

**INTEGRATED RURAL TECHNOLOGY CENTRE**  
**Mundur, Palakkad**

Quotation notice No. 01/2021

Sealed quotations are invited from the manufacturers/authorised distributors for the purchase of the under noted items for implementing various projects for the year 2021-22.

1. High Performance Liquid Chromatograph	1nos
2. Fermentor with a capacity of 100 liter	1nos
3. Steam generator for 100 liter fermentor	1nos
4. pH meter with inbuilt memmory	1nos
5. Vertical autoclave 75 liter	1nos
6. Tubular solar battery 12V, 160 AH	20 nos
7. Power Quality Analyzer	1nos
8. SS autoclave bucket of 350x160mm size with lid	10 nos
9. Online UPS 30KVA 3phase in and out	1nos
10. 12V, 42 AH Battery	30 nos
11. Laptop computer	4 nos
12. Desktop computer	4 nos

Further details are available during working hours from our office or from website [www.irtc.org.in](http://www.irtc.org.in). Last date of accepting quotation 20-10-2021. Successful suppliers must execute an agreement for the satisfactory completion of the work.

Mundur  
30-09-21



  
**Registrar**  
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**Integrated Rural Technology Centre**  
**Mundur, Palakkad, Kerala**

Detailed specification of items to be supplied.

SI No	Instrument	Quantity	Remarks
1.	High Performance Liquid Chromatograph	1 no.	UV-Detector
2.	Fermentor with a capacity of 100 liter	1 no.	Large scale production of bacteria
3.	Steam generator for 100 liter fermentor	1 no.	For Fermentor sterilization
4.	pH meter with inbuilt memory	1 no.	To check pH
5.	Vertical autoclave 75 liter	2 nos.	1. For media + container sterilization 2. Decanting
6.	SS autoclave bucket of 350x160mm size with lid	10 nos	For large scale production of fungi
7.	Online UPS 30KVA 3 phase in and out	1 no.	30 KVA, 360V
8.	Tubular solar battery 12V, 160 AH	16 nos.	For Solar plant
9.	Power Quality Analyzer	1 no.	For 3 phase
10.	12V, 42 AH Battery	30 Nos.	Sealed battery
11.	Laptop computer	4nos	With i7 processor and 16 gb ram
12.	Desktop computer	4 nos	With i7 processor and 16gb ram

### 1. High Performance Liquid Chromatography

Wave length 190-700nm  
Bandwidth 6nm  
Connectable modules 4  
Flow rate 0.001-0.999ml/min  
Pump type-parallel double plunger

### 2. Specification of Fermentor

- Total Volume – 100 litres
- Working Volume- 80 Ltrs

#### Construction:-

- Fermentor must be made up of triple wall with high grade SS sheet.
- Flanges of Stainless steel with silicone gasket.

#### Stirring Systems:-

- The agitation has to be carried out by SS shaft with propeller fitted from the bottom.
- The shaft must be fixed through a stuffing box with gland packing to avoid leaking while running.
- Entire fermenter vessel has to be mounted on stainless steel channel structure.



- The following provisions are needed in the Fermenter
  - Steam inlet valve
  - Media inlet valve
  - pH reference collection valve
  - safety valve and pressure gauge
  - Thermometer
  - Air inlet valve with perforated tube up to bottom of vessel.
  - Drainage valve at the bottom of vessel.

### 3. Specifications for Steam Generator

Steam Generator must be double walled.

- The following provisions should be available in the lid:
  - Steam releasing valve
  - Steam cock, safety valve
  - Pressure gauge
  - Pressure control switch.
  - Steam Outlet Valve
- The following provisions should be in the body of the Generator:
  - Water inlets
  - Water outlet
  - water level indicator and industrial heaters.
- Inner tank insulated with glass wool and covered with SS sheet.
- Supported with MS Channel structure.
- **Air Compressor** With a capacity of 45 Ltr maximum pressure 10kg/CM2 Regulator working pressure 7 kg/cms2.
- **Air Filter**
- **De- Humidifier**
- Warranty: 1 Year on-site warranty along with periodic preventive inspection in every 3 months during the warranty period.

### 4. Specification of Bench-top pH Meter

- Automatically recognizes calibration solutions
- Data logging allows to store and recall up to 50 groups of data
- Display type: LCD
- Min pH (pH): 0
- Max pH (pH): 14
- pH Resolution: 0.01/0.1
- pH Accuracy:  $\pm 0.01$  pH  $\pm 1$  digit
- Buffer Recognition: NIST and USA
- Min Temperature ( $^{\circ}$  C): 0
- Max Temperature ( $^{\circ}$  C): 100
- Temperature Resolution: 0.1/1 $^{\circ}$ F (0.1 $^{\circ}$ C)
- Temperature Accuracy:  $\pm 0.5^{\circ}$ C  $\pm 1$  digit
- **Data Logging (points): 50 groups of data**



## 5. Specification of Vertical Autoclave

- Electrically operated vertical Autoclave
- Inside and Outside made up of Stainless steel
- Pedal Lifting Arrangement for the lid
- Superior Quality Immersion heating
- Pressure Gauge
- Steam Release cock
- Safety Valve
- Operating pressure should be 15 PSI
- Operating Temperature should be 121°C
- Power: 230 V, 50 Hz, Single phase
- Chamber Size should be 450x 600 mm (Diameter x Height)
- Capacity should be 75 ltrs or more
- Rating: 4 KW

## 6. Specification for stainless steel buckets

- 350x160 (Diameter x Height) stainless steel buckets with lid. Handles should be provided but without extending from body. The purpose is to keep the closed buckets inside the autoclave one above the other (three at a time)
- Buckets should have bottom grooves to keep one above the other along with lid closed.

## 7. Specification for UPS

- 30 KVA/360V Online UPS with 3 Phase in and out capacity, with trolley.

## 8. Tubular battery 12V, 160 AH

- It is for Solar power plant. C-10 battery with 6years warranty

## 9. Power Quality Analyzer

- To measure AC / DC Voltage 1-1000 V with accuracy of +/- 0.1% of nominal voltage
- Current – 0.5A – 5000 A AC\*4 probes with ID more than 180mm for Easy Connection to Bus Bars
- Safety rating - 600V CAT IV / 1000V CAT III for both meter and Voltage probes

## 10. 12V, 42 AH Battery

- This is for online UPS with 30KVA, 360V, 3 phase in and out.

## 11. Laptop computer

- With i7 processor and 16 gb ram, 4gb graphics support

## 12. Desktop computer

- With i7 processor and 16gb ram, 4gb graphics support



A handwritten signature in blue ink, appearing to read "Anwar", with a horizontal line underneath.

**Registrar**  
**Integrated Rural Technology Centre**  
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