



इमटेक
IMTECH

सूक्ष्मजीव प्रौद्योगिकी संस्थान

सेक्टर 39-ए, चण्डीगढ़, 160 036 (भारत)

INSTITUTE OF MICROBIAL TECHNOLOGY

(A CONSTITUENT ESTABLISHMENT OF CSIR)

Sector 39-A, Chandigarh-160 036 (INDIA)

Director, IMTECH invites tenders from reputed Indian/foreign manufacturers and authorized dealers for the supply of the following item(s):

Sr.No.	Tender/Enquiry No.	Name of Equipment	Qty	Budget Head	Mode of Bidding
1	2010-11/IND 14513+14317+14333	Biosafety Hood	7	STS0001(5) FAC03 (1) HCP002(1)	Two Bid
2	2010-11/IND14531	Refrigerated Table Top Centrifuge	2	FAC03	Two Bid
3	2010-11/IND14511	Elisa Reader for Kinetics	1	STS001	Two Bid
4	2010-11/IND14509	Elisa Reader	1	STS001	Two Bid
5	2010-11/IND14505	Freeze Dryer (Lyophilizer)	1	FAC03	Two Bid
6	2010-11/IND14324	-Liquid Chromatography -Peristaltic Pumps with features like Flow Rate of 0.6 to 450 ml/hr or more, automatic pressure plate, single channel with silicone tubings	2 3	P50/LRF	Two Bid
7	2010-11/IND14445	Rotational Concentrator / Centrifugal Vacuum Concentrator	1	FAC03	Single Bid
8	2010-11/IND14538	2D Electrophoresis System	1	STS001	Two Bid
9	2010-11/IND14537	Electroporator	1	FAC03	Two Bid
10	2010-11/IND14477	French Pressure Cell	1	FAC03	Two Bid
11	2010-11/IND14510	Spectrofluorometer	1	FAC03	Two Bid
12	2010-11/IND 14514+14348	CO2 Incubator	6	STS001(5) OLP60(1)	Two Bid
13	2010-11/IND14516	Fluorescence Microscope with Digital Camera	1	STS001	Two Bid
14	2010-11/IND14533	Real Time PCR	1	STS001	Two Bid
15	2010-11/IND14472	Ice Flaking Machine	2	FAC03	Two Bid
16	2010-11/IND14518	Refrigerated High Speed Centrifuge	2	FAC03	Two Bid
17	2010-11/IND14436	HPLC for Semi-Prep & Analytical Applications	1	FAC03	Two Bid
18	2010-11/IND 14478+14422+14664	Gradient PCR Machine	7	STS001(4) HCP02(1) OLP0067(2)	Two Bid
19	2010-11/IND14479	PCR Machine (Normal)	4	STS001	Two Bid

The terms & conditions with technical specifications are on subsequent pages.

Last date of receipt of complete tenders is **9.11.2010 up to 5.00 PM. (IST)**.

The date of opening of technical bids is **10.11.2010 at 11.30 AM. (IST)** onwards.

The Director, IMTECH reserves right to accept or reject full or part of any tender without assigning any reasons thereof.

Stores & Purchase Officer

TERMS & CONDITIONS

Commercial

- **Cost :** Mention the price of the material in the FOB/FCA including inland freight value only. Please note that being a Govt. Organization we cannot make Advance Payment.
- **Insurance :** Consignment should be insured through National Insurance Company of India or its associate in your country.
- **Dispatch :** The dispatch of the material should be through Air India preferably in case of imported items.
- **Agency Commission :** Mention the percentage of Indian Agency Commission payable to commission Indian Agent in INR and also mention the name of your authorized Indian Agent/Representative, Pro-forma invoice without mentioning Indian Agency Commission will not be considered at our end.
- **Validity :** The validity of your pro forma invoice should not be less than 180 days from the date of opening.
- **Warranty :** Mention the warranty period of equipment after satisfactory installation. 10% Bank Guarantee is to be submitted by you/your Agent for the Equipments costing Rs.25 Lac & above
- **Taxes:** For Indigenous products, please quote Sales Tax/VAT/Service Tax/Other levies etc., if any, clearly in your quotation. Offer without mentioning the taxes clearly will be summarily rejected. The Institute is exempted from Custom/Excise Duty payment under Notification 51/96 of customs.
- The offers without mentioning of Packing, Forwarding, Freight Transportation, Insurance Charges etc. shall be summarily rejected.

General Condition

- Zerox copies of latest price list applicable list may be enclosed applicable in Indian Market.
- Ensure that quoted price will not be higher to any other customers in India to whom this particular item have been sold particularly to govt. of India Organization.
- Sent a certificate that the equipment is of latest technology & will not be obsolete within 5 years.
- Ensure that all essential spares parts of this equipment will available in India with your Indian Agent as and when required.
- Provide the list of the users in India of the same equipment along with their contact / email address.
- Enclose a copy of agreement with your authorized Indian Agent.

