

**DIRECTORATE OF HEALTH AND FAMILY WELFARE PUNJAB  
(PARIVAR KALYAN BHAWAN SECTOR 34, CHANDIGARH)  
(STORE PURCHASE BRANCH)**

**TENDER FORM 1 M&E/2009-10**

1. Tenders must be enclosed in a properly sealed envelope addressed to the Director, Health, Services, Punjab (by designation and not by name). The tender must be super scribed "Tender for the machinery & equipment" as called in Tender Notice No.1 M.E/2009-10. The tenders must reach in the office of the Director Health & Family Welfare, Punjab on or before 6-1-10 at 11.00AM as mentioned in the tender notice and will be opened on the same day immediately at 11.30 AM.
2. In the event of the tender being submitted by a firm, it must be signed separately by each member thereof, on in the event of absence of any partner it must be signed on his behalf by a person holding a power of attorney authorizing him to do so or in the case of a company the quotations should be executed in the manner as laid down in the said company's Articles of Association. The signature on the quotation should deemed to the authorized signature.
3. All the columns of the tender form should be duly, properly and exhaustively filled in. The rates and units shall not be overwritten & be both written in figures and words. The word "No Tender" shall be written across any or all of the items in the schedule for which a tenderer does not wish to tender.
4. Any omission in filling the columns of 'units" and "rates' shall altogether debar a quotation from being considered.
5. All corrections must be signed by the tenderers.
6. The samples, if required of items must be sent to the Director, Health Services, Punjab with freight paid. Freight to pay sample shall be left with Railway/Road Transport at tenderers risk and responsibility. The late sample will not be considered and tender of that firm will be rejected straightway.
7. Earnest money must be deposited in the shape of FDR pledged to the DHS, Punjab for each item and mentioned in the list of equipment, failing which the tender will be rejected. The said amount will be regarded as forfeitable to government in case any successful tenderer fails within the time fixed by the DHS, Punjab either to sign the contract on terms contained in the Notice Inviting. Tender form and conditions of contract referred in thr invitation of tenders or to pay the additional security referred to in the next clause below.
8. The successful tenderers will be required to deposited in addition as security or Bank Guarantee for due performance of the contract an amount to 10% of the approximate value to the estimated supply.
9. The DHS Punjab will have the right to reject all or any of the quotations without assigning any reason.
10. No tender will be considered unless and until all the documents are properly signed.
11. In the event of tender being accepted, the quotations will be converted into a contract which will be governed by the conditions on page 5 to 6 (Schedule-B) read with terms & conditions.

**Deputy Director (SP)  
For Director, Health & Family Welfare, Punjab, Chandigarh**

### **Terms and conditions of the tender**

1. Rates should be quoted F.O.R destination otherwise the same will be ignored straightway.
2. The Director, Health Services, Punjab does not bind himself to accept the lowest tender and reserves to himself the right to reject any or all tender without assigning any reason thereof.
3. The conditions of contract schedule "B" attached to the schedule "A" should be returned to this office duly signed along with schedule "A" otherwise the tender will be ignored.
4. In case the date of opening the tender falls on the holiday declared by the government tenders will be opened on the next working day at the schedule time.
5. Any tender which is not on the proper form or is received late will not be considered.
6. Tender without the earnest money will not be considered.
7. Offers are to be submitted in duplicate along with only one tender form in respect of each item. Offers not in duplicate will be ignored.
8. All the disputes will be settled within the jurisdiction of the head quarters of Director, Health Services, Punjab.
9. The rates of sales tax, inter-state tax, VAT or any other tax must be specifically mentioned failing which no tax will allowed at subsequent stage.
10. The payment shall be released after the execution of the complete order at destination & installation of the equipment and satisfactory performance.
11. Tenders/offers of such of the firms as do not conform exactly according to the advertised specifications/terms and conditioned will be ignored straightway.
12. All copies of the documents attached with the tender (even Photostat copies) should be attested by Gazetted officer/Notary Public/Oath Commissioner.
13. Director, Health Services, Punjab reserves the right to amend the terms and conditions at any time after the issue of notice.
14. The supplier/manufactures must indicate mark or name of manufacture of the state offered by them. In case they are offering the stores on behalf of their principal, they may submit authorization certificate to this effect.
15. Minimum delivery period must be quoted clearly in the offer.
16. The tenderers should certify unequivocally that the stores offered conform strictly to the advertisement specifications for the offer.
17. Incomplete or conditional offers incorporating price maintained & force majeure etc. will not be entertained.
18. Tenderers should certify in their offers that rates quoted by them are not higher than those quoted to DGS&D and State Govt.
19. Tenderers should indicate their sale tax/VAT registration number in their offers.
20. The firm should have service centre either in Punjab, in Chandigarh or in Harayana. The supplier shall arrange to provide free sales services for one year from the date of receipt of goods at destination. Any delay in providing prompt after sale service will make supplier liable to pay the charges of there carried out at their risk and cost.

21. The quantity shall subject to increase or decrease.
22. The firm should have been in existence for three years proof of Industry Department may be attached.
23. It should have a turn over of at least of 40 lacs in the last financial year. A certificate to this effect duly certified by the competent authority i.e. Chartered Accountant be submitted along with offer.
24. The manufactures should have full fledge testing laboratory so that product equipment it produces/manufactures should be tested internally.
25. The firm(s) should not have been blacklisted by the Government of India or by any other State Government. Affidavit to this effect duly attested be submitted along with the offer.
26. Only manufacturing firm should quote the rates and proof of manufactures be attached.
27. Other conditions of Machinery & Equipment purchase policy should be/will also be applicable.
28. Rates approved in this tender will be valid upto 31-12-2010.

