairs. The standard filter set should include FAM/SYBR Green I/ Eva Green, HEX/JOE/VIC, ROX/Texas Red, Cy3 and Cy5. • The system must offer 10 logs of linear magnitude range. The software must allow analysis of multiple gene expression plates simultaneously. • The detection source should offer large dynamic range of detection and a low signal to noise ratio, allowing low to high abundance targets to be accurately quantified. The system must have an inbuilt computer to save the data in event of external computer crash • The system must offer 96-well format with 0.2 ml. Should be supported by 96 well plates and strips from the same manufacturer. The system must be open to accept consumables from other vendors also. • The Instrument must be a true five color multiplexing, fast Instrument. Consumables and Plastic ware should be supplied for at least 50 reactions. • The system must offer minimum sample volume of 10 µL. Use of Internal passive reference should be optional.

VERITI PCR (THERMAL CYCLER)	MOLECULAR LAB	**Specifications** Thermal Accuracy ±0.25°C (35°C to 99.9°C) High-throughput Compatibility High-throughput Compatible Thermal Uniformity <0.5°C (20 sec. after reaching 95°C) Reaction Speed Fast, Standard Dimensions 19.1 x 9.3 x 9.6 in. (48.5 x 23.7 x 24.5 cm) Capacity 96-well plate, 0.1 mL tubes Voltage 100/240 V Display Type 6.5 in VGA 32 k Color Touchscreen Thermal Cycler Thermal Range 0°C to 100°C Programs Auto re-start (after Power Outages), Program Overwrite Protection User Interface USB, Wi-Fi, Ethernet Max. Ramp Rate 5°C/sec. (Block), 4.25°C/sec. (Sample) No. of Programs >500 Protocols Memory USB and On-board Block Configurations 96-well Fast, 6-Zone VeriFlex Block
AUTOMATED NUCLEIC ACID EXTRACTOR	MOLECULAR LAB	Quick extraction protocols, 13~40 minutes / cycle depending on the sample type and method 3. Pre-installed programs for effortless extraction of nucleic acid 4. In-built sterilization with UV lamp to avoid contamination 5. Compact and closed design to prevent any possible injuries 6. Capable of processing upto 32 samples per run with initial sample volume upto 400µl. Sample Capacity 1~96 Consumables 96 Deep well plate + 96 magnetic rod's tip 96 Deep well plate + 8 Well Magnetic rod's tip Working principle Magnetic beads method Magnetic Rod 4200 gauss Purification accuracy 100 copy sample positive rate > 95% Stability CV<5% Magnetic beads recycling rate >95% Temperature Range Room temperature to 120°C Lysis temperature Room temperature to 1200 Elution temperature Room temperature to 1200 Mixing Mixing ways can be editable Operation interface 7-inch touch screen, 3 shortcut buttons and mouse is available Built-in protocol 8 groups of preset protocols, 100 groups of protocols can be stored Protocol management New, Edit, Delete, Save as Template, Create. Expansion interface Standard USB, Ethernet port and RS 232 available Lighting Sterilization UV light Data storage Available, with built-in SD card

		Max. input power 300W 450W Dimension 560mm × 620mm × 500mm 400mm × 470mm × 450mm Certification CE, IVD or equivalent
PCR CABINET/CLEAN BENCH WORKSTATION	MOLECULAR LAB	Biosafety cabinet, mobile on four antistatic castors. Class II, type A, microprocessor controlled with digital display, UV light, and laminar air flow. Electronically Commutated Motor (ECM) Constant Airflow Profile (CAP) airflow monitoring system Intrinsically-safe negative pressure design Air-Wave Entry System Contain-Air™ Negative Pressure Channel Supply and exhaust 99.99% efficient HEPA filters. 99.999% efficient ULPA filters available Interior-mounted, line-of-sight color LCD with MyLogic OS. Displays filter life, status messages for alarm conditions and alerts. 8 languages available Bright, 90-150 footcandle, glare-free LED lighting located outside the contaminated work area Fully-closing, clear 1/4" tempered safety glass sash Curved stainless steel inlet grille with Reserve-Air Secondary Airflow Slots Two electrical duplex receptacles. Flush-mounted-stainless steel with dampened hinges. Single outlets on 230V models. One outlet on each side, with ground fault interruption (115V) Smart-Start™ System user-programmable start up & shut down Night-Smart™ System reduces blower speed when sash is closed Leak-tight stainless steel interior & powder-coated steel exterior Removable towel catch located under work surface Code-activated electronic security lock 22.6" (57 cm) max. sash opening & 27.0" (69 cm) viewing height 10° Angled sash with counterbalanced, easy lift mechanism ADA-Compliant touchpad control on right side post Noise level <63 dBA Heat load 990 BTU/hour (4' models) Removable, seamless type 304 stainless steel, dished work surface with lift out knobs Nominal inflow velocity of 105 fpm (0.5 m/sec) Nominal downflow velocity of 55 fpm (0.3 m/sec) Approximately 70% air recirculation Overall depth x height: 31.2" x 61.7" (79.2 x 156.7 cm) 10' (3 m) power cord with plug Built-in timer and digital clock

ELECTRON MICROSCOPY AND RELATED WORKFLOWS	MOLECULAR LAB	Parameter: Description Electron Source: Tungsten filament Resolution: High Vacuum: 3nm or better at 30kV; 8.0 nm or better at 3 kV ;15nm or better at 1kV Low Vacuum: 3nm-4nm or better at 30kV Accelerating voltage 0.2-0.5 kV to 30kV or better Magnification: Up to 300,000x or better Probe current: upto 1 uA or better Detectors SE (secondary electron detector), & BSE (backscatter electron detector) Back scatter: Detector should give composition, topography and shadow image as well Low vacuum range: 10Pa to 100 Pa or better High vacuum to low vacuum changeover: There should not be any manual aperture insertion / part insertion to convert high vacuum mode to low vacuum mode and vice versa Maximum sample diameter and heigh: 120-150 mm diameter or better, 48mm height or better Number of ports: SEM chamber must have 06 or more ports Stage motorization: 5 axes or better fully motor drive Eucentric stage X = 80mm or better, Y = 40 mm or better, Z = 42 mm or better Tilt: -10° to 90° or better Rotation: 360° endless Specimen stage: 2 axes or better fully motor drive Eucentric stage Image format: BMP, JPG, TIFF Image pixels: 3000 x 2300 pixels or better PC: Latest PC has to be provided preferably Touch screen monitor: 23 inch or better LCD/LED touchscreen, Windows 10 or latest
LABORATORY INFORMTION SYSTEM	LABORTORY	LIS should have all these models to enable lab autmated. 1. Audit Management 2. Barcode Handling 3. Chain of Custody 4. Compliance 5. Customer Relationship Management 6. Document Management 7. Instrument Calibration and Maintenance 8. Inventory and Equipment Management 9. Manual and Electronic Data Entry 10. Method Management 11. Personnel and Workload Management 12. Training Management 13. Quality Assurance and Control 14. Reports 15. Time Tracking 16. Workflows

COLD ROOM	LABORTORY	Walk in Cold rooms are required to store for long term duration of large quantity of reagents at a temperature between +2 deg to +8 deg C. Typical gross internal volume should be 15 cum. To be constructed of prefabricated, modular complete with floor and ceiling panels, mounted on a flat, solid concrete base. The cold room should be equipped with two completely independent refrigeration systems. One of these will remain as standby. Each refrigeration system must be provided with it respective separate: a) condensing unit, b) evaporator unit, c) refrigeration unit, d) electronic controls, e) pipe work and f) other necessary control instrumentation, to ensure proper operation of each respective Refrigeration system. Provide additional control which permits simultaneous operation of both refrigeration systems in case of emergency. There should be manual & automatic switchover to the standby system by thermostatic or electrical control.
ELECTRON MICROSCOPY AND RELATED WORKFLOWS	LABORTORY	Parameter: Description Electron Source: Tungsten filament Resolution: High Vacuum: 3nm or better at 30kV; 8.0 nm or better at 3 kV ;15nm or better at 1kV Low Vacuum: 3nm-4nm or better at 30kV Accelerating voltage 0.2-0.5 kV to 30kV or better Magnification: Up to 300,000x or better Probe current: upto 1 uA or better Detectors SE (secondary electron detector), & BSE (backscatter electron detector) Back scatter: Detector should give composition, topography and shadow image as well Low vacuum range: 10Pa to 100 Pa or better High vacuum to low vacuum changeover: There should not be any manual aperture insertion / part insertion to convert high vacuum mode to low vacuum mode and vice versa Maximum sample diameter and heigh: 120-150 mm diameter or better, 48mm height or better Number of ports: SEM chamber must have 06 or more ports Stage motorization: 5 axes or better fully motor drive Eucentric stage X = 80mm or better, Y = 40 mm or better, Z = 42 mm or better Tilt: -10° to 90° or better Rotation: 360° endless Specimen stage: 2 axes or better fully motor drive Eucentric stage

		Image format: BMP, JPG, TIFF Image pixels: 3000 x 2300 pixels or better PC: Latest PC has to be provided preferably Touch screen monitor: 23 inch or better LCD/LED touchscreen, Windows 10 or latest
SPERM ANALYZER	LABORTORY	more than 13 clinical parameters in 75 seconds with far greater precision and accuracy compared to the manual method.internal archive, optional label printer, and simple functionality. Features: Reports sperm count, morphology, motility and 13 additional parameters Requires no sample dilution .25ml and 20 micro liter sample size options Runs fresh, washed, and frozen sample types Runs latex bead or stabilized sperm quality control material Self testing, self calibrating, External label printer, disposable testing capillary
FLAME PHOTOMETER	LABORTORY	Sensitivity Na: 0.5 ppm, K: 0.5 ppm, Ca: 15 ppm (Optional), Li: 0.5 ppm (Optional) Readout Dual 2.5 Digit Bright Red LED Display Accuracy +/- 2 % upto 100 meq/l +/- 5% above 100 meq/l Ignition System Auto Ignition System Dimension 385X245X200 mm (LXBXH) Measurement System Measures one Eleent at a time Repeatability +/- 2 Counts Detector Silicon Photodiode Filters Narrow Band Interference Glass Filters Nebulizer Black Bakelite, Axial Flow Type Flame System LPG and Dry Oil Free Air Warm up Time 10 Minutes Power Supply 230V, +/-10 % AC, 50 Hz Weight 7.5 Kg (APPROX)
TOP PAN BALANCE	LABORTORY	1.1. Should be two pan balance. 1.2. Should have digital display of weight and other parameters. 1.3. Accuracy ± 2 grams. 1.4. Should have two independent weight sensors, which display individual weight of each bucket with accuracy. 1.5. It should have individual display monitor to display the weight of each bucket with blood bags. 1.6. Visual and audio alarm should get on as soon as the two plates get balanced. 1.7. Weight Measurement: Should be able to measure weight till 3 Kg. 1.8. Should be appropriate to weigh and balance blood holding baskets of standard size. 1.9. Weight to balance should not be more than 5 Kg.

