

**NATIONAL INSTITUTE OF UNANI MEDICINE**  
Kottigepalya, Magadi Main Road, Bangalore-91.

F. No. 3-68/2006-07/NIUM/Admn/

Date: 24.12.2009

**TENDER NOTICE FOR EQUIPMENTS**

Director, NIUM invites sealed tenders in two parts consisting of Technical and Financial Bids for supply of Pharmacy & Hospital equipments from registered and reputed firms/establishments having proven track record and competency in Pharmacy and Hospital Equipments. The cost of tender is Rs.500/- Tender form can be downloaded from the institute's website: [www.nium.in](http://www.nium.in) and submitted to this Institute by enclosing a DD (non-refundable) for Rs.500/- drawn in favour of "The Director, NIUM, Bangalore" payable at Bangalore. Last date for submission of duly filled in tender form along with EMD of 2 % of the total cost of Equipment is 19<sup>th</sup> Jan. 2010. The technical bids shall be opened on 20<sup>th</sup> Jan. 2010 at 11:30 AM. Details regarding the list of equipments and their specifications etc., is enclosed herewith.

Sd/-  
**Consultant (Admn)**

# **NATIONAL INSTITUTE OF UNANI MEDICINE**

(An Autonomous Organisation of Ministry of Health and Family welfare, Govt. of India)

Kottigepalya, Magadi Main Road, Bangalore – 560 091

Phone: 080-23584260

Fax No: 080-23587480

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Sl.No.

# **TENDER FORM FOR EQUIPMENTS**

**LAST DATE FOR RECEIPT OF TENDER: Upto 5 P.M. on 19th Jan. 2010.**

## **TENDER NOTIFICATION FOR PURCHASE OF EQUIPMENT :**

- i) All the firms submitting tender/quotation should provide the following documentary proof:
  - a) That the firm is a registered manufacturer or authorized supplier of the said equipment.**
  - b) The past performance of the firm in the sale of the said equipment.****
- ii) All the firms submitting tender/quotation should enclose a DD for Rs.500/- drawn in favour of the “Director, NIUM, Bangalore” payable at Bangalore towards cost of tender/quotation.**
- iii) Separate technical bids and EMD deposit are required only for the equipment costing more than Rs.2.00 lakh.**
- iv) In case of equipment costing upto Rs.2.00 lakh, the firm may submit only financial bids/quotation.**
- v) The tender for Technical bids will be opened on 20th Jan 2010 at 11.30 AM. Financial bids for equipments costing more than Rs.2.00 lakhs will be opened on 23rd Jan 2010. However, Financial bids for equipments costing upto Rs.2.00 lakhs will be opened on 20th Jan 2010.**

## **“TECHNICAL BIDS” AND “FINANCIAL BIDS” FOR THE EQUIPMENT COSTNG MORE THAN RS.2.00 LAKH**

- i) Technical Bids should give details of technical qualification with sufficient proof.**
- ii) The experience of the firm in the manufacturing of the said equipment.**
- iii) Name of the organizations where the equipment are being supplied by the firm for the last 2 years.**
- iv) 2% of the estimated value of the equipment for EMD along with the cost of tender form should be enclosed in the form DD drawn in favour of “The Director, NIUM, Bangalore” payable at Bangalore along with the technical bids.**

- v) **The technical bid should be sealed by the bidder in a separate cover and superscribed as “Technical Bid” on the top of the cover**
- vi) **The financial bid should indicate the item-price of the equipment and should be sealed by the bidder in a separate cover and superscribed as “Financial Bid” on the top of the cover.**