**Deputy Director (SP)**  
**For Director, Health & Family Welfare, Punjab, Chandigarh**

**List of machinery & equipment**

<b>Sr. No.</b>	<b>Name of item</b>	<b>Approximate Demand</b>	<b>EMD</b>
1.	Hot Air Oven Medium size	8	28000
2.	Refrigerator 380 Ltr.	7	20000
3.	Furnace 8X12X20 or 5X12X15	2	18000
4.	pH-Meter	1	4000
5.	Copper Water bath 12 & 24 holes	2	11000
6.	Hot Plate	14	8400
7.	Tripod Stand	12	2000
8.	Stands for Burette & condenser	12	2000
9.	Hot Air Blower	4	36000
10	Exhaust Fan (Industrial) 1400 RPM	6	3000
11	Aluminum Racks for shelves	12	12000
12	Electronic Weighing Balance	8	28000
13	Volatile oil detection apparatus	1	2000
14	Sulphur Dioxide Detection Apparatus	1	20000
15	Colony Counter Digital	1	20000
16	Haemocytometer	1	20000
17	Deep Freezer ( -20°)	2	30000
18	Lovibond Tintometer	2	60000
19	Digital specrophoto colorimeter	1	40000
20	U.V.-Visible Spectrophotometer	1	35000
21	470mm glass filtration assembly	1	25000
22	Karl-Fischer apparatus	1	2000
23	Potentiometer apparatus	1	2500
24	Dissolution apparatus	1	2500
25	Fume Hood	3	100000
26	Portable Muffle Furnace	4	60000
27	Air curtains 3`	3	4500

**Deputy Director (SP)**  
**For Director, Health & Family Welfare, Punjab, Chandigarh**

## **Hot Air Oven**

### **Specifications:**

- 1. It should be consists of Stainless Steel, double walled chamber from inside and mild steel from outside.**
- 2. The dimensions of the inside chamber should be 14"X14"X14".**
- 3. It should be controlled thermostatically from 0°C To 200°C**
- 4. It should have in built L-shaped thermometer and should be provided with two pilot lamps and perforated trays.**
- 5. It should be operational at 230 volts AC.**
- 6. It should have warranty period of 2 years.**
- 7. It should be provided with working manual.**
- 8. It should have valid ISO 9001:2000 certificate.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **Hot Air Oven**

### **Specifications:**

- 1 It should be consists of Stainless Steel, double walled chamber from inside and mild steel from outside.**
- 2 The dimensions of the inside chamber should be 14"X14"X14".**
- 3 It should be controlled thermostatically from 0 deg cent. To 200deg Cent. +/- 3 deg. Cent.**
- 4 It should have in built L-shaped thermometer and should be provided with two pilot lamps and perforated trays.**
- 5 It should be operational at 230 volts AC.**
- 6 It should have warranty period of 2 years.**
- 7 It should be provided with working manual.**
- 8 It should have valid ISO 9001:2000 certificate.**

**Quantity required = Two Number**

**The above specifications are generalized and mentioned equipment is indigenous one.**

**NAME OF THE OTHER ITEMS REQUIRED AT 0% THE CHEMICAL  
EXAMINER, PUNJAB AT KHARAR**

<b>Sr. No.</b>	<b>Name of Items (Machinery)</b>	<b>Pack Size</b>	<b>Quantity</b>
1	Refrigerator	380 Ltr.	One
2	Air Conditioner	1.5 tons	Six
3	Exhaust Fan ( Industrial )	1400 RMP	Six
4	Aluminium racks for shelves		Twelve
5	Hot Air Brower		Four
6	Stands for Burette & Condenser		Twelve
7	Tripod Stand		Twelve

**The above specifications are generalized and mentioned equipment is indigenous one.**

# **FURNACE**

## **Specifications:**

- 1 Its outer body should consists of thick mild steel sheet and should have been painted.**
- 2 It should be light weight with ceramic fibre light wool insulation.**
- 3 It should have dimensions 8"x8"12" and 5"x5"10".**
- 4 It should be digitally controlled temperature system.**
- 5 It should have maximum temp. range 950 deg. Cent. And working temp. 900 deg. Cent.**
- 6 It should be workable at 230 volts AC.**
- 7 It should possess valid ISO 9001:2000 certificate.**
- 8 It should have minimum two years of warranty period.**
- 9 It should be provided with working manual.**

**Quantity required = Two in Number**

**The above specifications are generalized and mentioned equipment is indigenous one.**



## **pH-Meter**

### **Specification:**

- 1 The instrument should have ph range of 0.00 to 14.00.**
- 2 It should have ph resolution of 0.01 and ph relative accuracy of  $\pm 0.1$**
- 3 Its millivolt (mv) range should be between -1999 to 1999 and mv relative accuracy of  $\pm 1$**
- 4 It should be operational in the temp range of 0°C to 100°C(32°F-212°F) and temp. resolution should be 0.1**
- 5 It should be provided with three calibration points (3 points)**
- 6 It should be provided with three calibration settings of three predefined buffer group.**
- 7 It should be workable at 100-240V, 50-60HZ, 9V DC.**
- 8 It should have a size of 200x 175x 5.g mm/0.6kg.**
- 9 It should be provided with ABS/PC reinforced housing.**
- 10 It should be provided with liquid crystal display.**
- 11 It should have ATE & MTC temp. compensation system.**
- 12 It should have two years of warranty.**

