

# PUNJAB STATE AERONAUTICAL ENGINEERING COLLEGE

(A constituent college of Maharaja Ranjit Singh Punjab Technical University, Bathinda)

Civil Aerodrome, Sangrur Road, Patiala-147001 (Pb)

Email: [patialapsaec@gmail.com](mailto:patialapsaec@gmail.com), Tele No. 0175-2970697

Ref. No. PSAEC/ 32

Date: 30 August, 2018

**Sub: - Quotations for providing General Equipments for applied chemistry lab at Punjab State Aeronautical Engg. College Patiala.**

Dear Sir,

01. You are requested to quote the rates for the items shown in the Appendix 'A' separately attached to this letter. The rates must be quoted only on the attached as per our specifications.

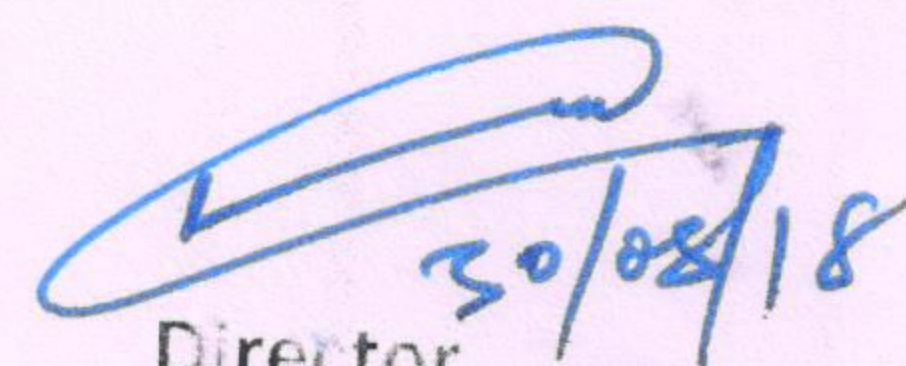
02. Following shall be taken note of while quoting the rates:-

- The rates will be F.O.R. Store Yard, Punjab State Aeronautical Engg. College Patiala (Civil Aerodrome, Sangrur Road Patiala)
- Rate of GST if extra must be mentioned clearly.
- Quotation received later than due date are liable to be ignored/rejected.
- Quotation must be submitted on letter head of the firm with all particular, any other format will not be acceptable.
- The quality of the items to be quoted should be best available in the market.
- The envelope must bear the word:-
- "QUOTATION FOR" providing material/equipment of General Equipments for applied chemistry lab at Punjab State Aeronautical Engg. College Patiala (Civil Aerodrome, Sangrur Road Patiala)

Due on 17-09-2018

**IMPORTANT:-** In the absence of information as required under 2(f), if an envelope is received & opened inadvertently, the university will not be responsible and the quotation may not be considered even if quoting lowest rates.

03. The quotation duly completed should be in the name of Director and should reach the office of the Director Punjab State Aeronautical Engg. College Patiala by 17-09-2018 up to 01:00 PM and same shall be opened at 02:00 PM on same date. Your representative may be present during the opening of the quotations.

  
Director  
PSAEC, Patiala  
30/8/18

**Copy to:-**

- Incharge, Computer Centre GZSCCET, Bathinda to upload a copy on university & college Websites.
- Incharge, CSE Deptt.
- Master File



## **TERMS & CONDITIONS**

**1. VICE CHANCELLOR RIGHTS:-**

Vice Chancellor, MRSPTU, Bathinda reserves the rights of acceptance or rejection of any or all quotations. The discretion for increasing or decreasing of the quantities also rests with him. MRSPTU also not bind itself to accept the lowest price. In case of any dispute, the decision of Vice Chancellor, MRSPTU, Bathinda will be final & binding.

**2. VALIDITY OF QUOTATIONS:-**

Quotations will be considered valid for 03 months from the date of quotation.