## Face Sheet accompanying the Tender schedule

1. Name and full address  
of supplier to whom the  
Schedule is issued :
  
2. Particulars of DD enclosed towards:  
Tender form.
  
3. Last date for the receipt of  
Sealed Tender Form :
  
4. Date of Opening of  
Sealed Tender (Technical bid) :
  
5. EMD Amount (Consolidated in  
case of more than one equipment) :
  
6. Particulars of DD enclosed towards  
EMD. :

**Signature of Tenderer**

# **National Institute of Unani Medicine, Bangalore-91**

## **Terms and Conditions:**

1. Only registered or reputed and established firms who are capable of Supplying, demonstrating, installing and maintaining the Branded equipments/ items to apply.
2. The prices quoted should be inclusive of all taxes. TDS will be deducted as per government rules, if applicable.
3. Earnest money shall ordinarily be 2% of the estimated value of the tender. The Earnest money will be liable to be forfeited, if the tenderers withdraws, impairs or derogates from the tender in any respect within the period of validity of his tender.
4. No tender will be accepted unless accompanied by a crossed Account Payee Bank Demand Draft as mentioned above towards Tender Form & Earnest Money Deposit (separately) drawn in favour of *The Director, NIUM, Bangalore*.
5. EMD of the successful tenderer shall be refunded after the security deposit, (5% of the total value) is furnished. If he fails to furnish the security deposit the EMD shall be liable to be forfeited. The EMD for the unsuccessful tenders will be returned within 30 days of the award of the contract. The EMD amount shall not bear any interest.
6. The tender documents are not transferable.
7. The rates should be quoted separately for each article according to the unit asked for together with manufacturer's name, license number and name of the brand/make.
8. No person making a tender shall be allowed at any time on any account whatsoever, any claim for revision or modification of the rates quoted by them. No clerical error, typographical error will be considered after the opening of the tender. Conditions such as subject to the availability of stocks, supplies will be made as and when supplies received from the principals etc., will not be considered under any circumstances.
9. The quotation should be typewritten and every correction in the tender should invariably be initialed by the tenderer failing which the tender will be rejected.
10. The tenderers should specify the minimum period required for arranging shipment/supply from the date of receipt of firm order/supply contract. Further extension of time will not be provided for supply than the minimum time indicated in the tender by the supplier after firm orders are placed by NATIONAL INSTITUTE OF UNANI MEDICINE, Bangalore.

11. Each tender must contain not only the rates for the main item of the tender but also the rates for spare parts that are compulsorily supplied with the main equipment. No part is made to be optional, all parts should be quoted. The aggregate value of the entire tender with all parts required should be mentioned, failing which, the tender is liable to be rejected. The Director reserves the right of ordering/not ordering any of the quoted rates. The rates quoted should be inclusive of transportation, delivery of the equipments at the institute premises, installation and commissioning.
12. The successful tenderer should enter into an agreement with the Head of Institution (Stamp duty to be paid by the tenderer) within FIVE days on receipt of the intimation about the acceptance of their rates of the item tendered by them to the effect that XYZ equipment in question will be supplied in good working condition and that necessary repairs if any will be carried out by the supplier of the unit with the required spare parts free of cost during the guarantee period and after the guarantee period at reasonable charges when called for and given an undertaking to the effect that the equipment will not be allowed to be idle for want of repairs spare parts etc. The successful tenderer should furnish a bank guarantee from a nationalized bank to the extent of 10% of the total value, valid until the completion of the warranty period of the equipment.  
NOTE: Bank Guarantee from the Nationalized Bank only will be accepted.
13. In case of imported Equipment, Payment to Indian Agents will be made only after satisfactory installation and demonstration of the equipments
14. The loss to NATIONAL INSTITUTE OF UNANI MEDICINE, Bangalore, if any, incurred on account of purchase made elsewhere or by failure, neglect or refusal on the part of the tenderers to supply according to the terms of agreement, will be recovered from them. If any article or things supplied by the tenderer have been partially or wholly used or consumed in the hospital and they are subsequently found to be in bad condition, unsound, inferior in quality or description not in accordance with the samples or otherwise faulty or unit for use, the whole of the contract price or price of such articles or things will be recovered from the tenderer. The tenderer will not be entitled for any payment whatsoever, for such articles for infringements of the stipulation of the conditions or for justifiable reasons, the contract may be terminated by the Director and the tenderer shall be liable for losses sustained by the NIUM on the consequences of the termination which may be recovered from the EMD/Bank Guarantee of their invoices become due to them. In the event of such amount being insufficient, the balance will be recovered personally from the tenderer.
15. All tenderers should furnish a declaration in the enclosed format, which should form a part of tender enclosed documents. Tenders received without the declaration will not be considered.
16. The tenderers should also quote their rates towards regular servicing/Maintenance duly mentioning the number of visits per annum after the guarantee/warranty period (during the period servicing/maintenance, replacement of defective parts is to be done free of cost) is over.