FAX : 0091-172-2690632 email : purchase@imtech.res.in

TEL : 0091-0172-6665363 website : www.imtech.res.in

(2010-11/IND14513+14317+14333)

Vertical Class II Biosafety Cabinet

- Class II biosafety cabinet suitable for work with microorganisms assigned to biological safety levels I, II or III. Should be complete with a germicidal UV lamp, fluorescent lamp, one electrical outlet, and a support stand with leveling feet or castors.
- Main body should be constructed of electro-galvanised steel or equivalent material.
- Stainless steel interior side walls and back walls.
- Stainless steel work surface.
- Cabinet controls - Microprocessor based touch pad controls
- Cabinet must be aerosol tight and electrically driven.
- 60-70% circulation; 30-40% Exchange/exhaust.
- The control system should constantly monitor and display airflow velocity and should give audible and visual alarms in case of slow airflow or airflow failure, for better protection of sample, operator and environment.
- Should be capable of automatic airflow compensation, to provide constant airflow in case of filter loading.
- UV interlock system to protect the operator in case of accidental raising of front sliding window.
- Size: 3-3.5 feet. Support Stand (height ~28') with leveling feet or castors.
- Cleanliness within working Area: ISO14644.1 Class 3 or equivalent.
- Downflow and Exhaust Filters: HEPA / ULPA filters with integral metal guards and filter frame gaskets.
- Efficiency of filters: Minimum: 99.99 % at 0.3µm.
- Noise Level: <65 dBA.
- Power Supply: 230 VAC, 50Hz, single phase, one electrical outlet.
- Warranty: 12 months from the date of installation.
- Accessories: All accessories, including service fittings and replacement filters should be quoted.
- The firm must provide on-site validation.

Important:

- Compliance/deviation statement should be provided comparing the specifications of the quoted models to the required specifications.
- Specifications mentioned in the bid should be supported by printed technical literature; failure in this regard may result in rejection of bid.
- List of users of the quoted model in India should be provided

(2010-11/IND14531)

Specifications for Refrigerated Table-Top Centrifuge

1. Digital: Digital display for rpm/rcf
2. Speed Range: 14,000 rpm or more depending on the rotor/s
3. Maximum RCF: 20000 x g or more depending on the rotor/s
4. Temperature Range: -10°C to +40°C
5. Time pre-setting: up to 9 hours or more
6. Maintenance-free brushless drive motor
7. Programs: Different curves for acceleration and deceleration
8. Magnetic rotor identification system
9. Motorized lid lock system
10. Angle Rotor: 6-8 x 50ml capacity (round bottom)
11. Angle Rotor: 6 -8 x 30ml capacity (round bottom)
12. Angle Rotor: 24 x 1.5/2.2 ml
13. Microtitre rotor for 2-6 microtitre plates
14. Power supply: 220V–240V AC, 50 Hz
15. One year comprehensive warranty and additional one year service warranty

Optionals :

Swing our Rotor for 8 X 50 ml and 24 X 15 ml falcon tubes

Other suitable rotors and adapters to be used

Items needed for maintenance of the centrifuge

General conditions:

1. The vendor should provide point-wise compliance statement in tabular form as given in tender document, clearly mentioning the compliance/deviation (if any).
2. All relevant literature in support of compliance statement should be provided.
3. Details of AMC charges after warranty period
4. List of users in other organizations
5. Service manual

Specifications of Monochromatic ELISA Reader

- System should include the detection modes such as Fluorescence Intensity, UV-Vis Absorbance & Glow Luminescence detection system capable of measuring end-points, kinetics, spectrum and area well scanning read types.
- System should have dual mode: Cuvette port as well as microplate.
- State of the art computer with latest specifications in Pentium IV alongwith HP LaserJet Printer to be used with ELISA Reader

1. General Photometric Performance

Plate formats	: 6 to 384 wells and Cuvette Ports
Light Source	: Xenon Flash Lamp
Detector	: Photomultiplier or equivalent
Read time	: 96-well: Abs 20 sec, 384-well: Abs 50 sec.,
Shaker Time	: 0 to 999 sec with linear and/or orbital shaking
Temp Control	: 5°C above ambient to 42°C,
Temp Uniformity	: < 1°C at 37°C set point
Temp Accuracy	: ± 1°C at 37°C set point,
Reading Modes	: End Point reading / Kinetic reading / Spectral
Scanning	: all modes
Well Scanning	: Abs, FI, TRF, Lum
Power source	: 100-240VAc, 50/60Hz

