

Price Quote Details

A. One Time Repairs

B. AMC Charges

Part A: One Time Repair Charges FATE ring wise

1. Ambient ring-1

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|--|------------------------|-----|-------------------------------|---------------------|--------------------------|-------------|-------------------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working -if- any | Cost of Replacement | Cost of Repairs | |
| 1 | Air temperature sensor | 1 | Pt100 | Radix | Yes | | | | | | |
| 2 | IR Sensor | 1 | RAYCMLTJ3M, 24 V 20mA CAT-0II | Ray teck FLUKE | Yes | | functional check needed | | | | |
| Summary of Ambient control ring-1 Repairs in Rs. | | | | | | | | | | | |

2. Ambient ring-2

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|--|--|-----|------------------------------|-----------------------|--------------------------|-------------|-------------------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working -if- any | Cost of Replacement | Cost of Repairs | |
| 3 | Air temperature sensor | 1 | Pt100 | radix | Yes | | | | | | |
| 4 | IR Sensor | 1 | RAYCMLTJ3M , 24V 20mA CAT-II | Ray teck FLUKE | Yes | | functional check needed | | | | |
| 5 | Analog InputModule 8I/P,2x16LCD,4-20 mA, RS485/MOD BUS Ord.Code 2310 | 1 | radix SCM 201 | Radix electro systems | | Yes | | | | | |
| 6 | Soil Moisture sensor | 1 | radix SCC401 | Microcomm -SOM1310 | | Yes | | | | | |
| 7 | Soil Temperature sensor | 1 | | Microcomm -ME1310 | | Yes | | | | | |
| Summary of Ambient control ring-2 Repairs in Rs. | | | | | | | | | | | |

3. Ambient ring-3

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|--|--|-----|----------------------------|------------------------|--------------------------|------------------|--------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |
| 8 | Air temperature sensor | 1 | Pt100 | Radix | Yes | | | | | | |
| 9 | IR Sensor | 1 | RAYCMLTJ3M,24V 20mA CAT-II | Ray teck FLUKE COMPANY | | Yes | | | | | |
| 10. | Control Wiring Cables-Set Ambient Control Rings- to- Control Panel | 1 | ISI,1100V Grade | | | Need Replacement | | | | | |
| Summary of Ambient control ring-3 Repairs in Rs. | | | | | | | | | | | |

4. Temperature ring-1

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|------------|-----|----------------|---------------------|--------------------------|-------------|--------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |

| | | | | | | | | | | |
|----|---|----|------------------------------|------------------------|----|----|-------------------------|--|--|--|
| 11 | Air temperature sensor | 4 | Pt100 | Radix | 2 | 2 | | | | |
| 12 | IR Sensor | 1 | RAYCMLTJ3 M, 24V 20mA CAT-II | Ray teck FLUKE COMPANY | | 1 | functional check needed | | | |
| 13 | IR Heaters | 24 | FSR1000, 230V1000 W | ELSTEIN | 12 | 12 | | | | |
| 14 | Analog Input Module 8I/P, 2x16LCD, 4-20 mA, RS485/MOD BUS Ord.Code 2310 | 1 | radix SCM 201 | radix electro systems | | 1 | | | | |
| 15 | Soil Moisture sensor | 1 | radix SCC401 | Microcomm -SOM1310 | | 1 | | | | |
| 16 | Soil Temperature sensor | 1 | | Microcom m-ME1310 | | 1 | | | | |
| | Summary of Temperature control ring no-1 Repairs in Rs. | | | | | | | | | |

5. Temperature ring-2

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|---|-----|------------------------------|------------------------|--------------------------|-------------|-------------------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |
| 17 | Air temperature sensor | 1 | Pt100 | Radix | Yes | | | | | | |
| 18 | IR Sensor | 1 | RAYCMLTJ3 M, 24V 20mA CAT-II | Ray teck FLUKE COMPANY | | Yes | functional check needed | | | | |
| 19 | IR Heaters | 24 | FSR1000, 230 V1000Watt | ELSTEIN | 12 | 12 | | | | | |
| 20 | Analog Input Module 8I/P, 2x16LCD, 4-20 mA, RS485/MOD BUS Ord.Code 2310 | 1 | radix SCM 201 | radix electro systems | | 1 | | | | | |
| | Summary of Temperature control ring no-2 Repairs in Rs. | | | | | | | | | | |