MICRO PIPETTES - SINGLE –CHANNEL	LABORTORY	2.2.1. Pipettes, Single Channel, Variable volume 0.5-l0ul 2.2.2. Pipettes, Single Channel, Variable volume 10-100ul 2.2.3. Pipettes, Single Channel, Variable volume 20-200ul 2.2.4. Pipettes, Single Channel, Variable volume 100-I000ul 2.2.5. Variable volume micropipette 2-20ul 2.2.6. Variable volume single channel micropipette 0.5-5000ul 2.3. Pipette is light weight with high precision, robust and dependable. 2.4. ISO 8655 certified 2.5. Compatible with universal tips 2.6. Should have effortless one hand operation: Volume setting, Volume locking, Pipetting and tip ejection - all operations with the same hand. 2.7. Easy maintenance: Dismantle & reassemble without any tools, all parts should be replaceable. 2.8. Display: Should have 4 position volume display, with an integrated lens for better visibility of the volume, Display always visible and facing the user during operation.
MICRO PIPETTES- MULTI-CHANNELS	LABORTORY	Multichannel Pipettes (Micropipette - 50µl variable Vol., Micropipette - 200µl variable Vol., Micropipette - 1000µl variable Vol.) 1. Variable Volume Micropipettes feature built-in tip ejectors and autoclavable tip cones. 2. Should work on a click-stop digital system, are easy to calibrate and maintain, and easy to disassemble for autoclaving. 3. Manufactured as per ISO 9001:2008,. Each pipette should be individually calibrated according to ISO 8655 standards

WATER TREATMENT PLANT	DIALYSIS	1. General Description Water treatment unit, consisting of Pre-filters, carbon filters, softeners, RO system, reservoir tank piping and circulation system 2. Composition 2.1 Main unit 3. Performance Specifications 3.1.1 Capacity Minimum 1000 litres per hour 3.1.2 Pre treatment Provided, Coarse filter type, replaceable 3.1.3 Activated Carbon filters Provided, replaceable 3.1.4 Water Softener (IonExchange Unit) Provided 3.1.5 Fine filters Provided, 20/10/1 Microns 3.1.6 Micro filter Provided, Replaceable type 3.1.7 Reverse Osmosis Provided, Replaceable Membrane type with pump 3.1.8 UV treatment Provided, with replaceable lamps 3.1.9 Pure water quality To comply with ISO 13959 3.1.10 Conductivity Maximum 4µs/cm 3.1.11 Ionic Rejection Minimum 95% 3.1.12 Bacterial and particles rejection Minimum 99% 3.1.13 Display LCD display of conductivity and resistivity 3.2 Monitoring and Safety devices Audio and Visual Alarm on water quality, water level, system failure, system shut down Clean water Reservoir tanks/ heat disinfection unit Provided, 1000 litres plastic 3.2.1 Circulation pump Provided, from reservoir tank to back at 4-8 bars, Radial type 3.2.2 Piping work Provided, high grade pipes with terminals for each dialysis machine (6 No. to be upgraded later), Radial system 3.2.3 Drainage piping Provided 4 Operating environment 4.1 Power Requirements 240V, A/c 50 Hz, Single phase/ 415V , Ac, 50 Hz 3phase 4.2 Ambient temperature 10o C to 40o C 4.3 Relative humidity 20% to 90%
RAW WATER RESERVOIR	DIALYSIS	Ground Level tank: 2 tanks, plastic, 10,000 litres each (20,000 liters capacity) Water pump: Provided, booster pump 3 hp, complete with pressure switches and, or level switches for low water level; and high-water level Overflow: Provided Foundation plinth: Provided for water tanks and booster pump Piping: Provided PPR, 2” complete with gate valves

RO WATER SUPPLY AND DRAIN	DIALYSIS	Water treatment unit, consisting of Pre-filters, carbon filters, softeners, RO system, reservoir tank piping and circulation system
DIALYSIS CHAIR COMPLETE WITH OVER-CHAIR TABLES	DIALYSIS	Dialysis chair complete with adjustable backrest, knee rest, trendelenberg/ reverse trendelenberg, and upholsted water proof mattress, Electrical type
DIALYSIS BEDS COMPLETE WITH OVERBED TABLES.	DIALYSIS	Dialysis bed complete with adjustable backrest, knee rest, trendelenberg/ reverse trendelenberg, and waterproof mattress, Electrical type
X-RAY VIEWER	DIALYSIS	1.1. Should be ultra-thin X ray film illuminator using LED light 1.2. It should have a thickness of 25 mm 1.3. It should be suitable for viewing 14''x17' film. 1.4. Should have position to insert 4 films in 2 rows. 1.5. The LED light must have a life span of more than 50,000 hours. 1.6. It should have easy insertion & removal of the film. 1.7. It should have homogeneous illumination more than 95% and maximum intensity of over 10,000 lux. Power supply:1.9. 240V, AC, 50Hz. Single phase
AUTOMATED PATIENT HOIST	DIALYSIS	This specification establishes the requirements, supply, delivery, end user training, demonstration; commissioning and installation of Electrically Operated Patient Lift incorporating the latest technology and must be suitable for all surgical and medical procedures required for lifting and lowering of patients of which the design of must be user friendly. Hoist Length 130cm or above External Base Width 71.5cm Internal Base Width 60cm Maximum Yoke Height 194cm Minimum Yoke Height 24.5cm Lifter Weight 63kg Under Base Height 1.5cm Maximum Hoist Reach 81cm Maximum User Weight 320kg Should be CE and FDA marked or equivalent

SYRINGE PUMP	DIALYSIS	1. Should be easy to use and nurse friendly. 2. Should have automatic syringe size and model detection 3. System should be front loading 4. Should have large format LCD/TFT display. 5. Should have a minimum flow rate range from 0.1 – 1200 ml/hr. for 50ml syringe, 0.1 – 100 ml/hr. for 20ml syringe and 0.1 – 60 ml/hr. for 10ml syringe. 6. Syringe range from 20-50/60 ml. 7. Should have a flow rate accuracy of ±2% 8. Should have a bolus rate up to 1000ml/hr. for 50 ml syringe. 9. Should have automatic and manual bolus. 10. Should have at least 3 levels of programmable occlusion pressure. 11. Should have automatic bolus reduction system to avoid accidental bolus delivery after occlusion incident. 12. Should have a rechargeable battery with back up time of minimum 3 hours. 13. System should have a docking station 14. Pump must trigger following alarms with visual indication:- i. Occlusion Pressure Alarm ii. KVO or 3 min pre- alarm iii. Syringe empty and volume infused alarm iv. Internal malfunction and Battery Charge Low Alarm v. Syringe disengaged and incorrectly placed alarm vi. Alarm loudness control. vii. No mains viii. Line disconnected (rapid pressure drop). 15. Should work with input 200 to 240Vac 50 Hz supply. 16. Should be CE and FDA marked or equivalent

CONTINUOUS AMBULATORY PERITONEAL DIALYSIS (CAPD) WARMERS	DIALYSIS	1. Therapy e. CCPD/PD f. Hi-Dose CCPD g. Tidal h. Hi-Dose Tidal 3.2. Automatic Calculation of Number of Cycles and Dwell time 3.3. Use Disposable cassette assembly for therapy 3.4. Built in fluid warmer: 35 to 37 Degree C 3.5. Maximum Total Programmable Volume : 80L 3.6. Therapy time : 0 to 48 Hrs 3.7. Standard and Low fill Modes c) Low fill Mode fill volume : 60 to 1000ml d) Standard Mode fill volume : 200 to 3000 ml 3.8. Self Correcting, Continuous and system Error Alarms for maximized Patient safety 3.9. Use Pneumatic pump to exert pressure for fill/drain the patient 3.10. Built in Event Log & Therapy Log 3.11. Built in Nurses & Service Menu 3.12. Protective system Preventing Overfill 3.13. Program Lock 3.14. Last fill with Same or Different Dextrose 3.15. Mode of operation: Continuous 3.16. Volumetric Accuracy reported: Greater of 1% or +/- 10ml 3.17. Operating Voltage: 220Vac 3.18. Air detection capability: Bubbles exceeding 3CC 3.19. Battery backup for Program: Up to 2 Hours. Should be CE and FDA marked.
EMERGENCY TROLLEY	DIALYSIS	Resuscitation trolley for use in ICU. Epoxy coated mild steel or ABS trolley with drawers, protection perimeter and defibrillator holder. The Unit should be mobile on four castors, 2 lockable
PORTABLE SUCTION UNITS	DIALYSIS	Suction machine suitable for use in theatre, for both adult and pediatric use. Should be constructed from coated non-corrosive, extreme heat resistance material and electrically insulated and mobile on antistatic castors φ 60 mm, 2 No. lockable, with high level push handle.
BLOOD SUGAR MACHINES	DIALYSIS	**GLUCOMETER WITH STRIPS** · Portable and easy to use · Automatic Glucometer · requiring a small volume of blood 1ul, · measurement range of the system should be 40-600mg/dl (2.2-33.3 mmol/l) · Automatic off · readings in memory with time and date. · Downloadable 360-value memory with 7- 14 and 28-day averaging · Small 1.0 microliter sample size · Owners booklet, quick reference guide and log booklet to be provided · 50 strips · The glucometer strips should be

		compatible
BIOIMPEDANCE ANALYSIS MACHINE	DIALYSIS	Direct Segmental Multi-frequency Bioelectrical Impedance Analysis Method (DSM-BIA) Electrode Method: Tetrapolar 8-point Tactile Electrode System
PLASMAPHERESIS MACHINE	DIALYSIS	3.1. Fully automated microprocessor controlled continuous flow Cell Separator with user friendly touch screen operation. 3.2. Should be a donor & operator friendly unit. 3.3. Should have single arm procedure for all protocols. 3.4. Mobile, easily transportable to patient site for therapeutic uses . 3.5. It should operate on battery back up (UPS) and should also operate at least two hours on a commercially available one KVA UPS. 3.6. It should have a high yield leuco-depleted platelet collection from a single donor with minimal plasma and should have capability of collecting 3x1011 or more platelets from a single donor within 60 minutes using a single arm / double arm procedure. 3.7. On entering the patient data and procedure characteristic, system automatically set run parameters with predicted run results and should decide yield based on the post HCT , Platelet count and percentage of blood volume to be depleted from donor. 3.8. It should collect platelet in a pre suspended form. 3.9. It should have self loading pumps to simplify and speed up apherasis kit installation . 3.10. It should allow collection of up- to two units of leucodepleted RBC concentrated, Both Autologous and Homologous Red Blood Cells and Leuco-depleted platelets.
PROLONGED INTERMITTENT RENAL REPLACEMENT THERAPY (PIRRT)	DIALYSIS	Requirements Blood Pump Flow rate range: 50-600 ml/min with 5 ml/min increments Accuracy: ± 10% Effective blood flow rate should be calculated and displayed in a real-time basis automatically
RADIOTHERAPY		

BRACHYTHERAPY UNIT	RADIOTHERAPY	Systems designed to perform radiotherapy by administering a radioisotope directly into tissue (e.g., tumor, intravascular) to prevent or reduce tissue proliferation. These systems typically include a radiation delivery unit, a source safe, applicators, and controls. Brachytherapy systems (e.g., remote after loading systems) are used to treat cancer and other types of abnormal proliferative tissue (e.g., intravascular restenosis), minimizing the radiation dose to surrounding tissue and avoiding hospital staff exposure to radiation. 1. General Specifications Brachytherapy unit complete with Planning system • Radioactive Source – Brachytherapy Unit • Iridium-192, metallic • Cylindrical configuration Source cable • Iridium-192 pellet- HDR: 0.6 mm diameter, 3.5 mm active length; PDR: 0.6 mm diameter, 0.5 mm active length • Capsule- HDR: 0.9 mm diameter, 4.52 mm length; PDR: 0.9 mm diameter, 2.97 mm length • Nominal activity- HDR: 370 GBq (10 Ci)*; PDR: 37 GBq (1 Ci) • Air Kerma Rate (HDR): 0.063 Gy/h (±5%) for 555 GBq at 1 m • Iridium-192 source encapsulated in stainless steel • Capsule welded to a flexible stainless steel cable • Distance from distal cable tip to the beginning of the active pellet- HDR: 0.67 mm; PDR: 2.07 mm (To ensure consistent “cable tip to source center” distance for HDR and PDR sources) • Cable diameter: 0.9 mm • Maximum extension length: 130 cm • The most distal 200 mm section of the cable is an ultraflexible cable. • Source manufactured according to ISO1677, ISO2919, ISO/TR4826, ISO9978 resulting in ISO source classification: C63333 • Electrical safety of medical devices standard IEC 60601-1 • Collateral standards of IEC 60601-1 specific to afterloaders IEC 60601-2-17 • IAEA and US DOT-7A. Source placement • Treatment channels • Dwells per channel • Step size: default 5 mm, programmable from 1-10 mm, in 1 mm increments • Minimum radius of curvature at the distal end of the catheter: 1.3 cm in a ring probe of diameter 2.6 cm and in a 5 Fr bronchial catheter • Method of source movement: commences at most distal dwell positions and steps back Afterloader shielding • Safe material: Tungsten • Maximum storage capacity of safe: 555 GBq