2. Absorbance Photometric Performance

Reading Capabilities	: Cuvette or Microplate
Wavelength range	: 200-1000nm,
Wavelength selection	: Monochromator, Increments of 1.0 nm or better,
Wavelength bandwidth	: ≤ 5.0nm,
Wavelength accuracy	: ± 2.0nm,
Photometric range	: 0 to 4.0 OD,
Photometric Resolution	: 0.001 OD,

3. Fluorescence Photometric Performance

Reading capabilities	: Top or Bottom of a Microplate
Monochromators	: 1nm increments, Ex and Em = 250 – 850nm
Bandwidth (Ex, Em)	: 9, 9nm
Top-read detection limit	: 3.0 fmol/well FITC 200ul in 96 wells
Bottom-read detection Limit	: 5.0 fmol/well FITC 200ul in 96 well

4. Time Resolved Fluorescence

Wavelength range	: 250 – 850nm
Data Collection	: 50 – 1450 µsec, 200 µsec, increments
Sensitivity	: 0.5 fmol/well

5. Luminescence Performance

Wavelength range	: 250- 850nm
Wavelength selection	: all wavelength or with selected wavelengths

Detection Limit : 12 amol.well

Optional Accessories:

- Two sets of source lamp
- Calibration kit
- Analysis softwares.

General Conditions:

The supplier must supply following along with quotation:

- A.** Compliance statement in tabular form giving details as per specification.
- B.** Literature in support of compliance statement.
- C.** Details of AMC charges after warranty period.
- D.** List price of minimum recommended spares for 5 years.
- E.** List of users.

(2010-11/IND14509)

ELISA Reader

- Monochromator based 96 & 384 standard spectrophotometer set up.
- Microplate reader with an inbuilt cuvette port.
- System should come with softwares which provide data acquisition, analysis and management capabilities, allowing cross-plate analysis and custom calculations.
- State of the art computer with latest specifications in Pentium IV along with HP LaserJet Printer to be used with ELISA Reader

Photometric Performance

Wavelength range	: 200-1000nm,
Wavelength selection	: Monochromator, with 1.0 nm increments or better
Wavelength bandwidth	: 2 nm or better
Wavelength accuracy	: $< \pm 2.0$ nm or better
Wavelength repeatability	: ± 0.2 nm
Photometric range	: 0 to 4.0 OD
Photometric Resolution	: 0.001 OD,
Photometric Accuracy (Cuvette)	: $< \pm 0.006$ OD or better, ± 1.0 %, 0-2 OD,
Photometric Accuracy (Microplate)	: $< \pm 0.006$ OD or better, ± 1.0 %, 0-2 OD,
Photometric precision	: $< \pm 0.003$ OD +/- 1.0 % 0-2 OD,
Stray Light	: < 0.05 % or better at 230nm
Light Source	: Xenon Flash Lamp
Photo detectors	: Silicon photo diode
Photometric stabilization	: Instantaneous
Temperature Range	: Ambient (+4°C to 45°C)
Kinetic Read time	: 5 secs to 12 secs or better for 96 wellplate and 16 to 29 secs or better for 384 wellplate at speed and normal read mode respectively
Temp Uniformity	: ± 1.0 °C or better at 37°C, well-to-well

Optional Accessories:

- Two sets of source lamp and Calibration kit.

General Conditions:

The supplier must supply following along with quotation:

- F.** Compliance statement in tabular from giving details as per specification.
- G.** Literature in support of compliance statement.
- H.** Details of AMC charges after warranty period.
- I.** List price of minimum recommended spares for 5 years.
- J.** List of users.

(2010-11/IND14505)

FREEZE DRYER (LYOPHILIZER)

Specifications:

- Ice Condenser capacity at least 6Kg
- Ice condenser performance at least 4kg/24 hours
- Minimum condenser temperature -55°C for water based samples otherwise -85°C for samples with low freezing points or containing organic solvents
- Vacuum sensor should be included to know the vacuum level.
- Vacuum control for optimization of process time should be provided.
- System should have LCD/ Digital Display to know the vacuum level/ pressure & product temperature during drying process
- Facility to dry the sample in Flasks or wide neck filter bottles or in ampoules
- System should have one drying acrylic chamber manifold which can accommodate at least 12 or more flasks or wide neck bottles of different capacity or 150 or more ampoule to dry the sample
- Drying chamber should be located directly above the ice condenser so as to provide high sublimation performance and reduced drying time
- Visual control of condenser icing during drying
- Round bottom Flasks 100/250/500/1000 ml or wide neck filter bottle for 75/150/300/600 ml.
- RS-232 communications interface (PC) for process documentation software.

Warranty

2 years from the date of complete installation and commissioning.

Optional

The quote must include optional accessories like round bottom flasks, holders for the same and required attachments.

