

### 1. Automated Immunoassay Analyser

1. Fully Automated system with continuous loading facility
2. Preferably an open system where any kits from any manufacturer available in ELISA can be programmed and assayed
3. Upgradable to CLIA
4. Throughput 40-50 tests/Hour
5. Internal-External probe wash for no carryover
6. Multi-shot dispensing
7. 8 probe wash head for faster washing
8. Possibility to maintained two different temperature during incubation
9. Pre-dilution option before dispensing sample/reagent
10. Level sensor for wash, rinse and waste bottle
11. Option for connection with a computer through USB port
12. 4 channel optical system with NIST traceable calibration
13. NRTL listed and CE certified
14. System must have a three year standard warranty.

### 2. Dual Energy X-ray Absorptiometry (DEXA)

#### Technical Specifications:

- I. **Scanning Method-** High resolution Fan beam technology
- II. **X-ray Source:** Upto 300 Kvp, preferably Oil cooled, Constant Potential Source / Switched Pulse Dual Energy
- III. **Detector System:** Minimum 100 multi element Detector Array. Nal scintillation detector in pulse counting mode/ Multi Element / Direct Digital Detectors
- IV. **BMD Precision :** Less than 1%
- V. **Scan Time:** A/P Spine  $\leq$  15 Secs; Femur  $\leq$  15 Secs
- VI. **Calibration:** Automatic calibration Technique for test Programme & Quality Control
- VII. **Patient Position :** Cross Hair Laser Light **or** Computer Aided Re-Positioning facility
- VIII. **Scan region -** 190cmx60cms or more for Total Body Analysis
- IX. **Patient Weight Limits:** More than 150 kg
- X. **Reference data:** South East Asia regional databases, NHANES -III (age, sex and ethnicity) compactable.
- XI. **Table Height:** Not less than 25"
- XII. **Magnifications:** None
- XIII. **Software for the following:**
  - a. AP Spine
  - b. Dual Femur
  - c. Total Body with Body Composition (Fat Analysis)
  - d. Vertebral Assessment (AP & Lateral Views)
  - e. Lateral spine BMD
  - f. Fore Arm
  - g. Comparison to Previous Scan
  - h. Pediatric software ( Spine & Total Body for age group 5-19)
  - i. Orthopedic Hip Analysis
  - j. DICOM

#### **XIV. Standard Information required from Vendor**

- a. Pre-installation requirements - Please Specify Including Room Size & Site Plan
- b. No. of Installations in India & Region
- c. No. of Trained Service Engineers

3. **UPS:** 2 KVA with 30 mins Backup

4. **CE & AERB Type approval:** Type approval must be provided for the model quoted.

#### **Other Requirements**

- System must have a three year standard warranty.
- Weighting Scale & Stadiometer to measure height and weight of the patient.
- Two numbers of external hard drive of one TB to store the data.
- Must provide three days application training at the site of installation.

#### **5. Quantitative Ultrasound (Portable Ultrasound based Bone Mineral Densitometry)**

1. It should be CE and FDA Approved.
2. Parameter display facility
3. Weight – 10 Kgs or Less
4. It should have a fully dry operation.
5. Printer – Internal – Thermal printer with graphical output  
External – Inkjet/Laserjet
6. USB Port facility
7. Measuring Parameters – Stiffness Index from BUA, SOS
8. Precision – less than 2%
9. Reference Data – Calcaneum (age, sex and ethnicity).
10. Measurement Time – Less than 10 Sec
11. Electrical Req. - 100 - 240V AC
12. Frequency – 50/60 Hz
13. Operating Temp. – 15–35 Degree

#### **Other Requirements**

- System must have a three year standard warranty.
- It should supply with a cover for easy transportation of machine
- It should have reference database to produce T score as per WHO guidelines.

#### **6 . Generator**

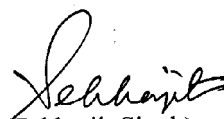
1. Maximum output 5.5 KVA
2. Engine type, air cooled
3. Engine HP - not less than 13 HP
4. Engine Governing - Electric Governor (Load Sensitive)
5. Choke – Auto

6. Engine Control Display – i Monitor equipped
7. Starting – Electric/Recoil start
8. Fuel type – Petrol/diesel
9. Fuel Tank Capacity – not less than 15 liters
10. Oil Alert System
11. AC Circuit Protector
12. Continuous Operating Hours – Minimum of 4 hours
13. Ability to run air conditioner, refrigerator, TV, Fan and light simultaneously

**7. Back Battery for UPS for DEXA & Ultrasound (2KVA) with minimum 30 minutes back up**

**8. Urinary Biomarkers (2700 each)**

1. Urinary Deoxypyridoline
2. Urinary C-Telopeptides of Collagen I (CTX)
3. Urinary N – Telopeptides of Collagen I (NTx)



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