17. The tenderers should supply the circuit diagram and instruction manual of equipments in question at the time of supply of the equipment. Electrical circuit diagram also should be supplied.
18. Necessary training/instruction on operation of the system should be given by the installation Engineer to NIUM technical staff at the Tenderers cost after completion of the installation.
19. The Director reserves the right to increase or decrease the Nos. and to reject any or all-tender quotations without assigning any reason.
20. A person/firm having once given a tender shall not withdraw it after its opening/acceptance and if he does not, the Earnest Money paid by him will be forfeited and the tenderer is liable to make good the loss sustained.
21. All the equipments are of double bid system. Hence, Technical and Price Bids will be valid for SIX months from the date of opening of bid. Both tenders one containing the Technical offer and the other price Offer has to be submitted separately in a different cover super scribing price Bid/Technical Bid for supply of XYZ. The Technical Bid received after the date and time fixed for its receipt will be considered late or delayed tender. The price Bids will be opened only after technical evaluation of the entire offer is done.
22. The EMD amount in this respect may be enclosed along with the price Bid, mentioning the Demand Draft Number, Date and Amount in the Technical Bid.
23. The tender without technical specifications will be rejected. The approved technical specification will be the property of NIUM.
24. Any dispute arising out of this contract is subject to jurisdiction of the courts of Bangalore City only.
25. Force de majeure clause applies.
26. The last date to submit the tender along with technical specifications is 19<sup>th</sup> January, 2010 by 5-00 p.m. The sealed envelops should be sent through Post/Courier or by hand addressed to the Director, National Institute of Unani Medicine, Kottige Palya, Magadi Main Road, Bangalore – 560 091. It should be super scribed with the reference number and the last date of tender submission.
27. NIUM takes no responsibility for delay, loss or non-receipt of the tender documents sent by post either way.

# **DECLARATION**

1. It is here by declared and certified that we

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.....  
.....

accept all the terms and conditions of NIUM, prescribed in tender form from  
S. No. 01 to 27

2. It is assured that the material/equipments shall be delivered to NIUM, within the period mentioned in the supply order, failing which due penalty of 1% of total cost per day, shall be paid by our agency.

**Signature of Tenderer**

Items required for - Dept of PHARMACY

**1. End Runner small in size for laboratory purpose ( Quantity required: 1 No.)**

Specifications: Complete in all respects with all contact parts.  
Capacity: 1 Kg.

**2. Vertical Auto Clave (Quantity required: 1 No)**

Specifications: Electrically operated suitable for rapid stabilization under steam pressure.

Cat No: KI-69-01

Working Size: 25cm (Dia) x 45 (Height)

**3. Humidifier (Quantity required: 1 No)**

Specifications: Atomizing Humidifier of splash plate rotating disc type. Designed to give relative humidity as high as upto 95% RH in enclosed areas.

Capacity: 3.0 litres (Alu. Body).

**4. Granulator (Quantity required: 1 No)**

(for laboratory purpose)

Specifications: Complete in all respects with all contact parts, horizontal type for wet and dry granulation process, complete with suitable ISI Mark Standard Motor

**5. Capsule Filling Machine (Quantity required: 1 No)**

Specifications: 100 holes For Filling 100 capsules.

## **6. Lypholizer (Freeze Dryer) (Microprocessor Controlled)**

Specifications:

Complete with Perspex see through lid, gasket and control instruments i.e Microprocessor Based Digital Temperature Controller for measurement of Temp & Electronic Digital vacuum indicator.

Temperature Indicator:

Vacuum Drum has 6 x 12 port manifold ( Main drying chamber) made of stainless steel non-magnetic grade with Perspex top cover. ( CFC free and puf insulated)

- a) Capacity 3.25 litres approx. ( for 6 tests) ( with digital volume indicator and transducer).

Optional Accessories:

- a) Heat Rack with 2/3 individually heated racks for accelerated freeze drying of small samples in bulk ( Tray, petri dishes and Beakers etc). Adaptable to main drying chamber
- b) Automatic Voltage stabilizer cap. 5.00 KVA.

## **7. Stirrer (Magnetic) - Quantity required: 1 No.**

Specifications:

Compact stirring device utilizing a rotating magnetic field with Hot plate and energy regulator to control heat or fitted with Microprocessor Based Digital Temperature indicator cum controller.

Capacity: 2 litres.