**Qty required = One in Number**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **Water Bath**

### **Specifications:**

- 1 It should consists of double walled stainless steel from inside and mild steel sheet from outside.**
- 2 It should have digitally controlled temperature system from ambient to 95 deg cent.**
- 3 Two types of water baths required one with 12 holes and other with 24 holes.**
- 4 It should be workable at 230 volts AC.**
- 5 It should have valid ISO 9001:2000 certificate**
- 6 It should be provided with manual along with supply.**

**Qty required = Two in Numbers**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **Hot Plate**

### **Specifications:**

- 1 It should be round in shape and consists of stainless steel top having diameter 20 centimeter.**
- 2 It should have a temperature range of 350 deg. Cent. And should be fitted with an energy regulator.**
- 3 It should have digital temperature control system and should be provided with an indicator.**
- 4 It should be workable at 230 volts AC.**
- 5 It should have valid ISO 9001: 2000 certificate.**
- 6 It should have minimum two years of warranty period.**
- 7 It should be provided with working manual.**

**Qty required = Four in Numbers**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## ELECTRONIC WEIGHING BALANCE

### Specifications:

1. It should be fully automatic temperature controlled internal adjustment ( fact )
2. It should have high grade chemical resistant die-cast aluminum housing.
3. It should have monobloc weighing cell.
4. It should have high contrast display ( fluorescent ) with big numbers for easy reading.
5. It should have the facility of running balance diagnostics test i.e. deypad tes, repeatability test.
6. It should have following built in applications like piece counting, percent weighing, check weighing, dynamic weighing statistics, formulation, totaling free factor, recall.
7. It should have RS232C to connect PC, printer or barcode reader and USB port also.
8. It should have quick lock draft shield which can be dismantled in a few seconds.
9. It should have 3 smart keys for shortcut access to application.
10. It should have level indicator in front of the balance with level locking system.
11. It should have smart trac for showing how much entire weighing range has been used.
12. It should have in-use protective cover IP 54 for protection against dust and water.
13. It should have built in date and Time.
14. It should possess following features:-

Maximum capacity	320 gm.
Readability	1 mg.
Repeatability	1 mg.
Linearity	2mg.
Setting time	1.5 s
Adjustment range with external weights	100- 320 gm.
Sensitivity temperature drift	3 ppm/ deg.Cent.
IP protection	IP54 in use for dust & water
Interfaces	RS232 & USB port
Usable Height ofDrafshiled	165 mm
Weighing pan dimensions	127 x127 mm
Size of weighing pan	090mm

**Qty Required.**                      **Three in numbers.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

**SPECIFICATION FOR VOLATILE OIL DETECTION APPARATUS/CLAVENGER APPARATUS.**

**The apparatus should be of Borosilicate glass.  
Firm should have valid ISO 9001.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **SPECIFICATION FOR SULPHUR DIOXIDE DETECTION APPARATUS**

**Firm should have valid ISO 9001.**

**Warranty 2 years.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **SPECIFICATION FOR DIGITAL COLONY COUNTER**

**It should be digital with 3 digit display.  
Complete with writing pan and magnifier.  
Firm should have valid ISO 9001.  
Warranty 2 years.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

### **SPECIFICATION FOR HAEMOCYTOMETER**

**It should comprise of WBC & RBC pipette along with Neubauer Counting Chamber.  
Firm should have valid ISO 9001.**

**The above specifications are generalized and mentioned equipment is indigenous one.**



## **SPECIFICATION FOR DEEP FREEZER- 20C**

**Vertical Model, 10cu.Ft.**

**It should work at temperature range from ambient to 20C**

**CFC Free, PUF insulated.**

**Inside Chamber made up of Stainless Steel and Outside made up of Mild Steel duly painted.**

**Twin Door and Adjustable shelves**

**With Lock keys.**

**Temperature controlled by Microprocessor based controller.**

**Recording temp-tolerance limit(-)8C-(-)20C**

**Firm should have valid ISO 9001.**

**Warranty 2 years.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## SPECIFICATION FOR SPECROPHOTOCOLOURIMETER

<b>Spectral Slit Width</b>	<b>20 mm</b>
<b>Wavelength Range</b>	<b>340 to 950 nm</b>
<b>Wavelength Accuracy</b>	<b><math>\pm 2.5</math> nm NEAR 525 nm</b>
<b>Display</b>	<b>LED</b> <b>% ABS, Cone, Concentration Factor</b> <b>Wavelength</b>
<b>Photometric Range</b>	<b>0 to 100% T</b> <b>0 to 1.95 Abs</b> <b>0 to 1999 Cone</b> <b>0.1 to 1000 Concentration Factor</b>
<b>Photometric Accuracy</b>	<b><math>\pm 2</math> % T</b>
<b>Photometric Noise</b>	<b><math>\pm 0.5</math> % T</b>
<b>Photometric Drift</b>	<b>1.0 % T / Hour</b>
<b>Accessory Output</b>	<b>1.0 VDC nominal at 100% T</b> <b>Rs. – 232 C Serial I/O Port</b>
<b>Stray Radiant Energy</b>	<b>&lt;0.5% T over entire wavelength range</b> <b>When measured with appropriate</b> <b>Accessory kit</b>
<b>Power Requirement</b>	<b>100/115 V, 50/60 HZ; 220/240 V,</b> <b>50/60 HZ</b>