Other important terms and conditions

- Only reputed manufacturers of similar equipments with considerable experience in this area or their authorized representatives/agents need to quote. List of Indian users for similar equipment must be enclosed. It is mandatory to enclose a certificate from at least three Indian users for the similar equipment from National Laboratories/Institutions/reputed Biotech Industries to the effect that they are satisfied with the performance of the equipment and service of the supplier over a reasonable period of time.
- All equipments/ parts of equipments and accessories should be from original equipment manufacturer.
- Original equipment manufacturer must have presence in India for at least 5 years for similar equipments.

(2010-11/IND14324)

Technical Specifications for Liquid Chromatography System

* Pre-assembled ,integrated compact and calibrated and tested protein purification system with built-in users programs

* Capability for Sample loops from 100uL to 140 ml or more

* PUMP : Flow rate : 0.1 to 30 ml/min \pm 0.1 ml/min or more

* Pressure range : 0- 8 bar or more

* Monitor wavelength : 254, 280 nm and optional 214 nm with Zn lamp and 313,365,405, 436 and 546 nm filters .Absorbance range from 0.01 to 5 AU(FSD) Separate optical and monitor unit. Optical path 2 mm,

*Real Time conductivity : 1 Us/cm - 700 ms/cm or more

* Fully programable with computer and /or stand alone.

* Gradient formation with gradient-mixer at high pressure.

* Sample collection by in-built FRACTION COLLECTOR : Tube capacity : 165 x 12 mm and /or Eppendorf (1.5-2 ml) tubes

* Tube sensor and Flow diversion facility in-built.

* On Line pH with optional pH electrode
Data Handling unit & printer.

(2010-11/IND14445)

Specifications for Centrifugal Vacuum Concentrator:

- Complete system with integrated service free diaphragm pump, emission condenser.
- Digital LCD display.
- RPM: 1400 or more and Vacuum: 20 hPa.
- All rotors for eppendorf tubes (48X1.5 ml), test tubes (24X8.0 ml), falcon tubes (8X15 ml), bottles and MTP should be available.
- Choice of aqueous, alcohol and high vapour pressure.
- Timer selection from 1 min and 9.00 hr.
- Service free chemical resistant PTFE diaphragm pump with low noise level.
- Chemical resistant stainless steel chamber.
- Choice of four heating levels (30, 45, 60 dec.C and ambient) allow safe and efficient concentration of a variety of samples.
- Optional: Rotor for PCR plate (96X0.2).

(2010-11/IND14538)

Specifications for 2D system

1. Isoelectric Focussing System

- a. High capacity IEF system fully integrated with power supply, peltier cooling and control software.
- b. Capable of storing at least 10 programmes, with semiprogrammable preloaded methods. Realtime changes in ramping should be possible.
- c. Operating conditions: 50-8000V or above with 5V increments, 0-1.0mA or above current. Temperature 15-30⁰C or better.
- d. Focusing trays should be able to accomodate 1-12 IPG strips of lengths from 7cm to 24 cm in individual numbered channels. Should also have similar capacity rehydration/equilibration trays.

2. Vertical Gel Electrophoresis System

- a. Completely modular and separate mini (should accommodate IPG length 7cm), midi (should accommodate IPG length 11 to 13 cm) with gel caster having provision of tape free gel casting system, gradient mixer along with all spacers (0.75-1mm), along with atleast 5 sets of combs and glass plates and other needed accessories.
- b. Capability of running atleast two gels simultaneously at one time.

3. Power supply

- a. Programmable powersupply for running two electrophoresis unit simultaneously for identical runs, with graphic LED display provision of two sets in parallel.
- b. The output range should atleast be 10-500V in 1V increments, 0.1-0.4A in 1mA steps, 1-100W in 1 W steps.
- c. Constant voltage, current or power with automatic crossover.
- d. Memory storage of atleast 3 programmes with multiple steps.
- e. Timer control: above 99 hrs.
- f. Automatic powerup after power failure with safety features for NO load detection, sudden load change detection, overload/short circuit detection etc.

4. Image Scanner/Densitometer

- a. Gel densitometry scanner for analyzing gels with calibrated and sealed imaging platen to handle wet samples.
- b. Wavelength range of 400-700nm, absorbance range of 0.00-3.00 OD.
- c. Scanning gels in transmissive and reflective mode
- d. Appropriate CCD camera
- e. With branded compatible data processor.
- f. Installation Qualification and operational qualification (IQ/OQ) for verification of reflectance and transmittance calibrations functions.

5. Image Analysis software

- a. Software should be compatible to overlay, alignments and capable of differential calculations for densitometry.