		(15 Ci) • Maximum Air Kerma Rate 1 m from afterloader: does not exceed 3 µGy/h for maximal load • Radiation shielding: Conforms to International • Electrotechnical Commission requirements (IEC 60601-2-17) ICRP codes and applicable NRC standards in the USA Room shielding • Controlled by local codes and conditions of operation • Approximately 4 cm of lead or 35 cm of concrete is generally required Electrical Power Requirements • System power rating: 240V / 50 Hz models available; 100 VA • In the event of a power failure, the afterloader is powered through the internal batteries to allow the source to retract to the safe. Environmental requirements • Operating temperature range: +15 to +35°C • Humidity range: 30% to 75% (non-condensing) • 36.1.3 Air pressure: 70 kPa - 110 kPa • 36.1.4 Weight & dimensions 130 kg 105 cm H x 51 cm W x 57.5 cm D Equipment classification • Type of protection against electric shock: CLASS 1 • Degree of protection against electric shock: TYPE B • Degree of protection against harmful ingress of water: IP 40 • Equipment not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide • Class of operation: CONTINUOUS Safety equipment (emergency container) • Emergency source container is designed to hold most applicators directly • 38.1.2Minimum shielding: 26 mm lead • 38.1.3 Minimum diameter (inner plastic container): approximately 60 mm • 38.1.4 Container height (internal): 270 mm Radiation source and transfer mechanism: i. The system should be capable of using Co-60 / Ir-192 source. ii. Mention the source half-life and clinical working life Co-60/Ir 192 source during supply. Minimum half life of Co60 should be 5year and 3 months for Ir 192. iii. Mention the diameter of source and its characteristics of clinical usage, transfer guarantee, declaration to supply Co-60 and Ir 192 for a minimum period of 10 year and usability. iv. The source cable connection must be tested to withstand maximum number of transfers per source. The source transfer guarantee must be high to ensure optimal usage of each individual source. (Higher is preferred) v. The source cable must be a multi strand type

		and must be able to negotiate treatment curvature of 1 cm radius. vi. The source cable should have a safe movement (forward/backward) with a source positional accuracy of ±1 mm and must be controlled by stepper motors. vii. The source drive out length from indexer should be mentioned along with variable step size (Smaller is preferred) and treatment length (higher is preferred) viii. The source transfer guarantee must be enhanced in such a way that each source – must be utilized for an extended period of time (higher is preferred).Provision for manual retraction of source in the event of power failure to be available. ix. In case of source offered is Co-60 then 2 nos. based on the useful clinical life/if Ir192 then 30 sources be offered including all the charges, disposal and including the import duty charges for use at hospital for a period of min 10 years. x. The source should be dispatched as and when required by the hospital and all paper work relating to the source import has to be provided to the hospital for necessary approval. xi. The cost of radioactive source for second five years should be quoted separately. xii. Specify that insurance, Freight and cost of the sources for both onward and return of used source should be borne by the company. The clearance and transport of the source and the reexport/disposal of the decayed sources for a period of 10 years must also be included in the offer with Guarantee letter from the company to take back the decayed source should be included.A high dose rate remote after loading Brachytherapy system capable of performing intracacitary. Intra luminal, interstial, intra operative and surface mould application. i. The HDR system should be microprocessor based with PC control unit. ii. The HDR system must be from a well Established company with a Documented history of Reliability. iii. The HDR system manufactures should have ISO/FDA/CE/Type approval radiation board sytem must have a “check cable” that automatically checks the operation of the complete system prior to treatment, the check cable must also be possible to use as a “Dummy” source to allow simulation of particular source locations. v. The system needs to be flexible for use in all type implants and the source integrity must be certified for maximum source transfers. Detailed specifications of HDR system a) Treatment Unit – HDR

		i. Treatment unit should be on wheels for easy mobility within the room. ii. Treatment unit should be have telescopic head to adjust for various heights/separate stepper motors to control the dummy check cable and radiation source cable. Patient treatment should be radiolucent for X ray imaging. iii. A safe to contain the radiation source which complies with international safety regulations. iv. Treatment unit should have a integrated radiation detector (GM tube type). v. Multichannel indexer with a minimum of 20 channels and above having an automatic/optical verification of channel number and applicator connection should be offered. vi. The source must be retractable in the event of an emergency/power failure by following methods: • By an independent DC motor. • Manual source retraction through hand crank. Also status to be displayed under power failure (using backup source). vii. Battery back-up and a detailed circuit for checking the battery condition viii. Mention the safety features and also measure to be taken during source struck. b) Control Unit i. Stand alone and independent PC based control unit with colour monitor, keyboard, mouse, printer for hardcopy (capable of printing entire treatment protocol), built in audio card, network card and back-up media. ii. Control unit should have user friendly console and a graphical user interface and should contain an extensive reporting facility, iii. Control unit software should run on Windows Application. Software to be upgraded as and when its released by manufacturer. iv. Control unit should have a self testing including battery, indexer/RAM. v. Control unit must allow storage of multiple standards and keep track of patients for fractioned treatment. vi. Access must be limited to authorized users with password protection. vii. The treatment times must be automatically corrected for the decay of the source. viii. Wide treatment length should be covered with adjustable minimum step source size. ix. Display of Total reference Air Kerma and dose. x. The control unit should contain: • An inbuilt protection circuit to prevent treatment without proper applicator connection and proper indexer locking • Online extensive display of status codes with an indication of the action required. • Large patient database should be provided

		with a backup option to an external storage device. • Control unit should contain an built-in log book and all events should be recorded. · The Brachytherapy system supplied should be provided with all treatment licenses and connectivity licenses to Record and Verify System. Treatment Planning System: • The HDR Brachytherapy system should have a dedicated 3D treatment planning system compatible to HDR unit so that the planning can be transferred directly network for execution to the independent HDR machine control computer linked to it. • The Radiotherapy treatment planning system should be fully computerized, integrated system having hardware and software to perform all kinds of Brachytherapy planning calculations, isodose plotting and display of patient files and other related parameters. Software to be upgraded as and when it's released. Software should include dose optimization. Hardware: i. Workstation The treatment planning system should have a separate computer (in addition to the control of the HDR Brachytherapy machine) and should have a most modem graphics workstation working at 3GHz speed or higher speed with CPU, fast processor with min 2 GB of Ram memory and it should have a Hard disk with large storing capacity of 500 Giga Bytes of more of memory and external mass storage unit of 1 Tera Bytes of External hard drive & CD – R&W with keyboard and must. It should have all Brachytherapy dose calculation Algorithms supported by the vendor. II. Digital Radiography should be available with unit. iii. Display/terminal The system should have at least two display monitor 19" (TFT/LCD screen with high resolution for good Visualization) for planning and contouring in different terminals. iv. Printer/Plotter The system should have a fast multi – colour plotter to print out various data's and Isodose curves. It should be possible to print out entire treatment protocol. v. Ports The system should have the 1 parallel, 2 serial and Ethernet port for Networking and SCSI ports to connect SCSI devices like scanner, magnetic tape drive and DVD/CD drive

BRACHYTHERAPY TABLE	RADIOTHERAPY	Operating table suitable for use in theatre for major operations. It should be capable of performing lateral tilt, up-down movement, trendelenburg and reverse trendelenburg position, back section refraction and kidney bridge. The movement should be electrohydraulic with manual option control system 1. Composition 1.1. Main unit 2. Physical Specifications 2.1. Main Unit 2.1.1. Table top Approx. Length 2000 X width 600 mm 2.1.2. X-ray Permeable 2.2. Head rest Detachable 2.3. Leg rests Detachable/separable 2.4. Material of main unit Made of scratch resistant, hard wearing and easy to clean material 2.5. Height of table top Adjustable, mechanical operated, 600mm to 1100mm 2.6. Table top movements 2.6.1. Trendelenburg Forward: 25o, Reverse: 25o 2.6.2. Lateral – tilt ~20o both to the left and right 2.6.3. Back- section refraction 90o 2.6.4. Table top turn 180o 2.6.5. Main unit movements Mobile with antistatic castors with braking mechanism 2.7. Maximum load weight 250 Kg 3. Accessories To be provided as startup kits. 3.1. Mattress High density type easy to clean, 3” thickness with 4 sections, breathable, waterproof that does not stick to the table 3.2. Arm board with mattress 1 piece 3.3. Shoulder support with pads 2 pieces 3.4. Foot board 1 set 3.5. Knee crutches 2 pieces 3.6. Screen frame 1 piece 3.7. Body support with pads 2 pieces 4. I. V. pole, adjustable height 1piece Orthopedic attachment 1 piece 4.1. Manufacturing standards ISO 13485, ISO 9001 4.2. Product conformity standards EU-93/42/EEC, CE and FDA approved

RADIOTHERAPY SIMULATOR	RADIOTHERAPY	Radiotherapy simulation systems that perform radiographic and/or fluoroscopic imaging to determine, document, and externally mark the area to be treated. These systems combine technologies from both therapeutic and diagnostic radiology; they consist of a radiographic CT fluoroscopic simulator that includes an x-ray system and a mechanical system (collimator, gantry, table, controls) that mimics the movement of a linear accelerator and/or a cobalt unit CT scanner should have 1. Whole body 2. Multi-slice scanner with very fast scanning time (minimum 16 slices at a time) 3. Ability to perform large studies with narrow slice thickness for production of good quality DRR 4. High heat capacity anode for larger data sets 5. Directly cooled anode preferable (to eliminate delay in anode heating & enable fast acquisition scans) 6. Wide aperture preferably 78 cm or more 7. Scanned Field of View (SFOV) > 60 cms 8. Number of detectors in the x-y plane to scan the full 60 cm field of view 9. Extended reconstructed FOV (RFOV) of >70-80cms 10.True SFOV to be provided 11.Gantry • Should have tilt of ± 30 degrees • Gantry must support rotations of 0.5 second or less 12.Provide Internal-positioning lights 13.Provide facility for voice and visual breathing instructions 14.The gantry must have laser positioning lights with a positioning accuracy of ± 1mm or better. 15.Effective and accurate connectivity between CT simulator and RTPS (Radiotherapy treatment planning system) - essential X-ray System a) High frequency X-ray generator with power rating of at least 80kW or more. b) This should in the range of 90 kV to 140 kV or better. c) The mA range must be from 20 mA to 600mA or better depending on kV, with step size of 5mA or better. d) Heat capacity: > 7 MHU e) Peak Anode heat dissipation rate of at least 700 kHU / min or better. f) X-ray tube should have dual focal spot. Please mention the size of the focal spots g) X-Ray tube with anode heat storage capacity of at least 7 MHU h) Automatic selection of the focal spot should be possible i) Optimizing x-ray tube voltage (kV) to patient

		size and shape should be possible. j) The adjustment of tube current to patient attenuation, but the adjustment of kV protocol optimization. Detectors a) The detector system should be a high performance, low noise, high data density, active response data acquisition system. b) The detectors should be solid state. c) It should be free from repeated calibrations. d) Number of Detector elements: to be specified (number per row to be mentioned) Scan parameters a) Slice thickness should be user selectable from 1 mm to 10 mm. b) KV: 90 - 140kV or better c) mA: 20 - 600mA in increments of 5mA or better. d) Scan time of 0.5 second or less for full 360 degree rotation. Other options (sub-second scan time) must be quoted e) Retrospective reconstruction should be possible on raw data files with change in parameters such as FOV. f) The following scanning modes should be possible: Scano-gram, Axial,Spiral. g) The scanogram length should be more than 1500mm long and the width must be at least 600mm. h) It must be possible to obtain the scanogram from AP or PA or left to right or right to left directions. i) The accuracy of slice prescription from the scanogram should be ± 0.5mm or better. j) The accuracy of distance measurements in the scanogram. (taken at isocenter distance) must be better than ± 0.5mm or better than twice the pixel dimension. k) Accuracy of slice location < 1mm. l) Reference scan should be possible on an arbitrary slice with the proposed treatment volume. m) High contrast spatial resolution: It should be at least 15 lp/cm maximum at 0%MTF. n) Low contrast detestability: 5mm or less @ 0.3% using 20cm CATPHAN on 10mm slice thickness. o) The CT number accuracy must be better than ± 4 HU for water and ± 10 HU for air. Necessary phantoms to check the spatial resolution of the scanner should be provided. A special phantom to check the electron density – HU relationship for the different body tissues must be provided. Image Quality a) The reconstruction matrix must be 512 x 512 or higher. The reconstruction time should be as