**The above specifications are generalized and mentioned equipment is indigenous one.**

### U.V.VIS. Spectrometer (Double Beam)

- 1) It should be Microprocessor Compatible PC based with Printer.
- 2) It should be provided with special range of 190 mmm to 1100 mm.
- 3) It should have Band with of 1.8 mm.
- 4) It should be provided with detector having wide range Photodiode.
- 5) It should have Photometric range of + 300 Abs.
- 6) It should have repralabity + 0.002 Abs of 1.0 Abs and Readability .% T 0.01, Abs 0.0001.
- 7) It should be provided with a light source of Deuterium lamp (D2) & Tungsten (W) Halogen lamp.
- 8) Its monochromator should have concave holographic grating with 1200 lines/mm.
- 9) It should be Microprocessor and Microcontroller based.
- 10) Its data presentation should be able to display 4 line 20 characters DOT Matrix back light LCD module with hard copy or printer.
- 11) It should be PC Compatible through USB.
- 12) Its sample attachment segment should have fixed 10 mm Path holder for reference and sample, fixed multiple cell holder for reference & sample accommodating 10 to 100 mm cures. It should have fixed cell holder for reference and six portion motorized 10 mm path cell holder for sample. It should have fixed cell holder to accommodate microcuvettes.
- 13) It should have warranty period of 2 year.
- 14) Software should be 21 CFR part II compliant.
- 15) It should have automatic wavelength calibration facility.

**Quantity Required – One in number.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

### **UV-Vis. Spectrometer (Double Beam)**

- 1. It should be Microprocessor compatible PC based with printer.**
- 2. It should be provided with spectral range of 190 nm to 1100 nm.**
- 3. It should have band width of 1.8 nm.**
- 4. It should be provided with detector having wide range photodiode.**
- 5. It should have photometric range of  $\pm 3000$  Abs.**
- 6. It should have repeatability 0.002 Abs. at 1.0 Abs.**
- 7. It should be provided with a light source of Deuterium Lamp (D2) & Tungsten (w) halogen lamp.**
- 8. Its monochromator should have concave holographic grating with 1200 lines/mm.**
- 9. It should be Microprocessor and Microcontroller based.**
- 10. Its data presentation should be able to display 4 line 20 characters Dot Matrix back light LCD module with hard copy on printer.**
- 11. It should be PC compatible through USB.**
- 12. Its sample attachment segment should have fixed 10 mm path holders for reference and sample, fixed multiple cell holders for reference and sample accommodating 10 to 100 nm cuvettes. It should have fixed cell holder for reference and six position motorized 10 mm path cell holders for sample. It should have fix cell holder to accommodate the micro cuvetts.**
- 13. It should have warranty period of two years.**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## Specifications for Membrans Filtration Assesmbly

Completer assembly should consist of

**Filter funnel S.S. 316 with Neoprene Cover & Neoprene Cork capacity 250 ml.**

**Membrane Filter Cellulose Nitrate 47 mm and 0.45 um 1 Pack of 100 pcs**

**Vaccum Flask 1 Itr Borosil One Pc**

**Vaccum Pump Diagphram type oil free One Pc**

**Air Vent Filter Hydrophobic PTFE 47 mm, 0.2 um One Pc**

**Syringe type Nylon Membrane Filter 25 mm, 0.45 um with  
needle One Pc**

**Flexible tubing 1 mtr One PC**

**Plastic Tweezers Two Pc**

**Nylon Membrane filter 47 mm, 0.45 um 2 pack of 100 Pcs**

**Firm should have valid ISO 9001**

**Warranty 2 years**

**The above specifications are generalized and mentioned equipment is indigenious one.**

## Karl Fisher Titrator Apparatus for Water Determination

### **Specifications :**

\* Should be Flexible, simple & secure for fast and precise water determination of samples from any industry with a water content measurement range from 100 ppm to 100% water  
Application, Solid, Liquid and Gaseous samples

- User specific Home Screen with short cuts (4 per user)
- \* Equipped with # Plug & Play complete burette, 5 ml burette and brown glass bottle
  - # Solvent Manger for filling and draining fo the solvent.
  - # Silicon tube 850 mm to connect Solvent Manger to solvent bottle
  - # Color Touch screen with one click user interface, incl. Protective cover
  - # Adapter fro draining of Volumetric Cell
  - # Double Platinum pin electrode for KF with screed cap head
  - # Grey connecting Lemo cable 70 cm
  - # Magnetic stirring bar, Magnetic stirrer motor
  - # Titration vessel (nominal volume : 150 ML, with all necessary small parts for mounting and putting into operation.
  - # Bottle with molecular sieve
  - # External Power supply 100-240 VAC
  - # Installation instruction with Quick Guide incl. Memocard date
- KF Tutorial DVD including operating instructions and Application brochure
- Connectivity to software with PC via USB or direct Ethernet (TCP/IP)
- Common USB printer or USB compact printer as per GLP compliance.