- b.** Suitable software based, with sophisticated algorithms for Automatic Spot Detection and Quantification for 1D, 2D.
- c.** Simultaneous analysis and database of unlimited number of gels. Should be able to do batch processing of experiments. Should have Multiplex Gel Normalization with normalization table feature. Gel land marking and automatic spot matching.
- d.** Should have appropriate filter for auto recognition and removal of background speckles
- e.** Appropriate algorithm for providing accurate statistical comparisons, significance level should be user adjustable.
- f.** Software should be licensed to be used on 4 systems

6. Computer Workstation and Printer

- a.** Computer workstation and Printer with following specs should be provided: (Ankita enquire with the companies)

7. Essential consumables/ starter kit for running of the system should be supplied in minimum pack size.

Important:

- Compliance/deviation statement should be provided.
- Specifications mentioned in the bid should be supported by printed technical literature; failure in this regard may result in rejection of bid.
- List of users of the quoted model in India may be provided.
- All optional accessories (starter kits, clean up kits, Ready strips of all sizes, Disposable kits of all sizes etc) should be quoted separately..

(2010-11/IND14537)

Specifications for Electroporator:

The system should have the following:

- Versatile electroporator for reproducible transformation of eukaryotic and prokaryotic cells (mammalian, bacterial and yeast).
- Should have both square wave and exponential decay wave functions in one instrument for better transformation rate and flexibility of use.
- Simple one button pulse delivery, attached cuvette chamber & rapid charge time speed sample handling.
- Should have pulsetrac circuitry for Arc quenching thereby maximizing viability of cells.
- Output: 10 –3000 volts range with 10V precision, 25 to 3275 μ F capacitance, resistance 50 – 1000 Ohm.
- Square wave timings: 10 –500 V, 0.05 to 10 ms duration.
- Compact space saving design.
- Display of time constant and actual voltage delivered.

- Optional: Should come with
 - 500 cuvettes each of 0.4 cm, 0.2cm and 0.1 cm cuvettes,
 - Cuvette chamber with leads to connect to the main unit.

(2010-11/IND14477)

Specifications for French Press:

The following specifications for motor driven laboratory French Press are essentially required:

- It should be regulated working pressure throughout entire operating stroke for uniform and complete disruption of cells.
- High resolution, easy to read, preferably with digital display with two pressure readouts, psi or KPa.
- Height of the instrument should be less than 100 cm preferably with dimensions 47 x 47 cm or better. Weight should not be more than 250 lbs.
- Different cells with varied pressure tolerance and different sample capacity must be available.
- Cell working pressure should be between 20,000-40,000 psi. Should include more than one cell to work with different size samples.
- Weight of cell should be preferably low for safety handling.
- The minimum sample capacity should be 1 ml and maximum may be 50 ml.
- Temperature controlling system, if any available, is preferred to reduce the heat that is generated during the process.
- At least one year warranty should be given and preferable for two years.
- List of users must be provided and literature in support of compliance statement.
- Compliance statement in tabulated form giving details as per specifications.

(2010-11/IND14510)

SPECIFICATIONS FOR THE SPECTROFLUOROMETER

1. Spectrofluorometer equipped with sample compartment, excitation source, and detection unit
2. The Spectrofluorometer must have photo multiplier for fluorescence detection
3. The instrument must achieve a signal to noise ratio of 2000:1 or more for Raman band of water
4. The instrument should be upgradable to lifetime measurement mode
5. The instrument should be upgradable to computer controlled polarization and anisotropy measurements
6. Light source: Pulsed Xenon Lamp or high-pressure Xenon arc lamp
7. Equipped with Peltier temperature accessory for controlling cuvette temperature between 10° C to 70° C or better.
8. Monochromator wavelength range should be at least 200 nm to 800 nm or longer with continuous tenability.
9. Monochromator optics should be configured with standard Czerny-Turner optical configuration with 1200 lines / mm Grating or better optical configuration
10. Computer controlled adjustable bilateral slit
11. Adjustable Bandwidth in the range: 0 to 20nm
12. PMT with detection range from 200 to 800 nm or longer
13. Reference channel excitation correction via PMT
14. Software for performing steady-state data acquisition as well as life time and anisotropy measurements with license that allows loading on as many “off line” computers as desired
15. Software should be compatible with Windows XP or higher version of windows operating system
16. Data saving, editing, and conversion of data to ASCII format option should be available within the software.
17. Computer with UPS and two year warranty for the fluorometer should be provided.
18. Power consumption: 220 – 240 V, 50 Hz
19. Printed documents (hard copy) to support the claimed specifications should be submitted

Optional

1. May quote polarizers (UV grade)

(2010-11/IND 14514+14348)

Specifications For CO2 Incubator (Indent No 14514)