		less as possible. Simultaneous scanning and reconstruction should be possible. It should be possible to do: b) Spatial resolution (minimum parameters): • High contrast: better than 15 line pair per centimeter (at 0 % MTF) & • Low contrast: 5mm at 3% resolution c) Simultaneous scanning & routine analysis. d) Simultaneous scanning & archiving and / or hard copying and e) Simultaneous scanning and transfer to second console / workstation. f) The system must have automatic mA control software that automatically adjusts mA for patient size, adjust mA along the z-axis, modulates mA during rotation. Spiral Parameters a) Different selection of pitch should be possible, in 0.1 increments. Please mention the pitch available. Mention the single run coverage and the table scannable range. b) Inter Scan Delay in different group of spiral should not be more than 5 sec. c) Intra-plan delay of 5 sec or more should be possible d) Retrospective reconstruction should be possible on raw data files with change in parameters such as FOV e) The following scanning modes should be possible: Scanogram, Axial, Spiral, Cine and biopsy mode Pilot scan: The pilot scan field size should be more than 1500 mm long. The reconstruction time for pilot scan should be 3 secs for a 512 matrix and 5 secs for a matrix of larger size Reference scan should be possible on an arbitrary slice within the proposed treatment volume Specify the table speed to the scan in terms of Z-axis coverage. Couch a) The couch top must be a carbon fibre, flat bed type. It must be a Stateof-the-Art;indexed couch top matching the Medical College's linear accelerators' couch tops to facilitate accurate treatment delivery with ease and convenience. b) The couch top material must be carbon fibre with minimum dimensions of 235cm x 40cm, having horizontal moving range of 160 cm or more. c) The speed of horizontal movement must be variable with a maximum speed of at least 100mm per second. d) The accuracy (reproducibility) of the table tope must be better than ±0.25mm. e) The scannable horizontal range should be at least 150cm or more. f) The couch must meet the following vertical

		movement ranges: 55 to 95cm or better when outside the gantry; within the gantry it must have a moving range of 20cm; the minimum height outside the gantry must be specified. g) It must be able to take a maximum weight of 180kg or more without any change in stated performance specifications (like the positioning accuracy). h) Couch should be suitable for all kinds of radiotherapy immobilization system i) Laser system facility for radiation therapy placement of treatment fields and marking of radiation field portals on patient's skin is required without moving the couch. j) he The CT-simulator should have at least three laser sets for marking the field reference points, consists of a single overhead moving laser to project the sagittal plane, two moving lasers to project coronal plane and two moving lasers to project the axial plane. This should eliminate the need for manual couch movements. k) The CT scanner should also have conventional in-built lasers for positioning the patient along with all positional devices. Support for respiratory management system: a) Seam less integration to the interface of the linear accelerator respiratory management system. b) The CT scanner firm is required to provide all licenses and necessary interface hardware for seamless integration for the purpose of gated & IGRT radiotherapy. Computer Hardware a. 2a. Computer System for the CT scanner i. State-of-the-Art, high end main computer system, must be provided. With all the relevant software and manuals and licences for Virtual simulation CT scan RT planning 2D/3D/4D/IMRT/IGRT/ whole body SRS/SRT). ii. The connectivity, compatibility for the same to existing Radiotherapy Network and planning system in the department (i.e., Teletherapy (2D/3D/IMRT/IGRT/SRS/SRT) / Brachytherapy HDR/LDR) must be ensured by the CT sim vendor. iii. All necessary Licenses shall be provided or obtained by the vendor for ensuring the smooth operation towards Virtual simulation for (2D/3D/4D/IMRT/IGRT/ whole body SRS/SRT) is to be ensured by the vendor. iv. The system must have parallel processors; RAM size must be at least 4 GS or better. v. There must be two monitors in the console and they must be 19" TFT flat screen LCD monitors. One of these will be used for acquisition and the other will be used for review and

		processing. vi. The hard disk capacity of the main computer system must be at least 140GB or more. vii. In the hard disk meant for image storage, the number of uncompressed 512 x 512 images that can be stored should be at least 250,000 or more. The maximum possible hard disk capacity must be provided. viii. For archiving, DVD writer should be provided for providing copies of individual studies. Please supply 1000 rewritable DVD's. ix. All necessary accessory hard ware like UPS for computers, printers and consumables (DVD / DAT cartridges) to be specified and provided. b. The CT-Simulator system should be fully DICOM complaint and any other relevant image protocols meant for (i.e., Teletherapy (2D/3DjIMRT/IGRT/SRS/SRT) / Brachytherapy HDR/LDR). The DICOM/ /image should support the following: i. Dicom 3.0 Print service class as a user. ii. Dicom 3.0 Storage class as a user. iii. Dicom 3.0 Storage class as a provider. iv. Dicom 3.0 Send / Receive v. Dicom 3.0 Query / Retrieve service class as a user. vi. Dicom 3.0 Query / Retrieve service class as a provider. vii. Dicom compliance statement should be provided. A bi-directional speaker communication must be provided between the operator and the patient. Computer System for Moving Laser System a) The laser system provided must be 3 moving lasers for marking the isocenter without moving the table top. b) Following the isocenter localization in the CT simulator workstation, the isocenter coordinate will be sent directly to the computer system that is controlling the movements of the lasers. This computer in turn should drive all the lasers, so that without moving the table top, the lasers point to the isocenter. c) Complete quality assurance tool (as stated above) must be provided. d) The control computer system must be latest Windows based system with Pentium 4 processor or higher. Connectivity a. The entire CT Simulation system must be interconnected (all the workstations, laser systems, printers etc.) and must be integrated into the department's treatment planning system for smooth transferring of images (for Teletherapy (2D/3D/IMRT/IGRT/SRS/SRT) / Brachytherapy HDR/LDR) and DICOM-RT structures.

		b) The system should be networking with all radiotherapy treatment planning system in the department. Quality Assurance and Acceptance tests: a) All QA and Acceptance to be done before commissioning as per radiation borad / FDA guidelines b) All QA & Dosimeter, Maintenance tools (Hardware and software) to be provided c) Target localization: < 1 pixel Tolerance d) DRR accuracy: Ray line angular displacement < 0.1 degree tolerance e)Last man out switch to be provided to ensure safety.

SINGLE ENERGY PHOTON LINAC (LOW ENERGY LINEAR ACCELERATOR)	RADIOTHERAPY	Radiotherapy systems designed to produce electron beams of varying energies for low to high-energy photons using a linear accelerator (linac) as a generator. A linear accelerator consists of a modulator, an electron gun, a radio-frequency power source (either a magnetron or a klystron), and an accelerator guide. The range of the energy levels provided by linacs is very wide, from 4- to 6-megavolt (MV) photons for low-energy units and 25 MV photons and up to 22 mega-electron-volt electrons in high-energy units. These systems also include control units, filters, and collimators. Low-energy linear accelerator systems are mostly used to treat tumors of the head, neck, and breast Linear Accelerator technology requirements: The Machine must have the latest technology such as: • Magnetron/Klystron as the RF power source • Standing Wave Accelerator guide • • Sealed Ionization chambers • Dose rate should be selected in fixed steps for 6 MV photon energy beam • Computer controlled • Triode/diode Electron Gun and flat panel based technology intensifier Photon Energies and Beam data One photon energy-6 MV Dose rates for 6 MV photon Beam: • Photons energy must have a variable dose rate atleast from range 100-500 MU/min • Representative central axis profile dose curves, as well as flatness and symmetry profiles measured on the accelerator to be installed shall be provided. These curves need not be warranted by the vendor for clinical use. • An optical distance indicator which indicates the SSD to at least + 5 mm over the 80 to 130 cm range shall be provided. Accuracy at 100 cm shall be +1mm. A mechanical indicator which indicates the SSD to within 2 mm maximum error over the range 90 to 110 cm should be provided. • The maximum dose rate shall equal or exceed 500 monitor units (MU) per minute for a field size of 10 x 10 cm at 100 cm TSD. The dose rate at isocentre shall be variable from 100 MU/minute to the maximum dose rate. Please indicate minimum and maximum dose rate and number of intermediate dose rates available. • Beam stability should be achieved within 200 milliseconds to ensure dynamic applications. • There shall be one laser installed in the

		ceiling and two on the walls whose beams shall intersect at isocentre. The diameter of the laser beams as shown on a phantom located at isocentre shall be less than 2mm. Arc Therapy facilities: The linear accelerator must be able to provide arc therapy facilities for photons clockwise and counterclockwise. The dose rate should be at least 0.5 to 10 MU per degree. Field Size: • 0.5 x 0.5 cm to 40 x 40 cm field size collimation continuously variable must be provided (the full square field shall be atleast 35 x 35cm) • The field size is defined as the distance along the radial and transverse axes between the points of 50 % density on an x-ray film taken at 100cm TSD with minimum buildup. The digital display, light field size and mechanical display should be accurate to within + mm. • The accelerator shall provide a continuously variable rectangular. Unclipped field size from 1 x1cm to 35cm at 100 cm SSD. The maximum clipped field size should equal or exceed 40 x 40cm at 100cm SSD. Clipped corners are unacceptable for fields smaller than 35 x 35cm. Wedge Systems: A dynamic/virtual/ motorized wedge system providing various angles must be provided. The hard wedges with 15,30,45 and 60 degrees must also be provided as optional. Patient table: The patient table must be of extended travel range providing a lateral travel range of + 25 cm a longitudinal travel range of 150 cm and a vertical travel range of at least 100cm. The patient table should also have the following features: • Fully carbon fiber table top. • Emergency off buttons on the both sides of couch. • A complete line of indexed Immobilization accessories. Collimator Jaws: • Both X and Y collimator should be independent and should have asymmetrical collimation. • Automatic delivery of multiple Co-planner fields in sequence should be possible in the Linear Accelerator. Radiation Leakage • Radiation leakage limits shall be within appropriate regulatory agency guidelines as follows. • Photon leakage. The photon leakage rate at any point one meter from the target outside the cone defined by the primary X-ray collimator shall be less than 0.1% of the absorbed dose at the

		isocenter. Collimator transmission. The movable collimators shall not permit transmission of radiation exceeding 0.5% of the central axis dose at Dmax measured in air. • No surface accessible to the operator should be radioactive such that the dose rate in contact with that surface exceeds 50 mrem/hr Oncology Information and networking system 1. Complete networking system 2. Record & verify system should be integrated or capable of integrating with radiology database of institution/hospital. 3. Transfer of all parameters from simulator & treatment planning system of the Accelerator for automatic treatment setup & deliver should be provide 4. Transfer of Fluoroscopy images from simulator to portal imaging system for Comparison should be provided. 5. Transfer & Execution of MLC position parameters for normal treatment & IMRT treatment including step & shoot & sliding window (Dynamic) techniques from Treatment planning system should be complete and full networking system between Linear Accelerator, HDR Brachytherapy unit, TPS, MLC of minimum 5 mm size, EPID and CT scanner should be provided. Dosimeter Photon Ionization Chamber • A transmission ionization chamber shall be used for the photon mode. The chamber shall incorporate completely separate collection electrodes consisting of two plates for dose monitoring and a quadrant plate for field symmetry Dual channels • The dosimetry system should be there shall utilize two completely independent channels for monitoring accumulated dose (i.e a primary and a redundant channel.) A dose rate channel and a channel for monitoring differential field symmetry shall be provided. The redundant channel will terminate an exposure of no more than 40 MU higher than the machine setting. The system shall also provide a backup timer with a minimum significant time setting of 0.01 minute. The backup time shall be automatically calculated and set at a user specified value above expected duration of the treatment. Monitor chamber • The dose monitoring chambers shall be sealed and shall operate independent of temperature and pressure. The dosimetry electronics shall incorporate circuitry to permit