## **8. Stirrer (lab) - Quantity required: 1 No.**

Specifications:

- Motor Stirrer having maximum speed upto 4000rpm.
- Unit is clamped to a C.P rod fitted on a heavy cast iron base.
- Fitted with heavy duty PMDC Motor
- Fitted with drill chuck as a standard feature.
- Fitted with 0-60 min timer.

**9. Water Bath Rectangular (Double Walled), - Quantity required: 1 No.**

Specifications:

Digitally controlled fitted with Microprocessor Based PID Temperature Indicator cum Controller in lieu of Hydraulic type Thermostat. All digitally controlled units are fitted with a FHP stirrer as a standard feature.

Size: (L) X (W) X (B) : 355 x 405 x 100 mm (12 holes of 75 mm diameter)

Capacity: 15 litres

**10. Hot Air Oven (With Auto Time Control Unit ) - Quantity required: 1 No.**

Specifications:

Auto Time Control Unit: These models are fitted with specially designed MICROPROCESSOR BASED PID DIGITAL TEMPERATURE INDICATOR-cum controller with an in –built DIGITAL TIMER to control the temperature from ambient to 250<sup>0</sup>C 1<sup>0</sup>C.

Working Chamber Size: 605 x455 x 910 mm

Capacity: 252 litres

No of Shelves: 3

**11. Dehumidifier (Quantity required: 1 No)**

Specifications:

Table top portable de-humidifier

It is portable bench top unit based on refrigeration cycle.

Fitted with a FHP compressor to create conformation low and comfortable humidity conditions in a laboratory, depending upon ambient conditions. Humidity is controlled through a “Humidistat” automatically to work on 220/230 volts AC supply.

**12. Digital Muffle Furnace (Quantity required: 1 No)**

Specifications:

Electrically Heated chamber type furnace using SILICON CARBIDE HEATING ROD TYPE element. Max temperature upto 1500<sup>0</sup> C and working temperature upto 1400<sup>0</sup>C for continuous run. Along with fully automatic Thyristorized Power Control System.

Heating Chamber: 150 mm (W) x 150 mm (H) x 300 mm (D)

Temperature Controller Cum Indicator: Automatic Microprocessor Digital PID Profile Digital Micro Controller.

Optional Accessories: Communication Port for PC INTERPHASE for logging DATA to your personal computer for taking prints through a printer as and when required. With software on compact disc.

**13. Ball Mill (Quantity required: 1 No)**

Specifications:

Electrically operated having a capacity from a few grams to 2 kg.

Fitted with FHP Motor with maximum speed 80rpm.

Supplied with steel balls for mixing and grinding.

S.S Jar of 2 Kg capacity ( Variable Speed).

Automatic 0-60 minute timer.

**14. Shaker (Reciprocating Type ) - Quantity required: 1 No.**

Specifications:

Kahn Racks, bottles or conical flasks of different sizes can be shaken by adjusting the compartments provided on the shaking rack.

Speed ranges from 140rpm to 250rpm.

Fitted with PMDC heavy duty geared motor for continuous rating.

Platform: 910 x 910 x 100 mm.

**15. Emulsifier (Quantity required: 1 No)**

Specifications:

Complete in all respects with Crompton / equivalent make motor, starter. Complete with one classifying screen of any desired mesh etc.

Capacity: 50 or less (For laboratory purpose).

**16. Bulk Density Apparatus (Quantity required: 1 No)**

Automatic microprocessor based digital bulk density test apparatus is required for studying the packing down of powder beds of different pharmaceuticals and chemicals powders, flakes, pellets, granules and other bulk substances. The specifications of automatic digital bulk density test apparatus are

**SPECIFICATIONS:**

Advanced microprocessor based instrument should support both USP methods and can calculate all important ratios and values, which should be built in validation program Confirm to USP-I, USP-II standards Calculation of tapped density. Compressibility index and Hausner ratio Simultaneous tapping and rotation movement Printer port should be provided for documentation

**17. Colorimeter (LCD Display, battery cum main operated) - Quantity required: 1 No.**

Specification:

- Should be capable of measuring the color of many different types of products including solids, powders, granules, pastes, and opaque or translucent solids and liquids.
- Should include all major color scales, illuminants and indices, 8 filter.
- Should have a wavelength range of 400nm - 700nm with an interval of 10nm.
- Power input: 100-240 VAC, 47-63Hz.
- Operating Temperature: should be between 10° to 45°C.
- Operating Humidity : should be between 10% - 90%.
- Should have large area illumination (> 1 inch) for sample measurement with Variable Sample Illumination.
- Light source be Xenon flash lamp.