1. Capacity: ~170 Litres or above.
2. Temperature range: +5°C above ambient to +50°C.
3. Temperature control: $\pm 0.1^\circ\text{C}$ or better, Stability: $\pm 0.1^\circ\text{C}$ or better; Uniformity: $\pm 0.3^\circ\text{C}$ or better.
4. 100% covered corners with seamless polished stainless steel interior chamber.
5. Sterilization Cycle minimum 140°C for decontamination either by dry heat and or moist heat.
6. "CLASS 100 AIR" should appear on the Electronic control panel.
7. Alphanumeric message screen.
8. Thermal conductivity (T/C) sensor / IR Sensor for control of CO2.
9. CO2 sensor to display up to 20% with control of $\pm 0.1\%$, Stability $\pm 0.2\%$.
10. Class 100 condition of air inside the chamber within one minute.
11. Humidity Ambient to 95%.
12. 4-8 segment splittable inner glass door.
13. Built in essentially HEPA filtration 99.5% or better Air Flow System.
14. Opening of inner door shuts of the CO2 supply.
15. Access code to lock the parameters.
16. Alarm for malfunctions and CO2 levels.
17. "REPLACE HEPA" replacement message should be displayed on to the alphanumeric LCD screen.
18. Incubator should have 3 no. perforated shelves.
19. Kits for stacking one incubator on top of another must be supplied.
20. Two stage CO2 gas regulator (with barbed connections and shut off valves).
21. Certified by ISO 9001, CE mark, FDA Approved UL listed, CSA.

Optional quotes:

- For 40 Litres capacity CO2 Cylinder.
- Accessories: All accessories, including service fittings and replacement filters should be quoted.

Important:

- Compliance/deviation statement should be provided comparing the specifications of the quoted models to the required specifications.
- Specifications mentioned in the bid should be supported by printed technical literature; failure in this regard may result in rejection of bid.
- List of users of the quoted model in India should be provided.

2010-11/IND14516

SPECIFICATIONS FOR INVERTED FLUORESCENCE MICROSCOPE

S No.	SPECIFICATIONS	
1	Microscope Stand	Ergonomic design with rigid vibration resistant designing
2	Main body	Sturdy with stage supported on both ends
3	Optical System	Infinity corrected
4	Illumination	100 W Halogen
5	Mechanical Stage	Attachable with flexible; holds universal holder, petridish holder, slide glass holder, Hemacytometer holder, tissue culture flask (atleast T25 and T75 cm ²)
6	Eyepiece tube	Binocular/Trinocular tube for photo
7	Nosepiece	Should have atleast 6 positions for different Objectives
8	Eyepieces	Atleast Widefield 10X with diopter adjustment FOV 22mm
9	Filters	45mm diameter interference green contrast; daylight color balance; heat absorbing
10	Condenser	Phase contrast ring slit; LWDC for DIC/RC observation; atleast 4 position turret; NA 0.3/ WD 75 mm
11	Objectives	4X, 10X, 20X Plan Achromat; 40X, 60X/100X essentially Apochromat; 40X can be Achromat
12	Fluorescence attachment	<ol style="list-style-type: none"> 1. Epi-fluorescence capability 2. Motorized adjustment 3. 120W/130W Mercury or LED illuminator 4. Should hold atleast 6 Fluorescence Filters 5. Narrow bandpass filters with suitable dichorics for DAPI/FITC/Rhodamine/Texas Red/Cy5 range
13	Digital camera	High resolution cooled CCD camera Atleast 5 Megapixel resolution Minimum 2/3 inch CCD chip Capable of handling very low fluorescence and brightfield signals Exposure time 0.2 to 600 secs
14	Software	Brightfiled mode, Multiifluorescence Mode, Annotation, Morphology/Mrophometry, Time Lapse (varying from seconds to hours), XYZ image analysis, Automeasurement, Overlay, analysis same with live & captured image, captured images can be displayed in gallery, calculates range of statistics for each parameter and data transported to Excel, Compatible with other softwares
15	Image display	Rotate/mirror, ROI function, adjustable RGB values, perfect image quality with white and black balance, contrast, brightness, saturation adjustments
16	Data collection and processing unit	Latest with atleast 5 GB RAM, DVD writer, 500 GB or higher HDD, Graphics Card, Ethernet Card, 23" LCD

		monitor with UPS, Color laser printer
17	Spares	Atleast 12 Halogen and 6 Mercury lamps, cell counter
18	Up gradation capabilities to	Live cell facility (perfect focusing unit, Temperature controller, CO2/O2 controllers, air pump, humidity module, chamber and plate adapters)
19	Accessories	Vibration free table, two ergonomic chairs for stress free operation, light isolation chamber, Microscope cover
20	Others	Comprehensive warranty for 2 years Details of AMC charges after warranty period List of users in India

(2010-11/IND14533)