		interrogation of the accumulated dose, dose rate and symmetry channels prior to each patient treatment. This interrogate function shall check cable continuity, electrical calibration and interlock trip levels before each treatment. All dosimetry and patient safety – related interlocks must be sensed and controlled by hardware. Primary software sensing and control of safety-related interlocks is not acceptable. • The dosimeters shall be reproducible to within ±2% or 1 monitor unit, whichever is greater, at any fixed gantry angle form 0 to 360 degrees. • The linearity of the dosimeters shall be ±1% or 1 monitor unit, whichever is greater, for accumulated doses between 50 and 999 monitor units. Back up counter • The integral dose shall be retained on a counter which indicates the monitor units delivered to that time with the unexpected loss of power or malfunction of the accelerator or dose measuring system. The dose shall be retained for at least 20 minutes after power interruption. Dose rate • The reproducibility of the dosimeters shall be ±1% or 1 monitor unit, whichever is greater, at a fixed dose rate. With variations in the dose rate from minimum to maximum, the reproducibility of the dosimeters shall be ±2%. Please specify the dose rate range over which the latter specification is valid. Energy • The dosimetry system shall monitor the beam energy and shall terminate irradiation should energy change by more than ±3% from the nominal 6MV value. -Last man outswitch to be provided to ensure safety. 2.2 User's interface a. The main Host computer should have a 19 inches or more high resolution LCD TFT color monitor with 1024 x 1024 matrix display b. The system should have image storage capacity of 100 GB for at least 2,00,000 images in 256x256 matrix. c. The reconstruction speed should be at least 1300 or more for full FOV 256 matrix. d. The main console should have facility for music system for patient in the magnet room. The system should have DVD / CD / flash drive archiving facility. The system should be provided with auto DVD writer. e. Two way intercom system for patient communication. f. MRI System should be DICOM ready in all

		parameters with no additional requirement of license for connectivity to any PACS/HIS and Radiotherapy treatment planning system. Multileaf Collimator (MLC): • A multileaf collimator shall be provided with multiple leaves giving wide field coverage • The isocentre resolution of the leafs should be 1 cm and less • MLC should be capable of executing all IMRT Treatments • MLC system must be capable of performing all types of IMRT treatments such as multiple static fields, step and shoot, dynamic treatments. • All accessories including hardware and the necessary licenses needed for IMRT treatments in Linear accelerator should be offered. • Maximum field size shall be no less than 40 x 40 cm. • X- ray transmission through leaf shall not exceed 4% of the central axis dose at Dmax, and X- ray transmission shall not exceed 0.5% of the central axis dose at Dmax for the smallest rectangular field outside a shaped MLC field. This specification shall apply to both photon energies. • Positional accuracy shall be netter than +1% • Time for all leaves to travel from fully opened to fully closed shall be no greater than 14 seconds, as timed from when the leaves start moving. Leaf velocity shall be atleast 1.54 cm /second. IGRT Systems • Latest hardware and software should be provided for IGRT system Latest flat panel detectors should be provided (Please specify resolution) The system must be capable of performing MV-MV imaging and Fully integrated with latest R&V system and TPS. Digital Portal Imaging: • The portal Imaging system shall replace the necessity of port films,therefore the system must be capable of producing Images at 6 MV photon energy • The system shall be using latest solid state amorphous silicon electronic portal imaging device. • The imaging system should be retractable motorized counterweight mounted supports arm fixed on the counterweight, should be able to take images at any gantry angles from control room. • (Removable type portal imaging systems will not be preferred • Portal imaging system should be fully integrated with the Linear accelerator gantry Software and/ or standard of

		communication(where ever required The system must provide software to perform the following functions: i. Operating System The system should have a latest enhanced operating system which offers multitasking, multiuser facilities.

MULTIPLE ENERGY LINAC (HIGH ENERGY LINEAR ACCELERATOR)	RADIOTHERAPY	Radiotherapy systems designed to produce electron beams of varying energies low to high-energy photons using a linear accelerator (linac) as a generator. A linear accelerator consists of a modulator, an electron gun, a radio-frequency power source (either a magnetron or a klystron), and an accelerator guide. The range of the energy levels provided by linacs is very wide, from 4- to 6-megavolt (MV) photons for low-energy units to 25 MV photons and up to 22 mega-electronvolt electrons in high-energy units. These systems also include control units, filters, and collimators. Low-energy linear accelerator highenergy systems are used to treat deep-seated neoplasms and tumors of the pelvis and thorax Linear Accelerator technology requirements: The Machine must have the latest technology such as: 1. Three dimensional Conformal Radiotherapy (3D CRT) 2. Intensity Modulated Radiation Therapy (IMRT) Photon Energies and Beam data photon energy- Low: 6MV; High: 15MV Electron energies :- 6MeV to 18MeV with minimum of five energy ranges. Dose Rate: Variable in steps. Should quote the maximum dose rate available with the Vendor for both photon beams. Arc Therapy facilities: a. The accelerator must be able to deliver a preset dose over a preset arc of 3600 or any fraction thereof. A range of variable dose rates should be available. b. The maximum variation in integrated dose delivered over an arc between 450 and 900 shall not exceed ± 3% or 1MU, whichever is greater. The maximum variation in integrated dose delivered over any arc of 900 or greater shall not exceed ± 2% or 1 MU, whichever is greater. c. Gantry rotation shall be possible clockwise and counter clockwise for arc therapy. The MU/degree shall automatically be computed. Field Size: Specify the maximum percent difference of average dose for the longitudinal and transverse axes of the field at 100cm SSD and 10cm depth at four orthogonal gantry angles for all field sizes from 10 cm2 to 40cm2. Wedge Systems: A dynamic/virtual/ motorized wedge system providing various angles must be provided. The hard wedges with 15,30,45 and 60 degrees must also be provided as optional. Patient table: The patient table must be of extended travel range providing a lateral travel range of + 25

		cm a longitudinal travel range of 150 cm and a vertical travel range of at least 100cm. The patient table should also have the following features: • Fully carbon fiber table top. • Emergency off buttons on the both sides of couch. • A complete line of indexed Immobilization accessories. Collimator Jaws: • Both X and Y collimator should be independent and should have asymmetrical collimation. • Automatic delivery of multiple Co-planner fields in sequence should be possible in the Linear Accelerator. Radiation Leakage • Radiation leakage limits shall be within appropriate regulatory agency guidelines as follows. • Photon leakage. The photon leakage rate at any point one meter from the target outside the cone defined by the primary X-ray collimator shall be less than 0.1% of the absorbed dose at the isocenter. Collimator transmission. The movable collimators shall not permit transmission of radiation exceeding 0.5% of the central axis dose at Dmax measured in air. • No surface accessible to the operator should be radioactive such that the dose rate in contact with that surface exceeds 50 mrem/hr - Portal Dosimetry package should be provided. Oncology Information and networking system 1. Complete networking system 2. Record & verify system 3. Transfer of all parameters from simulator & treatment planning system of the Accelerator for automatic treatment setup & deliver should be provide 4. Transfer of Fluoroscopy images from simulator to portal imaging system for Comparison should be provided. 5. Transfer & Execution of MLC position parameters for normal treatment & IMRT treatment including step & shoot & sliding window (Dynamic) techniques from Treatment planning system should be complete and full networking system between Linear Accelerator, HDR Brachytherapy unit, TPS, MLC, EPID and CT scanner should be provided. 6. Prospective & retrospective 4D CT image acquisition for performing respiratory gated radiotherapy. 7.The linear accelerator vendor would provide one set of hardware of the respiratory management system and Photon Ionization Chamber

		• A transmission ionization chamber shall be used for the photon mode. The chamber shall incorporate completely separate collection electrodes consisting of two plates for dose monitoring and a quadrant plate for field symmetry Dual channels • The dosimetry system shall utilize two completely independent channels for monitoring accumulated dose (i.e a primary and a redundant channel.) A dose rate channel and a channel for monitoring differential field symmetry shall be provided. The redundant channel will terminate an exposure of no more than 40 MU higher than the machine setting. The system shall also provide a backup timer with a minimum significant time setting of 0.01 minute. The backup time shall be automatically calculated and set at a user specified value above expected duration of the treatment. Monitor chamber • The dose monitoring chambers shall be sealed and shall operate independent of temperature and pressure. The dosimetry electronics shall incorporate circuitry to permit interrogation of the accumulated dose, dose rate and symmetry channels prior to each patient treatment. This interrogate function shall check cable continuity, electrical calibration and interlock trip levels before each treatment. All dosimetry and patient safety – related interlocks must be sensed and controlled by hardware. Primary software sensing and control of safety-related interlocks is not acceptable. • The dosimeters shall be reproducible to within ±2% or 1 monitor unit, whichever is greater, at any fixed gantry angle form 0 to 360 degrees. • The linearity of the dosimeters shall be ±1% or 1 monitor unit, whichever is greater, for accumulated doses between 50 and 999 monitor units. Back up counter • The integral dose shall be retained on a counter which indicates the monitor units delivered to that time with the unexpected loss of power or malfunction of the accelerator or dose measuring system. The dose shall be retained for at least 20 minutes after power interruption. Dose rate • The reproducibility of the dosimeters shall be ±1% or 1 monitor unit, whichever is greater, at a fixed dose rate. With variations in the dose rate from minimum to maximum, the reproducibility of the dosimeters shall be ±2%.

		Please specify the dose rate range over which the latter specification is valid. Energy • The dosimetry system shall monitor the beam energy and shall terminate irradiation should energy change by more than ±3% from the nominal 6MV value. -Last man outswitch to be provided to ensure safety. 2.2 User's interface a. The main Host computer should have a 19 inches or more high resolution LCD TFT color monitor with 1024 x 1024 matrix display b. The system should have image storage capacity of 100 GB for at least 2,00,000 images in 256x256 matrix. c. The reconstruction speed should be at least 1300 or more for full FOV 256 matrix. d. The main console should have facility for music system for patient in the magnet room. The system should have DVD / CD / flash drive archiving facility. The system should be provided with auto DVD writer. e. Two way intercom system for patient communication. f. MRI System should be DICOM ready in all parameters with no additional requirement of license for connectivity to any PACS/HIS and Radiotherapy treatment planning system. Multileaf Collimator (MLC): • A multileaf collimator shall be provided with multiple leaves giving wide field coverage • The isocentre resolution of the leafs should be 1 cm and less • MLC should be capable of executing all IMRT Treatments • MLC system must be capable of performing all types of IMRT treatments such as multiple static fields, step and shoot, dynamic treatments. • All accessories including hardware and the necessary licenses needed for IMRT treatments in Linear accelerator should be offered. • Maximum field size shall be no less than 40 x 40 cm. • X- ray transmission through leaf shall not exceed 4% of the central axis dose at Dmax, and X- ray transmission shall not exceed 0.5% of the central axis dose at Dmax for the smallest rectangular field outside a shaped MLC field. This specification shall apply to both photon energies. • Positional accuracy shall be netter than +1% • Time for all leaves to travel from fully opened to fully closed shall be no greater than 14 seconds, as timed from when the leaves start moving. Leaf velocity shall be atleast 1.54 cm /second.