Accessories

1. Ring and disk set for measurement of liquids, pastes, solids or powders.
2. Extra Sample Cup with port insert
3. Sample Cup Set for Translucent Liquids
4. Sample clamp for holding irregular samples
5. Compression Cell Set
6. Printer for generating hard copy of measurements

**18. Centrifuge- Non-Refrigerated (Quantity required: 1 No)**

Centrifuges should be designed for high speed centrifuging applications. The equipment should be provided with speed control, digital temperature control cum indicator, digital timer with a range of 0-99 minutes and alarm at automatic switching off, dynamic brake, zero start interlock, safety cut off in case of imbalance and lid locking switch etc.:

Specification

Max.speed: RPM 20000;  
Max RCF: xg 34500;  
Max tube size: ml, 100 ml  
Max. Capacity: ml, 400ml  
Lowest Temp: non refrigerated  
Speed Accuracy  $\pm$  50r/min  
Time Rang 0-99min  
Noise • 65Db

**19. Digital Tablet/Solid Materials Dissolution Test Apparatus (Six Stage)- Qty: 1 No.**

Specification:

SPEED CONTROL

Speed range: 25-150 rpm  
Display : 3 digit LED  
Accuracy:  $\pm$  1RPM

DIGITAL TIMER/ALARM

Display : 3 digit LED  
Setting Range :1 to 999 minutes,in steps of 1 min  
Accuracy :  $\pm$  0.1%  
Mode/Setting : "Finger-tip"  
Alarm : Peizo beeper

TEMP. INDICATOR/CONTROLLER

Temp. range 30°C to 50°C  
Display : 3 digit LED  
Accuracy :  $\pm$  0.5°C  
Resolution : 0.1°C  
Sensor : RTD

WATER BATH SIZE:

900mm(W)x200mm(D)x200mm(H) Made of 10mm thick acrylic  
POWER: 220V 50Hz 1.0 KW  
Heater : 500 Watts

**20. Digital Tablet Friability Test Apparatus (Double drum) -Quantity required: 1 No.**

Digital friability test apparatus is required to determine the durability of tablets from the time of production to the time use. Tablet friability test apparatus should contain latest Micro controller based circuitry, 2 line alpha-numerical display, facility to program rotations, attachment for single or two drums and facility for abrasion and friability drums along with following

Specification

Drum Diameter: 285mm  
Tablet Fall Distance:140mm  
Drive: 1/8 HP  
Power Phase:AC/230 volt Single

**21. Digital Tab/ Solid Materials Disintegration Test Apparatus**

**(Double Basket)- Quantity required: 1 No.**

The instrument is required for accurate estimation of disintegration time of tablets/capsules. It should be assembled in painted sheet metal cabinet with chemical resistant epoxy coating, fitted with superior quality constant speed sturdy motor. The guide discs and strokes should be according to pharmacopoeial standards. It should contain digital timer with time hold facility and digital temperature controller with water bath for maintaining temperature.

Specification:

Displacement:55mm  
RPM: 30  
Drive : 1/8 HP  
Heater:125 watt.  
Power: C/230 volt Single Phase.

**22. Electronic digital microprocessor based**

**Analytical Balance (Quantity required: 1 No)**

Specification:

Capacity: 0.01mg to 220 g  
Readability: 0.01/0.1 mg  
Repeatability:±0.02/0.1 mg  
Linearity:±0.03/0.2 mg  
Pan Size (MM):80  
Response Time:3 sec  
Operating Temperature:0<sup>0</sup> to 45<sup>0</sup> C  
Housing Dimension:210 X 290 X 310 mm  
Power Supply: A/C Adapter , 230 V ± 20% 50-60 Hz  
Units: g,mg,ct,lb,Oz,Ozt,tl,GN,dwt,tic,mom,K,tola,baht,M

**23. Melting Point Apparatus (Digital)- Quantity required: 1 No.**

**SPECIFICATIONS:**

- Should be designed to determine the melting points of non colored solids, with high accuracy.
- This unit should have an arrangement to hold the capillary containing the sample in uniformly heating media.
- Temperature should be indicated by a digital display readable in 1.0/0.1 Deg.C.
- At the point when the sample melts, the heating should be automatically cut-off and the digital display shows the melting point on the indicator till it is cleared.
- No Silicon Oil or other bath is required as heating media.
- Melting Range: 2.0 Deg.C, above room temperature to 300 Deg.C.
- Accuracy: 0.3%.