6. Temperature ring-3

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|---|-----|------------------------------|---------------------------|--------------------------|-------------|-------------------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |
| 21 | Air temperature sensor | 1 | Pt100 | Radix | Yes | | | | | | |
| 22 | IR Sensor | 1 | RAYCMLTJ3 M, 24V 20mA CAT-II | Ray teck FLUKE COMPANY | Yes | | functional check needed | | | | |
| 23 | IR Heaters | 24 | FSR1000, 230V 1000Watt | ELSTEIN | 12 | 12 | | | | | |
| 24 | Analog Input Module 8I/P, 2x16LCD, 4-20 mA, RS485/MOD BUS Ord.Code 2310 | 1 | radix SCM 201 | radix electro systems Pvt | | 1 | | | | | |
| | Summary of Temperature control ring no-3 Repairs in Rs. | | | | | | | | | | |

7. CO2 + Temperature rings-1

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|------------|-----|----------------|---------------------|--------------------------|-------------|--------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |

9. CO2 + Temperature rings-3

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|---|---|-----|---|------------------------------|--------------------------|--|--------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |
| 45 | Air temperature sensor | 4 | Pt100 | Radix | Yes | | | | | | |
| 46 | IR Sensor | 1 | RAYCMLT J3M, 24V 20mA CAT-II | Ray teck FLUKE COMPANY U.S.A | | 1 | | | | | |
| 47 | Ceramic IR Heaters in SS Enclosure | 24 | ELSTEIN FSR 1000, 230 V1000Watt | ELSTEIN | 12 | 12 | | | | | |
| 48 | CO2 Analyser & Monitor | 1 | PRIVA Guardian NG | EDINBURGH SENSORS UK | | 1 | | | | | |
| 49 | Solenoid Valves | 9 | FLUID CONTROL SYSTEM | ROTEX AUTOMATION | | 9 | | | | | |
| 50 | CO2 Tubing PU TUBING Size-A*8X12 Size-B*4x6 | | POLYURETHANE CALIBRATE D 98 SHORE A*U27*57 4112 | LEGRIS | | Size-A*8X12=15 Meters Size-B*4x6=10Mts | | | | | |
| 51 | legris on/off valves | 6 | legris on/off valves | legris on/off valves | | 6 | | | | | |
| 52 | Soil Moisture sensor | 1 | radix SCC401 | Microcom m-SOM1310 | | 1 | | | | | |
| 53 | Soil Temperature sensor | 1 | | Microcom m-ME1310 | | 1 | | | | | |
| 54 | Analog Input Module 8I/P,2x16LCD,4-20 mA, RS485/MOD BUS Ord.Code 2310 | 1 | radix SCM 201 | radix electrosystems Pvt | | 1 | | | | | |
| Summary of Co2 + Temperature control ring-3 Repairs in Rs. | | | | | | | | | | | |

10. Weather Station

| SI No | Components | nos | Specifications | Manufacture details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|--|--|-----|---|---------------------|--------------------------|-----------------------|--------------|---------------------------------------|---------------------|-----------------|--------------|
| | | | | | Working | Not-Working | Need Repairs | Working-if-any | Cost of Replacement | Cost of Repairs | |
| 55 | Weather station with ambient temperature, RH, Wind speed, wind direction, Rain fall, solar Radiation sensors | 1 | Microcom m | | Yes | Wind Speed Rain Gauge | Yes | | | | |
| 56 | PLC INTERFACE | 1 | ME-1310-PLC | Microcom m | Yes | | | | | | |
| 57 | Powersupply & Battery charger | 1 | Automatic sealed lead-Acid Model HPX-30 | Xenotronic | Yes | | | | | | |
| Summary of Weather Station Repairs in Rs. | | | | | | | | | | | |