### **Polarized Sensor Input**

Measurement range – 2000 ...+ 2000 mV

Resolution 0.1 mV

Limits of error 2 mV

Polarization current range 0 ...24

Polarization current resolution 0.1

Polarization current limits of error

### **Burette drive**

Drive resolution 20'000 steps

Burette resolution (for 5 mL burette) 0.25

Limits of error 0.3% of the respective volume

Resolver 32 pulses /mm stroke

Filling time and discharge time 20 z at 100% filling rate

### **Environment**

Ambient temperature +5...+40 C

Atmospheric humidity max. 80 % at 31 C

### **Titration Dimensions**

Width x depth x height/weight 210 x 333 x 320 mm/ 4.2 kg, Glass beaker 150 mL

**Control and display – Touch screen VGA 5.7” color TFT, 320 x 240 pixel**

**Application** Drift measurement online ,5 hg/min, Measurement range 100 ppm... 100%, repeatability 0.3% at .10 mg H<sub>2</sub>O , Solid, Liquid and gaseous samples, Resources and method database, KF titrants 100, KF standards 50

**One click Titration** TM : User specific Home Screen with shortcuts, Shortcuts per user 4

**Hot Plug & Play** : Solvent Manger, Burette recognition with titrant, concentration and monitoring date, USB printer DIN A4/US letter/ USB-P25 compact paper roll printer, USB memory stick/ USB barcode reader/ USB hub.

### **Methods and series**

KF Standard methods 5

Max. number of user methods 5

Autostart automatic start after sample addition

Drift stop for endpoint recognition (absolute and relative, tmax, delay)

Max. number of calculations/results per method 3

Statistics of upto 120 samples including result limits check, outlier test\*

Recalculation of results\*

Data in online Screen : time, water count, potential, stirrer speed, volume, drift\*

Data in measured value table: time, water count, potential, volume, drift\*

Curves in Online Screen and printout : E-V, E-t, V-t, drift-t, water count-t\*

**Online Help** Context sensitive parameter explanation\*

**Languages** User interface and printouts in English.

**Communication:** Ethernet ( TCP/IP ) 1, COM (serial balance connection ) 1, USB host( printer, memory stick, barcode reader, hub ) 2 USB client (PC)1, integrated Magnetic stirrer.

**The above specifications are generalized and mentioned equipment is indigenous one**

## SPECIFICATIONS FOR AUTOMATIC TITRATOR ( TAN/TBN)

- Autotitrator capable of doing all types of titration: Potentiometric ( Acid/ Base, precipitation, Redox, complexometric ), Voltametric, Photometric, Ion selective, Conductmatric and KF Titrations according to DIN or ASTM standards.
- Autotitrator should have capability of 30 user's different home screen with login And password with user defined color, font and keyboard settings. Individual user can assign with various rights. Each user should have 12 short cuts (for method or manual operation) with one click analysis.
- Instrument should have hot plug and play facility to detect the following without switching ODD and ON again:
  - Automatic detection of electrode with calibration date storage & calibration history record.
  - Magnetically attachable burette drive
  - Autosampler
  - Peripherals like PC, Printer, Memory stick and barcode reader
  - **Facility of Learn Titration** for easiest and fastest way to get an optimal titration method with only single sample.
  - Built in **help** of all titration function for easy navigation of menus.
  - Equivalence point titration with dynamical or incremental titrant addition and Endpoint titration with incremental or continuous titrant addition for a quick result with high accuracy and precision and easy to set the control parameters.
  - Equilibrium or timed increment measured value acquisition, various pre-dispensing possibilities.
  - Titrator with automatic contact less recognition of burette date (Titrant name, conc, titer, expiry date) via RFID (Radio Frequency Identification) technology and having the burette driven systems with resolution 1/20000 th of burette volume with filling time of 20 Sec.
  - Titrator should have the terminal with color touch screen (thin Film Transistor (TFT) display with 3 way angle adjuster for better visibility with on-line graphics capability of various curves.

### **Titration can do the following titration methods**

- + Equilibrium controlled or timed increment titration to multiple equivalence point.
- + Equivalence point correspondence to steepest jump in titration curve, threshold value or specified range in PH or mv
- + All multiple equivalence point
- + One or two preset END point
- + p & m values (acid and base capacities)
- + PH state titration
- + Back Titration
- + KF Titration
- + Ion Selective Electrode measurements with built-in software.
- + Result in my and ppm with built in formula for result calculation.
  - Should have 37 permanently stored methods and 120 user methods & 21 nos. of standard methods to be available.
  - Table of measured values : information includes volume of titrant, increment size, signal after every increment, change in signal with every increment, first derivative, time and indication of predispensing and EQP's.
  - Method in structured with flexible functions typically performed even with manual titration such as Sample, Stir, Titration, Calculation, Report, text for each parameter. No abbreviations. Much easier to understand
  - Titrant Database : Titrant memory with expiry dates for more than 100 titrants.
  - **Sensor Database : Sensor memory with expiry dates for more than 100 sensors**
  - **Clear Calculation formulas : Freely editable formulas with 20 predefined formulas and 8 predefined constants and built in help when selecting . Upper and lowercase as well as subscripts and super scripts enabling the input of real chemical formulas.**
  - Built in magnetic as well as propeller stirrer which prevent vortex formation and enables better mixing for fast response of electrode with variable speeds.
  - Print out of records as per GLP i.e weight, volume, concentration, sample name, date, time, titration curves, result tables, first derivative, second derivative and statistical calculators.
  - Pictograms and soft keys on Terminal with display of meaning of each day.
  - It can have auxiliary functions such as determination of titrant concentration with auto evaluation, line points, PH calibration dispensing etc.
  - An external auto sampler, balance, can be connected through RS232C interface. Printer and computer can be connected via built in USB Port.
  - Built in 2 USB port can be connected to PC, Printer, Memory stick or Barcode Reader.
  - Built in Ethernet card can be connected directly to network
  - Instrument should have capability to connect Autosampler for 10 sample analysis with built in pump for rising and conditioning of the electrode.