**24. Paper Chromatography cabinet  
(Wooden Chamber for Chromatography) – Quantity required: 1 No**

Specification

Seasoned teak wood with wax coated interior; All sides glass paneled; Glass panel lid with hinges-rubber lining to prevent air entry. Size-24” x 24” x 12” with accessories like 3-4 stainless steel bolts, nickel rods and two stainless steel tray.

**25. pH Meter (Quantity required: 1 No)**

Specification:

Readout:3 1/2 digit LED display  
Range:pH: 0 to 14.00 mV: 0 to +/- 1.999  
Resolution:pH: 0.01 pH mV: 1  
Accuracy:pH: +/-0.02 pH +/- 2 least count mV: 0.2% +/- 1 least count  
Temp. Comp.:0 to 100<sup>0</sup>C  
Power required: 230 V AC +/-10% 50 Hz, 4 VA  
Warning time:5 minutes  
Weight:1 Kg (approx)  
Body:ABS  
Dimension:80 mm (H) x 235 mm (W) x 150 mm (L)  
Electrode:Combined PVC sleeved  
Electronic buffer:Equivalent signal output of ideal electrode in solution of 9.2, 7.00, 4.00 pH. Useful for self diagnostic.

Accessories: Stand set, pH combined Glass electrode, Electrode stand, Patch cord for Electronic buffer, Buffer tablets for 9.20, 7.00, 4.00 pH, Screwdriver and Dust proof cover.

## **26. Uv / Vis. Spectrophotometer (Quantity required: 1 No)**

Easy to use UV/VISIBLE spectrophotometer optimized for biological lab use attached with software also and method storage functionality. It must qualify the following specifications:

Specification:

Wave length range: 190-1000nm;  
Wave Length Accuracy : + 1 nm  
Wavelength Read out : 0.1 nm  
Response Time: 1-2 second  
monochromator: plane grating with 1200 lines/mm;  
automatic upon switch on wavelength calibration;  
spectral bandwidth: 2nm;  
accuracy:  $\pm 1$ nm;  
light source: tungsten halogen and deuterium arc;  
Detector: single solid state diode;  
photometric range: 0.1 to 200%T;  
linearity:  $\pm 0.5\%$ ;  
reproducibility: 0.5% of absorbance value to 2.000A at 546nm;  
stability: 0.002A/h at 0A after warm up;  
Noise:  $\pm 0.0001$ A near 0A and 0.0002 near 2A at 600nm;  
100mV/ 1.000A via interface lead analog output, standard digital output, light weight, easy to displace with power requirement of 220V/50-60Hz, 100VA.  
Display : 4 Line 20 Character LCD  
Operation Of the Instrument : Stand Alone (Data transfer to & manipulation of data by computer through RS 232)  
Operating Mode : %T, ABS, CONC by Factor & Multi Standard  
Measuring Mode : Single & Multi W/L, Spectrum & Time Scan  
Sample Holder : 5 Position (One position for reference)

## **27. Viscometer (Quantity required: 1 No)**

A) Specifications

- Digital rotary type
- Minimum viscosity range: 100 cp (approx.)
- Maximum viscosity range: 40 M cps (approx.)
- Speed: 0.1-200 RPM
- Speed increment: 54
- Accuracy: +/- 1.0 % of range
- Repeatability: +/- 0.2 %
- Important accessories: Vane spindle, RV-1 spindle, 500 CPs general purpose silicon fluids.

B). Accessories

- Digital Viscometer rotary type with appropriate spindles, viscometer stand, guard leg, carrying case, RTD temperature probe & software disk etc.
- Ultra low viscosity adapter, Temperature bath / Temperature control unit with heating and cooling device (-200C to +1500C), Helipath stand and T-Bar spindles, Viscosity standard fluid (1000cp), Rheocalc software.
- Viscosity range: 1cp to 6,000,000cp.
- Accuracy: +/-1%.
- Repeatability:- +/-0.2%.
- Speed/rpm: 0.01 – 200rpm (54 possible).
- Power: 220 volt, 50/60Hz single phase supply.

