



# GOVT COLLEGE UNIVERSITY FAISALABAD

## (Department of Botany)

GCUF/Bot/2014/  
Dated: \_\_\_\_\_

### **TENDER NOTICE No.1565**

#### **INVITATION OF TENDER FOR THE PURCHASE OF FERMENTER UNDER HEC AWARDED PROJECT (Tender No. 1565)**

**Tender No.1565**  
**Purchase Price: Rs. 1000/-**

Sealed Tenders are invited from the firms / suppliers of repute, which are registered with Sales Tax and Income Tax Departments for the supply of Answer Sheets for Internal/External Examination for Controller Examination Department of GC University Faisalabad, to be delivered at University Campus.

#### **GENERAL TERMS & CONDITIONS**

1. **Tender Opening Date:**

The tender must reach the office of the undersigned on or before **20<sup>th</sup> February 2014 at 1200 Hours** which will be opened on same day at **1500 Hours** in the office of the undersigned in the presence of the firms / authorized representatives who wish to attend.

2. **Bid Security:**

- A Call Deposit Receipt at the rate of 2% of the tendered amount (refundable) (Cheque is not acceptable) in the name of the Treasurer, GC University, Faisalabad must be attached with the tender without which the tender may subject to rejection by the authority concerned.
- The rates / bids should be inclusive of all applicable Govt. Taxes.

3. **Validity of Offers:**

- Offers shall be valid for at least 60 days from submission of bids.
- Withdrawal / modification of the original offer within the validity period shall entitle the University to forfeit earnest money.
- The Competent Authority reserves the right to increase or decrease quantities.

4. **Failures and Terminations:**

No offer of a supplier / firm will be considered if:-

- a) Received without Earnest Money / Call Deposit or less CDR than the required.
- b) Received later than the date and time fixed for tender.
- c) The tender is incomplete in any respect or is unsigned.
- d) The offer is ambiguous and the offer is conditional.
- e) The offer from a firm which is black listed at any level.
- f) Any erasing cutting / overwriting etc. will not be accepted.
- g) The supplier fails to deliver the consignment within the specified delivery period strictly in accordance with the terms and conditions as laid down in the Purchase Order; the University is authorized to forfeit the earnest money if desired and the firm may also be black listed.

5. Other special condition

- a) After receipt of the items the inspection will be carried out by the end user/ department within 15 days.
- b) The decision of the Vice Chancellor of GC University, Faisalabad, would be final & binding on both the parties and not challengeable in any court of law.
- c) The quantities can be increased / decreased by the Competent Authority.
- d) The GCUF reserve the right to reject any or all of the tenders without assigning any reason there of.
- e) All Government Taxes will be deducted according to applicable rules.

ISSUED TO

M/S-----  
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**(TEHREEMA IFTIKHAR)**  
**Principal Investigator**

## **TENDER NOTICE No. 1565**

### **DETAIL SPECIFICATIONS OF FERMENTER**

#### **1 – Fermenter**

- In place Sterilization (Optional).
- Total volume: 5-6 liters total volume.
- Working volume 0.8 to 1.5 liters
- Glass vessel with rounded bottom and double jacket for temperature control.
- Lid: Stainless steel 316L.
- With sterile and pressure proof ports.
- 14 x diameter 12mm and 2 x diameter 19mm.
- 1 port for top drive 5 x 1-way connection piece, height adjustable harvest tube.
- Drive: Direct drive from top, DC motor, 90 W, 30 – 1500 rpm.
- Agitation: Mechanical seal, shaft, 2 height adjustable six – blade stirrer, removable baffle cage.
- Aeration: Autoclavable sterile filter, check valve, connection piece, aeration tube with ring sparger.
- Required air pressure approx, 1.5 bar.
- Ventilation: Reflux cooler, connection piece, autoclavable sterile filter.
- Temperature Circuit: Connected to glass double jackets, all four temperature circuits connected by central supply and drain lines.
- Probes: Autoclavable temperature probe Pt100 incl. connecting cable.
- Autoclavable pH-gel-electrode incl. connecting cable.
- Autoclavable pO<sub>2</sub>-probe incl. connecting cable.
- Autoclavable height adjustable antifoam-probe incl. connecting cable.
- Sampling System: Autoclavable sampling system.
- Inoculum: Cup for silicone diaphragm.
- Measurement of Controls: Integrated in stainless steel trunking.
- Power supply: Main power supply for all electrical circuits, 1 x 230V, 50 Hz.
- Temperature Control Including heating finger and cooling water valve in temperature circuit.
- Temperature controller for heating and cooling, temperature range 4-60C (depending on the available cooling media).
- Speed Setting: DC motor with frequency converter, rpm-control unit.
- pH Control: pH-control to activate the dosage of acid and base (pumps).
- pO<sub>2</sub> Control DDC pO<sub>2</sub>-control to activate the final elements, Cascade control vial stirrer speed and aeration valve.
- Antifoam Control: DDC antifoam - Control to activate the dosage to antifoam chemicals.