### **Potentiometric Sensor Input**

- **Measurement range :  $\pm 2000$  mV**
- **Single Resolution : 0.1 mV**

### **Burette Drive: Burette Resolution for 10 ml burette: 0.5 $\mu$ L(1/20000 of the burette volume)**

- Filling and Discharge time : 20 s at 100% filling rate.
- Display : Large back light display should be capable to display titration curves and other parameters.

### **Methods and Series:**

Flexible method concept, should have method function/method, Methods storage facility approx 100 Predefined programmable Methods, Predefined Standard Methods.

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **Specifications for Dissolution Apparatus**

**It should be Single Drum with Six holes**

**Thermostatic Controlled**

**Firm should have valid ISO 9001**

**Warranty two years**

**The above specifications are generalized and mentioned equipment is indigenous one.**



## **Specifications for Water Distillation Apparatus SS**

**Water Produce should be 5 ltr/hour**

**Evaporating drum should be made up to Stainless Steel**

**Electronic Control Panel for Water Level Cut Off**

**Rubber and Sealing Ring between the boiler and the lid**

**Intake Control Valve for water inlet**

**Return water pipe should be made up of Stainless Steel**

**Power consumption should be for single phase**

**Warranty two years**

**Firm should have valid ISO 9001**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## Fume Hood

### Specifications:-

<b>Overall Dimensions with base cabinet :</b>	<b>1500 mm x 750 mm x 2400 mm</b>
<b>Inside fume hood working volume :</b>	<b>1200 mm x 600 mm x 750 mm</b>
<b>Bed size :</b>	<b>1200 mm x 600 mm</b>
<b>Workshop height from the ground level :</b>	<b>850 mm</b>

S.No.	Specification	Description
1	Design Structure	AERODYNAMIC, Floor mounted
2	Airflow type	Automatic Bypass type
3	Construction (Exterior)	Termite resistant water proof 3/4th Board duly laminated
4	Construction (Interior)	Chemical resistant, durable, Polypropylene (PP) integral work walls (5 mm thick)
5	Baffle arrangement	3 Point suction system (for light, normal & heavy fumes) with baffle to ensure smooth and immediate exhaust of fumes
6	Airfoil	Flush power coated airfoil mounted on the worktop
7	Worktop	Chemical resistant splash & spillage proof 'PP' worktop or granite worktop
8	Sink, Water tap with drain arrangement	Worktop will have oval shaped 100 mm x 200 mm 'PP' detachable sink for drainage with water top
9	Sash (Shutter	Vertical rising counter- balanced - ' Toughened Glass' sash ( 4mm thick), Smooth and light sash operation. Clear openable height = 700 mm
10	Fail Safe Device	Shutter fail-safe locking arrangement to prevent sudden breakdown of shutter
11	Wet & Dry service fittings	Remotely operated colour coded (as per international norms) total four service valves with Copper plumbing for gas connections (e.g. 1 Water, 3:for gases, etc.) Located in separate media columns on left & right hand of Fume hood.
12	Lighting	Fluorescent light (40 watt, 1 No. ) with vapour-proof fitting of proper illumination
13	Electrical Utilities	Four nos. electrical sockets 'Anchor' made (230 V, 5/15 A, 50 Hz), with blower NO/NC switch (for customer's starter) & light switch on front fascia.
14	Apparatus Storage Base Cabinet	<p>Base Cabinet will be ready to receive the Fume Hood at its top. It will have following features.:</p> <ul style="list-style-type: none"> <li>Complete rigid structure to support Fume Hood</li> <li>Two horizontal partitions to store apparatus</li> <li>Double skin hinged doors with magnetic locking arrangement</li> </ul> <p>Over Dimensions : 1200 mm (W) x 600 mm (D) x 800 mm (H)</p>
15	Chemical Storage Base Cabinet (instead of option no. 14)	<p>Base cabinet will be ready to receive the Fume Hood at its top. It will have following features:</p> <ul style="list-style-type: none"> <li>Internal FRP lining to the cabinet walls</li> <li>Two exhaust ports connected to the Fume Hood exhaust system internally</li> <li>Two horizontal partitions to store chemicals</li> <li>Double skin doors with magnetic locking arrangement</li> </ul> <p>Over Dimensions : 1200 mm (W) x 600 mm (D) x 800 mm (H)</p>
16	Fire Extinguisher	ABC dry powder fire extinguisher (5000 gm.)
	Level Adjusting screws	To adjust Fume Hood level by $\pm$ 10 mm

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **Specifications for Air Curtain**