		IGRT Systems • Latest hardware and software should be provided for IGRT system Latest flat panel detectors should be provided (Please specify resolution) The system must be capable of performing MV-MV imaging and Fully integrated with latest R&V system and TPS. Digital Portal Imaging: • The portal Imaging system shall replace the necessity of port films, therefore the system must be capable of producing Images at 6 MV photon energy • The system shall be using latest solid state amorphous silicon electronic portal imaging device. • The imaging system should be retractable motorized counterweight mounted supports arm fixed on the counterweight, should be able to take images at any gantry angles from control room. • Removable type portal imaging systems will not be preferred • Portal imaging system should be fully integrated with the Linear accelerator gantry Software and/ or standard of communication(where ever required The system must provide software to perform the following functions: i. Operating System The system should have a latest enhanced operating system which offers multitasking, multiuser facilities.
RADIOTHERAPY TREATMENT PLANNING SYSTEM	RADIOTHERAPY	Workstations, Radiotherapy Planning Radiotherapy planning workstations designed to optimize the calculation of the expected radiation energy (dose) distributions within patients from both external sources of radiation (teletherapy) (Photon & Electron beam) .This system should have capability of integration with Simulators, CT scanner/ MRI & Linear Accelerators of any vendor. The TPS should be capable of 3D treatment planning with independent work station for virtual simulation.. These workstations typically consist of a computer, software for dosage calculation, and input and output devices (e.g., keyboards, monitors, printers) for graphic and alphanumeric data. Radiotherapy planning workstations usually follow the instructions of appropriate software that enables clinicians to choose the best combination of radiation beams and modalities for eradicating tumors while reducing radiation-related complications in healthy tissue. They are used mainly for treatment of cancer and related diseases. Treatment Planning System & Contouring Systems A. 2 planning systems (this is the minimum and

		to be increased as and when teletherapy machines are purchased) and 3 contouring systems (this is the minimum and to be increased depending on the number of oncologist using system) with individual licenses and having the common patient database should be provided B. The Planning System should be capable of planning for 3D Conformal Radiotherapy (3DCRT), Intensity Modulated Radiotherapy (IMRT) and VMAT for all the machines in the department (Varian LA, Elekta LA, Cobalt Teletherapy or others etc) and all required licenses should be quoted along with details. It should support FF and FFF beams. C. A virtual simulation software should be part of the Planning System D. It should have an integrated common data base. E. It should work on Client-Server architecture F. The rack mount server provided should not be counted as a Planning System G. The Planning system offered should be latest version available with the company H. Calculation Algorithm : All calculation algorithms available with the vendor for the quoted TPS to do calculation of Electron beam, Photon 3DCRT, 4D Planning, IMRT, VMAT should be supplied I. If the supplied TPS and contouring systems are not integrated with Record &Verify system supplied and have separate database, the vendor will upgrade or replace the hardware and software free of cost if an unified database system is released by the vendor during the warranty or CMC period J. Onsite Physics support for TPS data acquisition, beam modeling and commissioning. Planning and contouring software a. Contouring Tool to provide 3D auto margin and 3D variable margin b. Automatically create margins in all six directions c. Edit/draw all contours, contour names, CT densities and colour d. Continuous trace, point –to-point and auto contour via MR or CT threshold e. Automatic contouring of body structures for any given body volume f. Contour on primary image study (CT) , secondary image study (MR and PET) or fusion images g. Outline tumour volumes and critical structures on transverse; visualize on sagittal and coronal planes including real time 3D visualization h. Contour Interpolation i. Asymmetric stretch and resize j. Rapid copy to superior or inferior slice k. Virtual fluoroscopy Isocentre placement

		from AP and lateral DRRs l. Auto computation of isocentre from target volume m. Editing of origin placement in the reference slice and computation of isocentre with reference to origin n. Should calculate each phase of treatment plan independently and as a composite plan o. Should plan for the following combinations: Photonphoton, Photon-electron (all energy combinations), Electron-electron (all energy combinations) p. Dose and Marker point definition q. Export of isocentre coordinates with reference to origin to Laser control system r. The system should support multi vendor laser marking software. s. Provide predefined structure templates that can be used for all types of treatment. t. Must be able to add/subtract predefined organs and/or parts of organs for defining areas of interest. u. Should do fusion MRI, CT and PET images with reference image set. SUV calculation of PET images to be provided. v. Mutual matching algorithms must be available to auto match images using different modalities w. It should be possible to display the calculated dose on sagittal, coronal and arbitrary planes and on MR, PET and fusion images x. Should be fully integrated with the record and verify system y. Should support addition of bolus of different thicknesses z. Dual registration (both rigid and deformable) for adaptive planning along with workflow details. aa. Library based self learning auto contouring tool along with complete anatomical atlas Imaging tools a. Real time high resolution DRRs b. Adjustable W/L presets for primary, secondary and DRR images c. The DRR generation methods should include normal summed, MIP and volume rendered (for soft tissue / bone weighted DRR) d. Tool to perform plan dose summation or subtraction, side-by-side plan comparison and plan comparison using DVH. e. Facility to copy opposing fields including MLC, blocks and wedges (mirrored) f. Interactive BEV with DRR controls g. Mouse and/or keyboard driven gantry, collimator and couch positions h. Multi-structure/ multi-slice auto contouring i. Slice-to-slice contour duplication and interpolation j. Variable 3D auto margin generation

		k. Auto conformation of blocks or MLC to targets with gantry, collimator and table adjustments. IMRT and VMAT a. Support for coplanar and non-coplanar beam and arc arrangements b. QA data generation tools per beam/arc and per plan c. Should be able to do 3DCRT/IMRT/VMAT for multiple vendor MLC d. IMRT / VMAT QA Tools e. Ability to run IMRT and VMAT plans on phantoms to create digital composite files for film comparison f. Dose QA export to IMRT / VMAT plan verification software g. Intensity map BEV display h. DRR with widest MLC position of segments i. Should be able to do Dynamic/ static IMRT plans j . Should have full integration with IGRT – should be able to sent DRR of desired gantry orientation to IGRT system for comparison with KV radiographic image to determine patient shift. It should also be able to sent CT images to IGRT system to compare with reference CT images k. Should be able to import Cone beam CT images from Treatment machine and compute dose on the imported images to evaluate dose to critical structures of the patient during treatment l. Should support 4D images. a. CT/MRI/PET Software interface of any vendor b. The planning system must be integrated with the CTsimulator system. Should be able to import plans and structure sets from the CT simulation software. c. DICOM import through network from Imaging (CT,MRI, PET, Simulator) and contouring systems d. CT interface via CD/DVD e. DICOM RT (Structure and Plan) export to all vendor treatment units f. The contouring system should export structures and plans to all the vendor TPS vice-versa g. RTOG DICOM export h. DICOM Print i. Export isocenter coordinates to all vendor laser positioning systems

PART III – CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VI - GENERAL CONDITIONS OF CONTRACT

A. General

Provisions Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

a) The Adjudicator is the person appointed jointly by the Procuring Entity and the Service Provider to resolve disputes in the first instance, as provided for in Sub-Clause8.2 hereunder.

b) "Activity Schedule" is the priced and completed list of items of Services to be performed by the Service Provider forming part of his Tender;

c) "Completion Date" means the date of completion of the Services by the Service Provider as certified by the Procuring Entity

d) "Contract" means the Contract signed by the Parties, to which these General Conditions of Contract (GCC) are attached, together with all the documents listed in Clause 1 of such signed Contract;

e) "Contract Price" means the price to be paid for the performance of the Services, in accordance with Clause 6;

f) "Day works" means varied work inputs subject to payment on a time basis for the Service Provider's employees and equipment, in addition to payments for associated materials and administration.

g) "Procuring Entity" means the Procuring Entity or party who employs the Service Provider

h) "Foreign Currency" means any currency other than the currency of Kenya;

i) "GCC" means these General Conditions of Contract;

j) "Government "means the Government of Kenya;

k) "Local Currency "means Kenya shilling;

l) "Member," in case the Service Provider consist of a joint venture of more than one entity, means any of these entities; "Members" means all these entities, and "Member in Charge" means the entity specified in the SC to act on their behalf in exercising all the Service Provider' rights and obligations towards the Procuring Entity under this Contract;

m) "Party" means the Procuring Entity or the Service Provider, as the case maybe, and "Parties" means both of them;

n) "Personnel" means persons hired by the Service Provider or by any Subcontractor as employees and assigned to the performance of the Services or any part there of;

o) "Service Provider" is a person or corporate body whose Tender to provide the Services has been accepted by the Procuring Entity;

p) "Service Provider's Tender" means the completed Tendering Document submitted by the Service Provider to the Procuring Entity

q) "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;

r) "Specifications" means the specifications of the service included in the Tendering Document submitted by the Service Provider to the Procuring Entity

s) "Services" means the work to be performed by the Service Provider pursuant to this Contract, as described in Appendix A; and in the Specifications and Schedule of Activities included in the Service Provider's Tender.

t) "Subcontractor" means any entity to which the Service Provider subcontracts any part of the Services in accordance with the provisions of Sub-Clauses3.5and4;

u) "Public Procurement Regulatory Authority (PPRA)" shall mean the Government Agency responsible for oversight of public procurement.

v) "Project Manager" shall the person appointed by the Procuring Entity to act as the Project Manager for the purposes of the Contract and named in the Particular Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor.

w) "Notice of Dissatisfaction" means the notice given by either Party to the other indicating its dissatisfaction and intention to commence arbitration.

1.2 Applicable Law

The Contract shall be interpreted in accordance with the laws of Kenya**.**

1.3 Language

This Contract has been executed in the English language**,** which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.4 Notices

Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, hand delivery, or email to such Party at the address **specified in the SCC.**

1.5 Location

The Services shall be performed at such locations as a respecified in Appendix A, in the specifications and, where the location of a particular task is not so specified, at such locations, whether in Kenya or elsewhere, as the Procuring Entity may approve.

1.6 Authorized Representatives

Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Entity or the Service Provider may be taken or executed by the officials **specified in the SCC.**

1.7 Inspection and Audit by the PPRA

Pursuant to paragraph 2.2 e. of Attachment 1 to the General Conditions, the Service Provider shall permit and shall cause its sub contract or sand sub-consultants to permit, PPRA and/or persons appointed by PPRA to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by PPRA. The Service Provider's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 3.10 which provides, inter alia, that acts intended to materially impede the exercise of PPRA's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to PPRA's prevailing sanctions procedures).

1.8 Taxes and Duties

The Service Provider, Subcontractors, and their Personnel shall pay such taxes, duties, fees, and other impositions as may be levied under the Applicable Law, the amount of which is deemed to have been included in the Contract Price.

2 Commencement, Completion, Modification, and Termination of Contract

2.1 Effectiveness of Contract

This Contract shall come into effect on the date the Contract is signed by both parties or such other later date as maybe **stated in the SCC.**

2.2 Commencement of Services

2.2.1 Program

Before commencement of the Services, the Service Provider shall submit to the Procuring Entity for approval a Program showing the general methods, arrangements order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

2.2.2 Starting Date

The Service Provider shall start carrying out the Services thirty (30) days after the date the Contract becomes effective, or at such other date as may be **specified in the SCC.**

2.3 Intended Completion Date

Unless terminated earlier pursuant to Sub-Clause 2.6, the Service Provider shall complete the activities by the Intended Completion Date, as is **specified in the SCC.** If the Service Provider does not complete the activities by the Intended Completion Date, it shall be liable to pay liquidated damage as per Sub-Clause3.8.Inthiscase,the Completion Date will be the date of completion of all activities.

2.4 Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services or of the Contract Price, may only be made by written agreement between the Parties.

2.4.1 Value Engineering

The Service Provider may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

a) The proposed change(s), and a description of the difference to the existing contract requirements;

b) A full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs, if applicable) the Procuring Entity may incur in implementing the value engineering proposal; and

c) A description of any effect(s)of the change on performance/functionality.

The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that:

a) accelerates the delivery period; or

b) reduces the Contract Price or the lifecycle costs to the Procuring Entity; or

c) improves the quality, efficiency, safety or sustainability of the services; or

d) yields any other benefits to the Procuring Entity, without compromising the necessary functions of the Facilities.

If the value engineering proposal is approved by the Procuring Entity and results in:

a) a reduction of the Contract Price; the amount to be paid to the Service Provider shall be the percentage specified in the **SCC** of the reduction in the Contract Price; or

b) an increase in the Contract Price; but results in a reduction in lifecycle costs due to any benefit described in (a) to(d)above, the amount to be paid to the Service Provider shall be the full increase in the Contract Price.

2.5 Force Majeure

2.5.1 Definition

For the purposes of this Contract,"ForceMajeure"meansaneventwhichisbeyondthereasonablecontrolofa Party and which makes a Party's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

2.5.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and(b) has informed the other Party as soon as possible about the occurrence of such an event.