**28. Water Bath Shaker (Quantity required: 1 No)**

Specification

Temperature Range: Ambient to 100°C Temperature Stability:  $\pm 0.5^{\circ}\text{C}$   
Inner SS outer MS Sheet duly Powder Coated Interior (Tank): S. Steel 304  
Grade duly Sealed (Leak Proof)  
Insulation: Glass wool/ Mineral Wool  
Power Consumption: 220/ 230V AC Supply 50Hz Single Phase  
Digital Resolution:  $0.1^{\circ}\text{C}$  Digital Setting:  $0.1^{\circ}\text{C}$   
Control Panel: Digital Temp. Controller Cum Indicator Mains Line & Load  
Indicator, Speed Regulator  
Duty Cycle: Continuous  
Shaking speed: 20 to 250 Strokes  
Removable diffuser plate having lotus clamps for various of flask capacity  
Inner Chamber Size: 275 X 275 X 275mm  
Capacity (L) :14 Liter  
Heater "W" Wattage : 1.5 KW  
Dimension mm : 275 x 275 x 150  
Shaking Tray :3 in No. for 50 ml, 100 ml, 150 ml flask.  
Bath Opening Steel Dome Lid

**29. Digital Rough Balance (For Laboratory Use)- Quantity required: 1 No.**

Specifications:

- \_Table top model.
- \_Load upto 2KG, Pan Size– 160mm diameter.
- \_Stainless steel Weighing Pan.
- \_1Gram Sensitivity and High accuracy.
- \_Bright Digital display.

## **Items required for - Hospital**

### **1. Labour Obstetric Table (Quantity required: 04 Nos)**

(for conducting labours)

Specifications: Stainless steel

### **2. Gynae Table (Quantity required: 04 Nos)**

(Gynae examination table)

Specifications: Stainless steel

### **3 Back rest cot (Quantity required: 10 Nos)**

(for patients use)

### **4. TMT ( Tread Mill Test)**

Specifications as mentioned below:

- i) Real time analysis of ST, ST/HR, ST Slope, J point and METs
- ii) Power full ADS filter for ECG baseline stabilization
- iii) High resolution to ECG display
- iv) High fidelity to computerized ECG printing.
- v) 12 lead blue tooth transmitter and receiver for wireless transmission
- vi) Protocol modification
- vii) Data to be send through e mail for the opinion of cardiologist.
- viii) Stress test software package.
- ix) Rest ECG software with interpretation.

## **5. HOLTER ANALYSIS**

Specifications as mentioned below:

- i) 20- Template editing to analysis
- ii) VE, SVE, V- Run, SV-Run, Pause, ST etc
- iii) Heart rate variability
- iv) Hourly count menu, page scan, mega scan.
- v) Atrial fibrillation / flutter analysis.
- vi) Pacemaker auto detection and analysis
- vii) 12 lead scan
- viii) QT analysis
- ix) Vector, SAECG and QT/QTd analysis
- x) Unique sleep apnea monitoring
- xi) Unique frequency domain cardiogram
- xii) 3/12 Channel digital recorders.

## **6. Automated External Defibrillator**

Specifications as mentioned below:

- i) Manual Over ride operation
- ii) Configuration biphasic energy protocol and detection rates.
- iii) Optional continuous ECG monitoring
- iv) Multiple –rescue internal memory storage
- v) Optional rechargeable battery
- vi) Infrared data communication
- vii) Z- bar visual impedance indicator.

**7. Nice 2007 S CFL (Infant Radiant Warmer + CFL Phototherapy-**

**[servo warmer] ) - Quantity required : 1 No.**

**8. Nice 1000 ( Electronic baby weighing machine -**

**[2g,5g & 10g] - Quantity required: 1 No.**

**9. Auto Clave portable 12'' x20'' (for sterilization) - Quantity required: 1 No.**

**10. Suction Apparatus ½ HP Crompton motor - Quantity required : 1 No.**

**11. Instruments trolley stainless steel (304 grade) - Quantity required : 2 Nos.**

**12. Cots with side railing (Quantity required: 4 Nos)**

**13. Oxygen Cylinder with set (Quantity required : 4 Nos)**