**3. CORRESPONDENCE:-**

No correspondence regarding acceptance/rejection of a quotation will be entertained.

**4. SAMPLE/BRAND/MAKE/WEIGHT:-**

Sample where asked for, will invariably be made available and sent along with the quotations. However, Brand/Make/Weight etc. must be mentioned clearly in the quotations. Technical literature/pamphlet should also be enclosed.

**5. REJECTION:-**

Quotation not conforming to the set procedure as above will be rejected.

**6. DISCOUNT/REBATES:-**

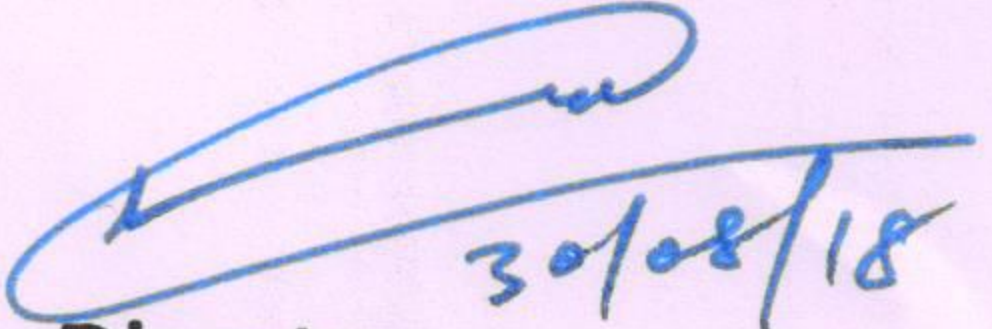
A Special discount/rebate wherever admissible keeping in view that the supplies are being made for education purpose in respect of Public Institution of National importance may please be indicated.

**7. DELIVERY PERIOD:-**

Minimum Period for delivery/job completion should be mentioned clearly.

**8. GUARANTEE/WARRANTY:-**

MRSPTU shall not be held responsible for any postal delay in sending or late receipt of quotation. Quotation should be free from correction & erasures.

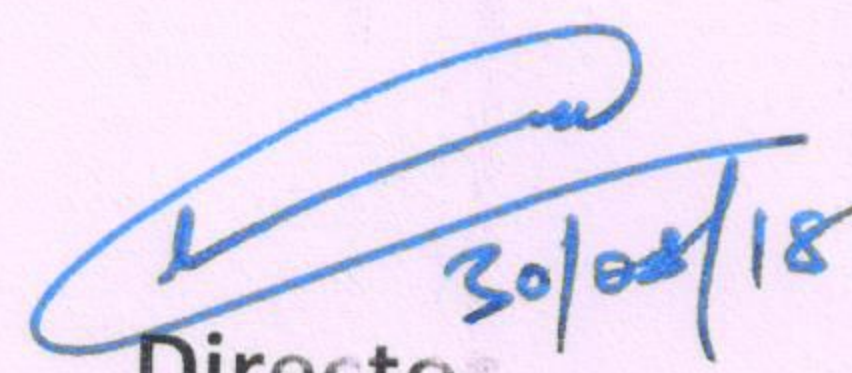
  
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## Appendix – 'A'

### List of General Equipements in Chemistry Lab

S. No	Name of Equipements	Qty.	Approximate Cost	Amount	Specifications
1	Hot air oven	01			Annexure-I
2	Water bath	02			Annexure-II
3	Ion exchanger digital (for deionized water)	01			-
4	Hot plate	01			Annexure-III
5	Thermometer (for room temp.)	02			-
6	Magenetic Stirrer	04			Annexure-V
7	Conductivity meter	04			Annexure-V
8	Digital balance	02			Annexure-VI
9	Iodine chamber	02			-
10	Ball and stick modal kit	01			-
11	Colorimeter	02			Annexure-VII
	<b>Total Cost</b>				