Real-Time PCR system

The specifications of the quoted system should meet or exceed the following:

- Thermal cycling system: Peltier driven thermal gradient block with heated lid
- Block Format: 96 well PCR plate, 0.2ml strips and 0.2ml individual tubes
- Temperature control:
 - 5 to 96°C.
 - Accuracy: $\pm 0.25^{\circ}\text{C}$
 - Block uniformity: $\pm 0.4^{\circ}\text{C}$
- Thermal gradient: Programmable temperature gradient that can be set from 4 to 20°C.
- Ramping rates
 - Heating: $\geq 4^{\circ}\text{C}/\text{sec}$
 - Cooling: $\geq 2.5^{\circ}\text{C}/\text{sec}$
- Chemistry: Open system for running various real time chemistries
- Multiplexing capability: At least four colors with least cross talk
- Dynamic range: At least 8 orders of magnitude
- Reaction volume: 10 μl or lower for cost savings in reagents
- Software for instrument control, online monitoring of raw data in real time, and data analysis:
 - Absolute quantitation with standard curve.
 - Gene expression analysis by relative quantity or normalized expression.
 - Melt curve analysis, End-point analysis, Plus/minus assays
- Licensed and authorized for Real time PCR
- Branded computer with latest configuration compatible with the application software.
- Suitable online UPS for 30 minutes back up of complete system
- Input voltage: 220-240 V, 50 Hz
- Warranty: Two year
- Complete installation and testing of the equipment to its specifications to be done at the site of installation free of cost. User training to be given at site and periodic application training to be given till the users are familiar with the system and software.
- Optional items:
 - 384 well thermal block
 - 96-well plates, 0.2ml strips and 0.2ml tubes
 - Kits and reagents for Gene expression analysis

IMPORTANT CLAUSES

1. Detailed literatures (all originals) with technical specifications and features to be

sent along with the offer.

2. The compliance statement of specifications offered by the quoted model vis-à-vis tender specifications must be submitted with the deviations clearly marked and mentioned towards its non-compliance. This statement must be signed, with the company seal, by the bidder for its authenticity and acceptance. Any incorrect or ambiguous information found submitted will result in disqualification of the Tender.
3. Spares for the system should be available for a minimum period of ten years and confirmation to be given in the offer.
4. Availability of local service support and response time for a service call during and after warranty to be specified.
5. Software supplied should be the latest versions, and any upgradation in the software to be given free of cost for three years.
6. List of users along with the names and telephone numbers of the customers to be enclosed in the offer in separate annexure.

(2010-11/IND14472)

Specification for Ice Flaking Machine

- Should produce approx. 150 kg granular ice in 24 hours
- Storage bin capacity: 100 kg
- Storage bin should be insulated by PU-foam
- Should be equipped with additional hygiene for automatic drain if the machine is off, to prevent microbial growth
- CFC-free refrigerant
- Condenser should be air-cooled
- Inside and outside cabinet should be made of stainless steel 304
- Automatic switch-off when the ice bin is full and automatic restart
- Automatic switch-off in case of water shortage and automatic restart upon water resumption
- Overload Protection
- 230 V 50 Hz Single phase Power Input
- 2 years warranty and Spares availability guarantee for at least 10 years from the principal

IMPORTANT CLAUSES

7. Detailed literatures (all originals) with technical specifications and features to be sent along with the offer.
8. The compliance statement of specifications offered by the quoted model vis-à-vis tender specifications must be submitted with the deviations clearly marked and mentioned towards its non-compliance. This statement must be signed, with the company seal, by the bidder for its authenticity and acceptance. Any incorrect or ambiguous information found submitted will result in disqualification of the Tender.
9. Complete installation and testing the equipment to its specifications to be done at the site of installation free of cost.
10. Availability of local service support and response time for a service call during and after warranty to be specified.
11. List of users along with the names and telephone numbers of the customers to be enclosed in the offer in separate annexure.

(2010-11/IND14518)

High Speed Refrigerated Centrifuge

Specifications :

1. Speed range : 15,000 rpm or more depending on the rotor
2. Maximum RCF : 25,000 g or more depending on the rotor
3. Capacity : 3 to 4 Liters
4. Temperature set range : -10 to +40 °C
5. Temperature control : +2 to +40 °C
6. Temperature accuracy : +/-2 °C
7. Magnetic rotor identification
8. Self diagnostic error messages
9. Run time (hr/min) 9/59 or more
10. Voltage : 220-240V/50-60 Hz.
11. A comprehensive 1 year warranty and, and one year additional warranty.
12. At least 3 year warranty on the refrigeration system.
13. Rotors :
 - 4 to 6 x 500 ml or more
 - 6 or 8 x 50 ml
 - 8 to 12 x 30 ml

General conditions:

6. The vendor should provide point-wise compliance statement in tabular form as given in tender document, clearly mentioning the compliance/deviation (if any).
7. All relevant literature in support of compliance statement should be provided.
8. Details of AMC charges after warranty period
9. List of users in other organizations
10. Service manual

Optionals to be quoted separately :

- Other suitable rotors for volumes ranging from 1.0 ml to 1000 ml and adapters to be used may be quoted separately.
- Items needed for maintenance of the centrifuge

(2010-11/IND14436)

Technical Specification for High Pressure Liquid Chromatography System for Semi-Prep & Analytical applications

Basic unit must have following features:

A. Liquid Chromatography PUMP

1. Binary Gradient preferred or two pump system
2. Flow rate : 0.01 to 20ml
3. Built in pre-mixer suitable for semi-prep applications upto 20ml/min
4. System must be able to handle back pressure up to 6000psi or more
5. Accuracy $\pm 2\%$ or better

B. Detector

1. UV-Vis detector wave length range (190-700nm) or better
2. Accuracy $\pm 2\text{nm}$ or better
3. Dual- or more wavelengths detection simultaneously

C. Injector

1. Auto injector having injection volume range from 0 to 5ml/min or better with carry over less than 0.05% and temperature range for sample station should be 4 to 40°C .
2. Non-Metallic Rheodyne injector
3. Injector loop size 200 μm ,
4. Syringe for injection 200 μm

D. Fraction Collector

E. Software for Controlled operation

1. Software for controlled operation for injector/pump/mixer/detector and fraction collector and processing of chromatographs. I should be complaint to GLP/GMP & CFR regulations.

F. Columns:

1. One semi prep (250mm x 20mm) particle size 10 μ (C-18)
2. One analytical (250mm x 4.6mm) particle size 5 μ (C-18)

G. Computer for running software, data acquisition and processing

1. A PC computer including windows operating system and peripherals like keyboard, mouse and TFT monitor (17"). Must have minimum 2 GB memory. Also, include a 600 v UPS of reliable make and a BW laser printer.

H. Also include a two-year comprehensive warranty.

(2010-11/IND14478+14422+14664)

SPECIFICATION OF GRADIENT PCR MACHINE

- 1) System should be Licensed & Authorized for PCR Application.
- 2) System should have Sample capacity 96 x 0.2 ml PCR tubes and 60 x 0.5 ml PCR tubes
- 3) Gradient block up to 20°C gradient span is possible at any step of the PCR program.
- 4) System should have universal block.
- 5) Simple programming, Gradient function, adjustable ramp rate, time and temperature increment, incubation mode, link function, pause function.
- 6) Auto restarts option in the event of power failure.
- 7) System should be peltier based and with Steady slope technology
- 8) Personal card system
- 9) Temperature-control range should be 4 °C to 99 °C
- 10) Temperature distribution across the block should be 20 °C to 72 °C ± 0.6 °C and 95 °C ± 1.0 °C
- 11) Block homogeneity should be 20 °C to 72 °C = ± 0.4 °C, 95 °C = ± 0.5 °C
- 12) Regulation accuracy per well should be ± 0.2 °C
- 13) Ramping Rate 3 °C/s (heating) and 2 °C/s (cooling)
- 14) System should be freely programmable temperature gradient over 12 rows
- 15) System should have a gradient range of up to 20 deg C
- 16) No. of programs 100 on device; approx. 10 on personal card

- 17) Max. No. of cycles 99

- 18) Warranty should be 2 years.

(2010-11/IND14479)

SPECIFICATION FOR PCR MACHINE (normal)

- 1) System should be Licensed & Authorized for PCR Application.
- 2) System should have Sample capacity 96 x 0.2 ml PCR tubes and 60 x 0.5 ml PCR tubes
- 3) System should have universal block.
- 4) Simple programming, adjustable ramp rate, time and temperature increment, incubation mode, link function, pause function.
- 5) Software supported in situ Adopter.
- 6) RS 232 and printer interface.
- 7) Auto restarts option in the event of power failure.
- 8) System should be peltier based and with Steady slope technology
- 9) Personal card system
- 10) Temperature-control range should be 4 °C to 99 °C
- 11) Temperature distribution across the block should be 20 °C to 72 °C ± 0.6 °C and 95 °C ± 1.0 °C
- 12) Block homogeneity should be 20 °C to 72 °C = ± 0.4 °C, 95 °C = ± 0.5 °C
- 13) Regulation accuracy per well should be ± 0.2 °C
- 14) Ramping Rate 3 °C/s (heating) and 2 °C/s (cooling)
- 15) System should be freely programmable
- 16) No. of programs 100 on device; approx. 10 on personal card
- 17) Max. No. of cycles 99
- 18) Warranty should be 2 year