2.5.3 Extension of Time

Any period with in which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.5.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Service Provider shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

2.6 Termination

2.6.1 By the Procuring Entity

The Procuring Entity may terminate this Contract, by not less than thirty(30) days' written notice of termination to the Service Provider, to be given after the occurrence of any of the events specified in paragraphs(a)through
(d) of this Sub-Clause 2.6.1:

a) If the Service Provider does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as the Procuring Entity may have subsequently approved in writing;

b) if the Service Provider become insolvent or bankrupt;

c) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days; or

d) if the Service Provider, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph2.2a. of Attachment1 to the GCC, in competing for or in executing the Contract

2.6.2 By the Service Provider

The Service Provider may terminate this Contract, by not less than thirty (30) days' written notice to the Procuring Entity, such notice to be given after the occurrence of any of the events specified in paragraphs (a) and
(b) of this Sub-Clause 2.6.2:

a) If the Procuring Entity fails to pay any monies due to the Service Provider pursuant to this Contract and not subject to dispute pursuant to Clause 7 within forty-five (45) days after receiving written notice from the Service Provider that such payment is overdue; or

b) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days.

2.6.3 Payment up on Termination

Upon termination of this Contract pursuant to Sub-Clauses 2.6.1 or 2.6.2, the Procuring Entity shall make the following payments to the Service Provider:

a) remuneration pursuant to Clause 6 for Services satisfactorily performed prior to the effective date of termination;

b) except in the case of termination pursuant to paragraphs (a), (b), (d) of Sub-Clause 2.6.1, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract, including the cost of the return travel of the Personnel.

3 Obligations of the Service Provider

3.1 General

The Service Provider shall perform the Services in accordance with the Specifications and the Activity Schedule, and carry out its obligations with all due diligence, efficiency, and economy, in accordance with

generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. The Service Provider shall always act, in respect of any matter relating to this Contractor to the Services, as faithful adviser to the Procuring Entity, and shall at all times support and safeguard the Procuring Entity's legitimate interests in any dealings with Subcontractors or third parties.

3.2 Conflict of Interests

3.2.1 Service Provider Not to Benefit from Commissions and Discounts.

The remuneration of the Service Provider pursuant to Clause 6 shall constitute the Service Provider's sole remunerationinconnectionwiththisContractortheServices,andtheServiceProvidershallnotacceptfortheir own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contractor to the Services or in the discharge of their obligations under the Contract, and the Service Provider shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

3.2.2 Service Provider and Affiliates Not to be Otherwise Interested in Project

The Service Provider agree that, during the term of this Contract and after its termination, the Service Provider and its affiliates, as well as any Subcontractor and any of its affiliates, shall bed is qualified from providing goods, works, or Services(other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

3.2.3 Prohibition of Conflicting Activities

Neither the Service Provider nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

a) During the term of this Contract, any business or professional activities in Kenya which would conflict with the activities assigned to them under this Contract;

b) during the term of this Contract, neither the Service Provider nor their Subcontractors shall hire public employees' inactive duty or on any type of leave, to perform any activity under this Contract;

c) After the termination of this Contract, such other activities as may be **specified in the SCC.**

3.3 Confidentiality

The Service Provider, its Subcontractors, and the Personnel of either of them shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Procuring Entity's business or operations without the prior written consent of the Procuring Entity.

3.4 **The Service Provider** (a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Sub contractors', as the case may be)own cost but on terms and conditions approved by the Procuring Entity, insurance against the risks, and for the coverage, as shall be **specified in the SCC;** and (b) at the Procuring Entity's request, shall provide evidence to the Procuring Entity showing that such insurance has been taken out and maintained and that the current premiums have been paid.

3.5 Service Provider's Actions Requiring Procuring Entity's Prior Approval

The Service Provider shall obtain the Procuring Entity's prior approval in writing before taking any of the following actions:

a) Entering into a subcontract for the performance of any part of the Services,

b) appointing such members of the Personnel not listed by name in Appendix C ("Key Personnel and Subcontractors"),

c) changing the Program of activities; and

d) Any other action that may be **specified in the SCC.**

3.6 Reporting Obligations

The Service Provider shall submit to the Procuring Entity the reports and documents specified in Appendix B in the form, in the numbers, and within the periods set forth in the said Appendix.

3.7 Documents Prepared by the Service Provider to Be the Property of the Procuring Entity

All plans, drawings, specifications, designs, reports, and other documents and software submitted by the Service Provider in accordance with Sub-Clause 3.6 shall become and remain the property of the Procuring Entity, and the Service Provider shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Procuring Entity, together with a detailed inventory thereof. The Service Provider may retain a copy of such documents and software. Restrictions about the future use of these documents, if any, shall be **specified in the SCC.**

3.8 Liquidated Damages

3.8.1 Payments of Liquidated Damages

The Service Provider shall pay liquidated damages to the Procuring Entity at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC.** The Procuring Entity may deduct liquidated damages from payments due to the Service Provider. Payment of liquidated damages shall not affect the Service Provider's liabilities.

3.8.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Entity shall correct any overpayment of liquidated damages by the Service Provider by adjusting the next payment certificate. The Service Provider shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in Sub-Clause 6.5.

3.8.3 Lack of performance penalty

If the Service Provider has not corrected a Defect within the time specified in the Procuring Entity's notice, a penalty for Lack of performance will be paid by the Service Provider. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as described in Sub-Clause7.2 and **specified in the SCC.**

3.9 Performance Security

The Service Provider shall provide the Performance Security to the Procuring Entity no later than the date specified in the Form of acceptance. The Performance Security shall be issued in an amount and form and by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The performance Security shall be valid until a date 28 day from the Completion Date of the Contract in case of a bank guarantee, and until one year from the Completion Date of the Contract in the case of a Performance Bond.

3.10 Fraud and Corruption

The Procuring Entity requires compliance with the Government's Anti-Corruption laws and its prevailing sanctions. The Procuring Entity requires the Service Provider to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the tendering process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

3.11 Sustainable Procurement

The Service Provider shall conform to the sustainable procurement contractual provisions, if and as specified in the **SCC**.

4 Service Provider's Personnel

4.1 Description of Personnel

The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Service Provider's Key Personnel are described in Appendix C. The Key Personnel and Subcontractors listed by title as well as by name in Appendix Care hereby approved by the Procuring Entity.

4.2 Removal and/or Replacement of Personnel

a) Except as the Procuring Entity may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Service Provider, it becomes necessary to replace any of the Key Personnel, the Service Provider shall provide as a replacement a person of equivalent or better qualifications.

b) If the Procuring Entity finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Service Provider shall, at the Procuring Entity's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Entity.

c) The Service Provider shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

5 Obligations of the Procuring Entity

5.1 Assistance and Exemptions

The Procuring Entity shall use its best efforts to ensure that the Government shall provide the Service Provider such assistance and exemptions as **specified in the SCC.**

5.2 Change in the Applicable Law

If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Service Provider, then the remuneration and reimbursable expenses otherwise payable to the Service Provider under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred to in Sub-Clauses 6.2(a) or (b), as the case may be.

5.3 Services and Facilities

The Procuring Entity shall make available to the Service Provider the Services and Facilities listed under Appendix F.

6 Payments to the Service Provider

6.1 Lump-Sum Remuneration

The Service Provider's remuneration shall not exceed the Contract Price and shall be a fixed lump-sum including all Subcontractors' costs, and all other costs incurred by the Service Provider in carrying out the Services described in Appendix A. Except as provided in Sub-Clause 5.2, the Contract Price may only be increased above the amounts stated in Sub-Clause 6.2 if the Parties have agreed to additional payments in accordance with Sub- Clauses2.4and6.3.

6.2 Contract Price

a) The price payable is **set forth in the SCC.**

b) Price may be payable in foreign currency, if so allowed in this document.

6.3 PaymentforAdditionalServices,andPerformanceIncentiveCompensation

6.3.1 For the purpose of determining the remuneration due for additional Services as may be agreed under Sub-Clause 2.4, a breakdown of the lump-sum price is provided in Appendices D and E.

6.3.2 **If the SCC so specify,** the service provider shall be paid performance incentive compensation asset out in the Performance Incentive Compensation appendix.

6.3.3 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows:*(corrected tender price–tender price)/tender price X100*.

6.4 Terms and Conditions of Payment

Payments will be made to the Service Provider according to the payment schedule **stated in the SCC. Unless otherwise stated in the SCC**, the advance payment (Advance for Mobilization, Materials and Supplies) shall be made against the provision by the Service Provider of a bank guarantee for the same amount, and shall be valid for the period **stated in the SCC.** Any other payment shall be made after the conditions **listed in the SCC** for such payment have been met, and the Service Provider have submitted an invoice to the Procuring Entity specifying the amount due.

6.5 Interest on Delayed Payments

If the Procuring Entity has delayed payments beyond thirty (30) days after the due date stated in the **SCC**, interest shall be paid to the Service Provider foreach day of delay at the rate stated in **the SCC**.

6.6 Price Adjustment

6.6.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC.** If so provided, the amounts certified in each payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment fact or to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$\mathbf{P_c = A_c + B_c\, Lmc / Loc + C_c\, Imc / Ioc}$$

Where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c".

A_c, B_c and C_c are coefficients specified in the **SCC**, representing: A_c the non-adjustable portion; B_c the adjustable portion relative to labor costs and C_c the adjustable portion for other inputs, of the Contract Price payable in that specific currency "c"; and

Lmc is the index prevailing at the first day of the month of the corresponding invoiced ate and Loc is the index prevailing28 days before Tender opening for labor; both in the specific currency "c".

Imc is the index prevailing at the first day of the month of the corresponding invoice date and Ioc is the index prevailing 28 days before Tender opening for other inputs payable; both in the specific currency "c".

If a price adjustment factor is applied to payments made in a currency other than the currency of the source of the index for a particular indexed input, a correction factor Zo/Zn will be applied to the respective component factor of pn for the formula of the relevant currency. Zo is the number of units of Kenya Shillings of the index, equivalent to one unit of the currency payment on the date of the base index, and Zn is the corresponding number of such currency units on the date of the current index.

6.6.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account to fall changes in cost due to fluctuations in costs.

6.7 Day works

6.7.1 If applicable, the Day work rates in the Service Provider's Tender shall be used for small additional amounts of Services only when the Procuring Entity has given written instructions in advance for additional services to be paid in that way.

6.7.2 All work to be paid for as Day works shall be recorded by the Service Provider on forms approved by the Procuring Entity. Each completed form shall be verified and signed by the Procuring Entity representative as indicated in Sub-Clause1.6 within two days of the Services being performed.

6.7.3 The Service Provider shall be paid for Day works subject to obtaining signed Day works forms as indicated in Sub-Clause6.7.2

7 Quality Control

7.1 Identifying Defects

The principle and modalities of Inspection of the Services by the Procuring Entity shall be as **indicated in the SCC.** The Procuring Entity shall check the Service Provider's performance and notify him of any Defects that are found. Such checking shall not affect the Service Provider's responsibilities. The Procuring Entity may instruct the Service Provider to search for a Defect and to uncover and test any service that the Procuring Entity considers may have a Defect. Defect Liability Period is as **defined in the SCC**.

Correction of Defects, and Lack of Performance Penalty

a) The Procuring Entity shall give notice to the Service Provider of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

b) Every time notice a Defect is given, the Service Provider shall correct the notified Defect within the length of time specified by the Procuring Entity's notice.

c) If the Service Provider has not corrected a Defect within the time specified in the Procuring Entity's notice, the Procuring Entity will assess the cost of having the Defect corrected, the Service Provider will pay this amount and a Penalty for Lack of Performance calculated as described in Sub-Clause 3.8.

8 Settlement of Disputes

8.1 Contractor's Claims

8.1.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

8.1.2 If the Contractor fails to give notice of a claim within such period of 28days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clauses hall apply.

8.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all s relevant to such event or circumstance.