**High Velocity Air Curtain for protecting the room environment from external environment width 3 ft.**

**Warranty two years**

**Firm should have valid ISO 9001**

**The above specifications are generalized and mentioned equipment is indigenous one.**

## **FURNACE**

### **Specifications:-**

- 1. The outer body should consist of thick mild steel sheet and should have been painted.**
- 2. It should be light weight with ceramic fiber light insulation**
- 3. It should have dimensions 8" x 8" x 12"**

**The above specifications are generalized and mentioned equipment is indigenous one.**

**DIRECTORATE OF HEALTH AND FAMILY WELFARE PUNJAB  
(PARIVAR KALYAN BHAWAN SECTOR 34, CHANDIGARH)  
(STORE PURCHASE BRANCH)**

**TENDER FORM 1 M&S/2009-10**

- 1 Tenders must be enclosed in a properly sealed envelope addressed to the Director, Health, Services, Punjab (by designation and not by name). The tender must be super scribed "Tender for the chemical & Glassware" as called in Tender Notice No.1 M.S/2009-10. The tenders must reach in the office of the Director Health & Family Welfare, Punjab on or before 7-1-10 at 11.00AM as mentioned in the tender notice and will be opened on the same day immediately at 11.30 AM.
- 2 In the event of the tender being submitted by a firm, it must be signed separately by each member thereof, on in the event of absence of any partner it must be signed on his behalf by a person holding a power of attorney authorizing him to do so or in the case of a company the quotations should be executed in the manner as laid down in the said company's Articles of Association. The signature on the quotation should deemed to the authorized signature.
- 3 All the columns of the tender form should be duly, properly and exhaustively filled in. The rates and units shall not be overwritten & be both written in figures and words. The word "No Tender" shall be written across any or all of the items in the schedule for which a tenderer does not wish to tender.
- 4 Any omission in filling the columns of 'units" and "rates' shall altogether debar a quotation from being considered.
- 5 All corrections must be signed by the tenderers.
- 6 All tenderers must submit samples with technical tender. The late sample will not be considered and tender of that firm will be rejected straightway.
- 7 A sum of Rs. 25,000/- must be deposited as earnest money in the form of FDR/call deposited receipt pledged to the DHS, Punjab for each item and receipt must accompany the tender failing which the tender will be rejected. The said amount will be regarded as forfeitable to government in case any successful tenderer fails within the time fixed by the DHS, Punjab either to sign the contract on terms contained in the Notice Inviting. Tender form and conditions of contract referred in thr invitation of tenders or to pay the additional security referred to in the next clause below.
- 8 The DHS Punjab will have the right to reject all or any of the quotations without assigning any reason.
- 9 No tender will be considered unless and until all the documents are properly signed.
- 10 In the event of tender being accepted, the quotations will be converted into a contract which will be governed by the conditions on page 5 to 6 (Schedule-B) read with terms & conditions.

**Deputy Director (SP)  
For Director, Health & Family Welfare, Punjab, Chandigarh**

### **Terms and conditions of the tender**

- 1 Rates should be quoted F.O.R destination otherwise the same will be ignored straightway.
- 2 The Director, Health Services, Punjab does not bind himself to accept the lowest tender and reserves to himself the right to reject any or all tender without assigning any reason thereof.
- 3 The conditions of contract schedule "B" attached to the schedule "A" should be returned to this office duly signed along with schedule "A" otherwise the tender will be ignored.
- 4 In case the date of opening the tender falls on the holiday declared by the government tenders will be opened on the next working day at the schedule time.
- 5 Any tender which is not on the proper form or is received late will not be considered.
- 6 Tender without the earnest money of Rs. 25,000/- will not be considered.
- 7 Offers are to be submitted in duplicate. Offers not in duplicate will be ignored.
- 8 All the disputes will be settled within the jurisdiction of the head quarters of Director, Health Services, Punjab.
- 9 The rates of sales tax, inter-state tax, VAT or any other tax must be specifically mentioned failing which no tax will allowed at subsequent stage.
- 10 The payment shall be released after the execution of the complete order at destination & installation of the equipment and satisfactory performance.
- 11 Tenders/offers of such of the firms as do not conform exactly according to the advertised specifications/terms and conditioned will be ignored straightway.
- 12 All copies of the documents attached with the tender (even Photostat copies) should be attested by Gazetted officer/Notary Public/Oath Commissioner.
- 13 Director, Health Services, Punjab reserves the right to amend the terms and conditions at any time after the issue of notice.
- 14 Minimum delivery period must be quoted clearly in the offer.
- 15 The tenderers should certify unequivocally that the stores offered conform strictly to the advertisement specifications for the offer.
- 16 Incomplete or conditional offers incorporating price maintained & force majeure etc. will not be entertained.
- 17 Tenderers should certify in their offers that rates quoted by them are not higher than those quoted to DGS&D and State Govt.
- 18 Tenderers should indicate their sale tax/VAT registration number in their offers.
- 19 The quantity shall subject to increase or decrease.
- 20 The firm should have been in existence for three years proof of Industry Department may be attached.
- 21 It should have a turn over of at least of 1 crore in the last financial year. A certificate to this effect duly certified by the competent authority i.e. Chartered Accountant be submitted along with offer.
- 22 The manufactures should have full fledged testing laboratory so that product it produces/manufactures should be tested internally.
- 23 The firm(s) should not have been blacklisted by the Government of India or by any other State Government. Affidavit to this effect duly attested be submitted along with the offer.
- 24 Only manufacturing firm should quote the rates and proof as manufactures must be attached.
- 25 Rates approved in this tender will be valid upto 31-12-2010.