Dosage:

- Aeration Unit: Consists of pressure valve, a rotameter (50-500L/h) a continuous solenoid valve (proportional valve), activated by pO2 controller, a check valve.
- Automated Oxygen Control (Optional).
- Peristaltic Pump with variable speed: 1 for media feed, reversible, speed adjustable peristaltic pump including 2 meters silicone hose, hose clamp and GL45 screw cap with sterile filter.
- Suitable for pO2 cascade control.
- Peristaltic Pump with fixed speed 3 for acid, base and antifoam / harvesting fixed speed peristaltic pumps including 2 meters silicone hose and hose clamp.
- Medium formulation pump.
- IFM controller.
- 3 x 250 ml auto cleavable glass bottle with sterile filter and 1 x GL 45 screw cap with sterile filter.

#### Process Control (Desktop system required).

- BioSCADA Lab incl. PC Bio SCADA Lab is an open system tuned to meet the stringent requirements of biotechnology equipment and systems offering major advantages over traditional system.
- Bio SCADA Lab is customized to meet the specific measurement and control requirements and empowers the user with new freedom and flexibility.
- The controller functions are included in the process control system
- Bio SCADA Lab – Process Control Software:  
User inputs by means of cursor control, mouse click and key board.

#### System visualization

- Overview with current trends and graphic display of all process parameters and set points, single displayed with colored activity control of actuators.
- User profiles / security enter passwords (various levels).
- Display of two timers.
- Zoom function of process value display.
- Control and regulation algorithms for temperature, pH, O2, agitation and antifoam.
- Automated Oxygen Control with Oxygen cylinders and all fitting.
- Control profiles for controller and actuators (valves, pumps...).
- Digital 1- and / or 2-point calibration of actuators.
- Calibration of consumptions (pumps).
- Graphically programmable cascade and profile.
- Full I/O control: open / close and run / stop control of actuators.
- Limitation of controller output by definition of minimal and maximal values.
- Management of alarms, warnings and deviations.
- Overheating protection including automatic emergency cooling.
- pH recalibration after sterilization.
- Automatic filling and emptying of double jacket.
- Help Function (German, English, French).
- Graphic display of sensor quality.
- Real-time recording of data into a Microsoft Excel format file.

- Operator defined recording interval of 1-600 sec.
- Operator defined batch name.
- Real – time recording and graphic display in an FDA compatible file format (data assorted individually).
- Display and comparison of current (live data) and historical data sets.
- Cursor selection of any point, cross reference comparison of trends.
- RALF Plus.

**Kindly collect price with the following options:**

1. Additional Flask /Vessel
2. Additional pH and O2 probe

**Along with following:**

1. Custom made generator which will provide 24 h backup with gas kit/ automatic switch with UPS to avoid any delay in switching on of system (Along with wiring and installation)
2. Stabilizer
3. Laminar Air Flow cabinet
4. Compressor/ Air Compressor
5. Chiller
6. Anyother accessory which needs to make the unit functional (including fitting/installation/adjustment of gas electricity connections)

Details of Call Deposit/DD/CDR Signature\_\_\_\_\_

No\_\_\_\_\_Amount\_\_\_\_\_ Name of Bidder\_\_\_\_\_

Bank\_\_\_\_\_ Branch\_\_\_\_\_ City\_\_\_\_\_ CNIC No \_\_\_\_\_

Name of the Firm & Address \_\_\_\_\_ Ph No\_\_\_\_\_

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Principal Investigator