8.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Procuring Entity's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record-keeping and /or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

8.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and /or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

8.1.5.1 This fully detailed claim shall be considered as interim;

a) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and /or amount claimed, and such further particulars as the Project Manager may reasonably require; and

b) The Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

8.1.6 Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

8.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause 3.5[Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

8.1.8 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only been titled to payment for such part of the claim as he has be enable to substantiate.

8.1.9 If the Project Manager does not respond within the time framed fined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer to Arbitration in accordance withSub-Clause8.2 [Matters that may be referred to arbitration].

8.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contract or fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub- Clause.

8.2 Matters that may be referred to arbitration

8.2.1 Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Services or abandonment of the Services or termination of the Contract by either party:

a) The appointment of a replacement Project Manager upon the said person ceasing to act.

b) Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions

c) Whetherornotacertificatehasbeenimproperlywithheldorisnotinaccordance with these Conditions.

e) Any dispute arising in respect of war risks or war damage.

f) All other matters shall only be referred to arbitration after the completion or alleged completion of the Services or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

8.3 Amicable Settlement

8.3.1 Where a Notice of Dis satisfaction has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a Notice of Dissatisfaction in accordance with Sub-Clause 8.1 above should move to commence arbitration after the fifty-sixth day from the day on which a Notice of Dissatisfaction was given, even if no attempt at an amicable settlement has been made.

8.4 Arbitration

8.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 8.3 shall be finally settled by arbitration. Arbitration shall be conducted in accordance with the Arbitration Laws of Kenya.

8.4.2 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

8.4.3 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

8.4.4 Arbitration may be commenced prior to or after completion of the services. The obligations of the Parties, and the Project Manager shall not be altered by reason of any arbitration being conducted during the progress of the services.

8.4.5 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

8.5 Arbitration with proceedings

8.5.1 In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

a) Law Society of Kenya or

b) Chartered Institute of Arbitrators (Kenya Branch)

8.5.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.

8.5.3 The arbitration maybe on the construction of this Contractor on any matter or thing of what so ever nature arising there under or in connection there with, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to been titled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

8.5.4 Provided that no arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.

8.5.5 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

8.5.6 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

8.5.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.

8.5.8 The award of such Arbitrator shall be final and binding upon the parties.

8.6 Failure to Comply with Arbitrator's Decision

8.6.1 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

9.1 The Adjudicator

9.1.1 Should the Adjudicator resign or die, or should the Procuring Entity and the Service Provider agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator will be jointly appointed by the Procuring Entity and the Service Provider. In case of disagreement between the Procuring Entity and the Service Provider, within 30days, the Adjudicator shall be designated by the Appointing Authority **designated in the SCC** at the request of either party, within 14 days of receipt of such

request.

9.2 The Adjudicator shall be paid by the hour at the rate **specified in the TDS and SCC,** together with reimbursable expenses of the type's **specified in the SCC**, and the cost shall be divided equally between the Procuring Entity and the Service Provider, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

B. SPECIAL CONDITIONS OF CONTRACT

SECTION VII - SPECIAL CONDITIONS OF CONTRACT

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1(a)	The Adjudicator is _____
1.1(v)	Project Manager is _____
1.1(d)	The contract name is _____.
1.1(g)	The Procuring Entity is _____
1.1(l)	The Member in Charge is _____
1.1(o)	The Service Provider is _____
1.4	The addresses are: Procuring Entity: _____ Attention: _____ Telex: _____ Service Provider: _____ Attention: _____ Email address _____
1.6	The Authorized Representatives are: For the Procuring Entity: _____ For the Service Provider: _____
2.1	The date on which this Contract shall come into effect is _____.
2.2.2	The Starting Date for the commencement of Services is _____.
2.3	The Intended Completion Date is _____.
2.4.1	If the value engineering proposal is approved by the Procuring Entity the amount to be paid to the Service Provider shall be ___% (insert appropriate percentage. The percentage is normally up to 50%) of the reduction in the Contract Price.
3.2.3	Activities prohibited after termination of this Contract are: _____ _____
3.4	The risks and coverage by insurance shall be: (i) Third Party motor vehicle _____ (ii) Third Party liability _____ (iii) Procuring Entity's liability and workers' compensation _____ (iv) Professional liability _____ (v) Loss or damage to equipment and property _____
3.5(d)	The other actions are _____.]
3.7	Restrictions on the use of documents prepared by the Service Provider are: _____

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
3.8.1	The liquidated damages rate is _____ per day The maximum amount of liquidated damages for the whole contract is _____ percent of the final Contract Price.
3.8.3	The percentage _____ to be used for the calculation of Lack of performance Penalty(ies) is _____.
5.1	The assistance and exemptions provided to the Service Provider are: _____
6.2(a)	The amount in Kenya Shillings _____.
6.3.2	The performance incentive paid to the Service Provider shall be: _____ _____
6.4	Payments shall be made according to the following schedule: • Advance for Mobilization, Materials and Supplies: _____ percent of the Contract Price shall be paid on the commencement date against the submission of a bank guarantee for the same. • Progress payments in accordance with the milestones established as follows, subject to certification by the Procuring Entity, that the Services have been rendered satisfactorily, pursuant to the performance indicators: _____ (indicate milestone and/or percentage) _____ _____ (indicate milestone and/or percentage) _____ and _____ (indicate milestone and/or percentage) _____ Should the certification not be provided, or refused in writing by the Procuring Entity within one month of the date of the milestone, or of the date of receipt of the corresponding invoice, the certification will be deemed to have been provided, and the progress payment will be released at such date. • The amortization of the Advance mentioned above shall commence when the progress payments have reached 25% of the contract price and be completed when the progress payments have reached 75%. • The bank guarantee for the advance payment shall be released when the advance payment has been fully amortized.
6.5	Payment shall be made within _____ days of receipt of the invoice and the relevant documents specified in Sub-Clause 6.4, and within _____days in the case of the final payment. The interest rate is _____.
6.6.1	Price adjustment is _____ in accordance with Sub-Clause 6.6. The coefficients for adjustment of prices are _____: (a) For local currency: A_L is _____ B_L is _____ C_L is _____ L_{mc} and L_{oc} are the index for Labor from _____ I_{mc} and I_{oc} are the index for _____ from _____ (b) For foreign currency

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	A_F is _____ B_F is _____ C_F is _____ L_{mc} and L_{oc} are the index for Labor from _____ I_{mc} and I_{oc} are the index for _____ from _____
7.1	The principle and modalities of inspection of the Services by the Procuring Entity are as follows: _____ The Defects Liability Period is _____.
9.1	The designated Appointing Authority for a new Adjudicator is _____
9.2	The Adjudicator is _____. Who will be paid a rate of _____ per hour of work? The following reimbursable expenses are recognized: _____

C. APPENDICES

Appendix A - Description of the Services

Give detailed descriptions of the Services to be provided, dates for completion of various tasks, place of performance for different tasks, specific tasks to be approved by Procuring Entity, etc.

Appendix B - Schedule of Payments and Reporting Requirements

List all milestones for payments and list the format, frequency, and contents of reports or products to be delivered; persons to receive them; dates of submission; etc. If no reports are to be submitted, state here "Not applicable."

Appendix C - Breakdown of Contract Price

List here the elements of cost used to arrive at the breakdown of the lump-sum price:

1. *Rates for Equipment Usage or Rental or for Personnel (Key Personnel and other Personnel).*

2. *Reimbursable expenditures.*

This appendix will exclusively be used for determining remuneration for additional Services.

Appendix D - Services and Facilities Provided by the Procuring Entity

D. FORMS

SECTION VIII -CONTRACT FORMS

FORM NO. 1 - PERFORMANCE SECURITY – (Unconditional Demand Bank Guarantee)

[Guarantor letterhead or SWIFT identifier code]

Beneficiary:_____*[insert name and Address of* Procuring Entity*]*

Date:_____*[Insert date of issue]*

PERFORMANCE GUARANTEE No.:_____

Guarantor:..... *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Applicant") has entered into Contract No._____*dated*_____with the Beneficiary, for the execution of_____ (herein after called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

3. At the request of the Applicant, we as Guarantor, hereby irrevocably under take to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(),[1] such sum being payable in the types and proportions ofcurrenciesinwhichtheContractPriceispayable,uponreceiptbyusoftheBeneficiary'scomplyingdemand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the….Day of……, 2…[2], and any demand for payment under it must be received by us at this office indicated above on or before that date.

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year],* in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."_____

_____

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

_____

[1] *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

[2] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Procuring Entity might consider adding the following text to the form, at the end of the pen ultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such*

extension, such request to be presented to the Guarantor before the expiry of the guarantee."

FORM No. 2 - PERFORMANCE SECURITY OPTION 2 – (Performance Bond)

[Note: Procuring Entities are advised to use Performance Security–Unconditional Demand Bank Guarantee instead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]
Beneficiary: *[insert name and Address of* Procuring Entity*]* **Date:**_____*[Insert date of issue]*

PERFORMANCE BOND No.:_____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond_____ as Principal (hereinafter called "the Contractor") and_____] as Surety (herein after called "the Surety"), are held and firmly bound unto_] as Obligee (herein after called "the Procuring Entity")in the amount of_____for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the_____ day of_____, 20_____, for_____in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are herein after referred to as the Contract.

3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
   1) Complete the Contract in accordance with its terms and conditions; or
   2) Obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable here under, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
   3) pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named herein or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.

6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this day_____of_____20_____.

SIGNED ON _____ on behalf

of by _____ in the capacity

of In the presence of

SIGNED ON _____ on behalf

of By _____ in the capacity

of In the presence of

FORM NO. 3 - ADVANCE PAYMENT SECURITY[Demand Bank Guarantee]

[Guarantor letter head or SWIFT identifier code] [Guarantor letter head or SWIFT identifier code]

Beneficiary: _____*[Insert name and Address of* Procuring Entity*]*

Date:_____*[Insert date of issue]*

ADVANCE PAYMENTGUARANTEE No.:_____*[Insert guarantee reference*

number] **Guarantor:***[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Applicant") has entered into Contract No._____*dated*_____with the Beneficiary, for the execution of_____ (herein after called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____() is to be made against an advance payment guarantee.

3. At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____()[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document ac companying or identifying the demand, stating either that the Applicant:
   a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number_____at

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90)percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the day of , 2,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary' s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

   .....
   [Name of Authorized Official, signature(s) and seals/stamps]

   Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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[1] *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Procuring Entity.*

[2] *Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Procuring Entity might consider adding the following ext. to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

FORM NO. 4 BENEFICIAL OWNERSHIP DISCLOSURE FORM

(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.

Tender Reference No.:_____[*insert identification no*] Name of the Tender Title/Description:_____*[insert name of the assignment]* to:_____*[insert complete name of Procuring Entity]*

In response to the requirement in your notification of award dated___*[insert date of notification of award]* to furnish additional information on beneficial ownership:_____*[select one option as applicable and delete the options that are not applicable]*

I) We here by provide the following beneficial ownership information.

Details of beneficial ownership

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
1.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …….% of voting rights Indirectly---------- % of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly?: Direct…… …… Indirect…… ……...	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…… …..
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality					
	Date of birth *[dd/mm/yyyy]*					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or					

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
	profession					Indirect…… …
2.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …….% of voting rights Indirectly---------- % of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly?: Direct…… …… Indirect…… ……...	1. Exercises significant influence or control over the Company body of the Company (tenderer**)** Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…… ….. Indirect…… …
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth *[dd/mm/yyyy]*					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
3. **e.t .c**						

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person

who in relation to the company:

(a) holds at least ten percent of the issued shares in the company either directly or indirectly;

(b) exercises at least ten percent of the voting rights in the company either directly or indirectly;

(c) holds a right, directly or indirectly, to appoint or remove a director of the company; or

(d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer: .....[insert complete name of the Tenderer]*_____

*Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ** [insert complete name of person duly authorized to sign the Tender]*

Designation of the person signing the Tender: ..... [insert complete title of the person signing the Tender]

Signature of the person named above: ..... [insert signature of person whose name and capacity are shown above]

Date this ..... [insert date of signing] day of..... [Insert month], [insert year]

Bidder Official Stamp