  
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## Annexure -I


### Hot Air Oven

#### Specifications:

- Double walled Unit
- Inner chamber made of S.S.304 \
- Outer Chamber of Mild Steel with Powder coating
- Gap Between the two walls filled with glass wool insulation to avoid heat losses of 65 mm
- Heat element made of high grade chrome plated nichrome wire
- Heater placed at the right & left side of the inner chamber
- Enable with thermostat control of Temperature
- Temp. Range 50°c to 250° accuracy +0.2°c
- Air Ventilation palced on top of both sides to remove heat gases and fumes
- control Switch & pilot lamps fitted on front panel
- PID Digital Temp. Controller cum indicator with accuracy + 0.2°
- Air circulation Fan for Uniform Temp

#### Size :

Inner Size in Inches Watts (W X D X H)	No. of Sheets	Capacity of LTR	Rating
18" X 18 " X 18"	3	90	2000


  
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## Annexure – II

### WATER BATH

1. Water bath chamber size 18 " X 18 "
2. Heavy duty chamber made of high graded material fitted with digital temperature controller with stirrer and with heating and cooling system.
3. 2 kg and 2 pcs tile can be place easily of 6 " X 6 ".
4. One compressor filled with imported Gas provided with relay and other parts to sustain the 24 degree temperature easily.
5. Outside made of mild steel & inner made of stainless stell
6. Temperature - 0 to 100 degrees.



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## Annexure - III

### Hot Plate


- Rectangular Body made of thic M.S.
- Top Plate with supporting of ceramic beads which ensures air insulation between plate and base unit.
- Selection cast iron M.S. casting plate
- Maximum surface temperature 400 c.
- Temperature controlled by controller manually
- Long last nicchrome Elements
- Work on 230 Volts A. / C only.

  
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Annexure - IV  
WEIGHING BALANCE

- Pan size of 200x270 mm and capacity of 500 g.
- High resolution up to 30,000 counts
- Easy to read High bright red LED display
- Built in rechargeable battery for continues use
- Rust Proof Stainless Steel Platter
- Fast Weighing response time
- Overload Protection Design
- Auto Power Off, Battery Indicator

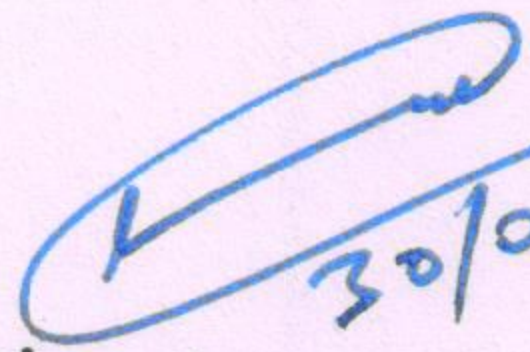
  
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Annexure - V

MAGENITIC STIRRER

1. Body made by mild steel powder coated or complete stainless steel
2. Top plate made by stainless steel
3. Heating range 5\*c degree to 400\*c degree
4. Capacity 2 & 5 liter
5. volts 230 watts 1 kw
6. Temperature controlled with energy regulator
7. The motor with high low speed controller

  
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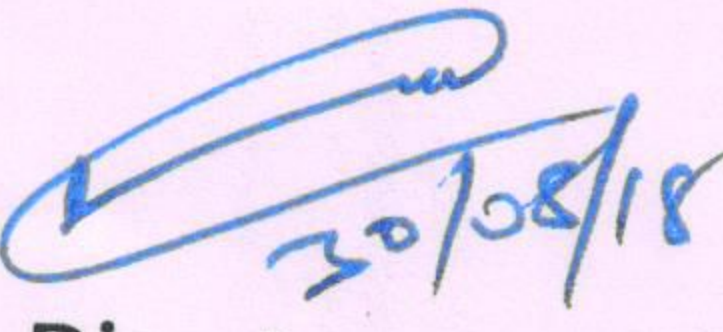
## Annexure - VI