**Deputy Director (SP)**  
**For Director, Health & Family Welfare, Punjab, Chandigarh**

<b>Sr. No.</b>	<b>Name of the Chemical</b>	<b>Quantity</b>
1	Amyl Alcohol	5x500ml
2	Anisaldehyde	2x500ml
3	Acetic Acid Anhydride	2x500ml
4	Bromine Amp.	10ml
5	Bromo Phenol Blue Indicator	6x100ml
6	N-Butanol	12x500ml
7	Brilliant Green Lactose Broth	5x250gm
8	Carbon Desulphide	5x500gm
9	Calcium Hydroxide	4x500gm
10	Chromatography paper sheets	2x100 sheets
11	Charcol Activated	4x100gm
12	Cyanogen Bromide	4x25gm
13	P-Dimethylaminobenzaldehyde	10x400gm
14	Diphenyl Carbaxide	100gm
15	2,6,Dichloroquinone Chlorimide	10x10gm
16	2,7, Dichlorofluorescin	20x500gm
17	Absolute Alcohol	
18	Eosine Methylene Blue	
19	Fuchin Basic	4x25gm
20	Furural	2x500ml
21	Ferric Alum	
22	Hydrochloric Acid Amp. 1N	4x6 pack
23	Hydrochloric Acid Amp. 0.1 IN	4x6 pack
24	Iodine Amp. 0.1N	4x6 pack
25	Isoniazide	4x100gm
26	Isopropylamine	2x500ml
27	Lead Acctate	2x500ml
28	Litmus Paper Blue & Red	10 Pkt.
29	Methylene Blue	3x100ml
30	Methly Orange Indicator Sol.	3x100ml
31	Methly Red Indicator Sol.	3x100ml
32	Nessler's Reagent	10x100ml
33	N-1-Naphthy Ethylene Diamine Dihydrochloride	10x10gm
34	Phosphomolybdic Acid	4x25gm
35	Pyridine	
36	Platinum Crucible	2 In one
37	Phenolphthalein	5x100gm
38	Phenol Red Indicator Sol.	1x100gm
39	Potassium Ferricyanide	2x500gm
40	Potato Dextrose Agar	4x500gm
41	Peptone Water	4x500gm
42	Rochelet Salt	4x500gm
43	Silica Gel G	4x500gm
44	Sodium Sulphate Anyhd.	10x500gm
45	Silver Nitrate Amp 0.1 N	6x4Pac
46	Sodium Thiosulphate Amp 0.1N	6x4Pac
47	Sodium Hydroxide Amp 0.1N	6x4Pac
48	Sulphuric Acid Amp 0.1N	5x500gm
49	Soluble Starch	5x1gm
50	Tetrazolium Blue	
51	Folin Reagent	3x500gm
52	Tartaric Acid	4x500gm
53	Tricresyl Phosphate	
54	Methl Benzophenone Thiazalinone Hydrochloride	5x2.5gm

Sr. No.	Name of the Glassware	Packing	Quantity
1	Volumetric Flask	1000ml	20
2	Graduated Cylinders with stopper	10ml	50
	Graduated Cylinders with stopper	50ml	20
	Graduated Cylinders with stopper	100ml	20
3	Iodine Flasks	250	25
4	Majonnier Tube	1000ml	5
5	Glass Beaker Graduated	500ml	10
6	Pipette Glass Graduated	0.1ml	12
	Pipette Glass Graduated	1ml	12
	Pipette Glass Graduated	25ml	10
7	Flat Bottomed Flasks	1000ml	6
8	Specific Gravity Bottles	25cc	12
	Specific Gravity Bottles	50cc	12
9	Whatman Filter paper	1	20
	Whatman Filter paper	4	20
	Whatman Filter paper	41( Ashless)	20
	Whatman Filter paper	42	20
10	Std. Joint Distillation Glass Assembly	1000ml	3
11	Nessler Cylinders with wooden Stands	100ml	50
12	Test Tubes	20ml with Rim	500
	Test Tubes	20ml without Rim	500
13	Separating Funnels	250ml	12
	Separating Funnels	500ml	12
14	Glass Pipettes Volumetric with bulbs	1ml	10
	Glass Pipettes Volumetric with bulbs	2ml	20
	Glass Pipettes Volumetric with bulbs	5ml	20
	Glass Pipettes Volumetric with bulbs	10ml	20
	Glass Pipettes Volumetric with bulbs	10.75ml	15
	Glass Pipettes Volumetric with bulbs	25ml	10
	Glass Pipettes Volumetric with bulbs	50ml	10
15	Glass Funnels	2"	25
	Glass Funnels	3"	25
	Glass Funnels	4"	25
16	Cerber Tubes		50
17	Saponification Flasks	250ml	35
18	Burette Stand ( iron or steel )		10
19	Mort at Pestle	6"	10
20	Thread Counter		5
21	Kjeldhal Flasks	300ml	12
22	Spirit Lamp ( glass or motalic )		10
23	Toluene Distillation Set		3
24	Chromatography sheet	46x57	4 pkt.
25	Glass Rod		1 kg