### Digital conductivity meter

Measuring unit comprising MHO in range of  $01\ \mu\Omega$  to  $200\ m\Omega$  in six ranges including  $200\ m\Omega$ ,  $20\ m\Omega$ ,  $2\ m\Omega$ ,  $200\ \mu\Omega$ ,  $20\ \mu\Omega$ ,  $2\ \mu\Omega$ . Further, these feature accuracy of  $\pm 1\% \pm$  last 2 digits and come in ABS body finish so as to provide for longer service life standards. With instant warning period, should deliver standard conductance of  $1.000\ m\Omega$  with stirrer speed of 200 RPM (fixed).

#### Features:

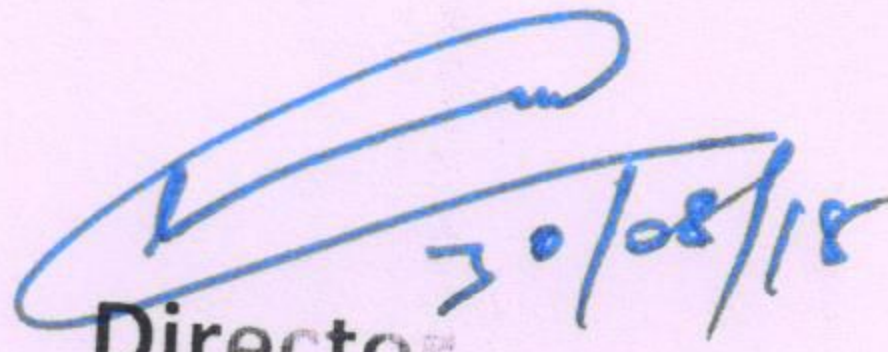
- Unit of meas: MHO
- Range :  $01\ \mu\Omega$  to  $200\ m\Omega$  in Six ranges
- Six ranges :  $200\ m\Omega$ ,  $20\ m\Omega$ ,  $2\ m\Omega$ ,  $200\ \mu\Omega$ ,  $20\ \mu\Omega$ ,  $2\ \mu\Omega$ .
- Accuracy :  $\pm 1\% \pm$  last 2 digits
- Power required :  $230\ V\ AC \pm 10\%$ ,  $50\ Hz$ ,  $5\ VA$  or  $9\ V$  battery
- Weight :  $1\ Kg.$  (Approx.)
- Body: ABS
- Auto calibrated
- Warming Period: Instant
- Dimension : -  $80\ mm$  (H)  $235\ mm$  (W)  $150\ mm$  (L)
- Standard conductance : Conductance of  $1.000\ m\Omega$
- Electrode : Cell  $K = 1$  - PVC sleeved
- Stirrer speed : 200 RPM set, Screwdriver and Dust proof cover

  
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Annexure-VII  
Specification of Digital Colorimeter

Model No.	BST/PCM/1312
Wave Length Range	400 to 700nm
Resolution	1% T, 0.01 Abs., 1 Conc., 1 K Factor
% Transmission	0 - 100% T
Absorbance	0 - 1.99 A
Concentration	0- 19999
K Factor	1 - 19999
Photo Detector	Silicon Photodiode/Photo Cell
Display	16x2 line alphanumeric LCD display with backlit for %T, Abs., Conc., K Factor
Keyboard	8 Keys, soft touch membrane type
Data Storage	Upto 100 samples
Light Source	6.8V, 0.3Amp. Tungsten Lamp
Sample System	10 mm path length matched glass test tubes
Filters	420, 440, 490, 520, 540, 570, 600, 700nm
Printer Interface	Centronics Parallel Printer interface for any dot matrix printer
Weight	2.5 Kg. (Approx.)
Power Supply	230V AC+10% 50Hz. with in-built stabilizer
Accessories	Matched Test Tube Set of 5, Operation Manual, Dust Cover, Spare Lamp

  
 Director  
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