11. FATE Control Pannel

| SI No | Components | nos | Specificat ions | Manufa ctured details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|---|-----|-----------------|-----------------------|--------------------------|--------------|---|---------------------------------------|----------------------|------------------|--------------|
| | | | | | Worki ng | Not-Worki ng | Need Repai rs | Workin g-if-any | Cost of Replaceme nt | Cost of Repai rs | |
| 58 | Fate Control Pannel housing all PLC, control, electrical, signalling, relay modules and power supplies. | 1 | Climate C | Saveer Biotech | Yes | | | | | | |
| 59 | PLC | 1 | MELSEC FX3U-32M | MITSUB ISHIPL C | Yes | | | | | | |
| 60 | SCADA | 1 | Xarrow 5.0 | Xarrow | Yes | | | | | | |
| 61 | PLC communicators | 2 | FX2N-16EYT | MITSUB ISHI | Yes | | Some control Cables need replacement-300mts | | | | |
| 62 | PLC INPUT&OUPUT | 1 | FX2N-8AD | MITSUB ISHI | Yes | | | | | | |
| 63 | Relay module | 5 | Relay module | Saveer biotech ltd | Yes | | | | | | |
| 64 | UPS-5.4kw/ 6KVA | 2 | SRC-6KUXI | APC | Yes | | | | | | |
| 65 | UPS-Supported batteries | 32 | APC | APC | Yes | | Replac ement as per time schedu les needed | | | | |
| 66 | Control box comprising of all electrical protection, mcb contactors etc. | | | | Yes | | Need some repairs and Replac ement | | | | |
| | Summary of FATE Control Panel Repairs in Rs. | | | | | | | | | | |

12. CO2 Source & Supply

| SI No | Components | nos | Specificat ions | Manufact ure details | Present Status of System | | | Price schedule for Each item as below | | | Total Amount |
|-------|--|-----|-------------------------|----------------------------|--------------------------|--------------|--|---------------------------------------|----------------------|------------------|--------------|
| | | | | | Worki ng | Not-Worki ng | Need Repai rs | Workin g-if-any | Cost of Replaceme nt | Cost of Repai rs | |
| 67 | 20K CO2 Tank with SS308 pipe network, Rinac chiller, safety releases, all other associated delivery devices. | 1 | 20 KL with PESO licence | Bharath Tank RINAC Chiller | Yes | | Need some Tunings | | | | |
| 68 | Computer with OEM licence software Windows, Office pack, Antivirus, SCADA software etc. | 1 | i7 | DELL | | Yes | Need some repairs and Reinst allatio n | | | | |
| 69 | HP PRINTER-16MB mem(264MHZ) SPEED | 1 | CNFGNO 6102 | HP LASER JET PRO | Yes | | | | | | |
| 70 | FATE structure including G.I Pillar 3m height from Ground level with Manual Height adjustment accessories | 108 | | Saveer | Yes | | Need some Tunings | | | | |

| | | | | | |
|--|---|--|--|--|--|
| | Summary of CO2 Source & Supply Repairs | | | | |
| | in Rs. | | | | |

Part A : One Time Total Repair Charges

| SI no | Chamber Type | Charges under head Working if any | Charges under head Not-Working | Charges under head Need Repairs | Total Amount |
|---|--|-----------------------------------|--------------------------------|---------------------------------|--------------|
| 1 | Summary of Ambient ring-1 Repairs in Rs. | | | | |
| 2 | Summary of Ambient ring-2 Repairs in Rs. | | | | |
| 3 | Summary of Ambient ring-3 Repairs in Rs. | | | | |
| 4 | Summary of Temperature control ring no-1 Repairs in Rs. | | | | |
| 5 | Summary of Temperature control ring no-2 Repairs in Rs. | | | | |
| 6 | Summary of Temperature control ring no-3 Repairs in Rs. | | | | |
| 7 | Summary of Co2 + Temperature control ring-1 Repairs in Rs. | | | | |
| 8 | Summary of Co2 + Temperature control ring-2 Repairs in Rs. | | | | |
| 9 | Summary of Co2 + Temperature control ring-3 Repairs in Rs. | | | | |
| 10 | Summary of Weather Station Repairs | | | | |
| 11 | Summary of FATE Control Panel Repairs | | | | |
| 12 | Summary of CO2 Source & Supply Repairs | | | | |
| Total One Time Repair Charges in Rs. | | | | | |

Note: The spares replaced under One Time Repairs shall carry the warranty from OEM for the period specified by OEM. Warranty services rendered by the OEM shall be managed during that period by firm under AMC. Prices are to be quoted accordingly under AMC.

Part B: AMC Charges:

After Initial one time paid repairs, replacement, SCADA-calibrations and successful demonstration of all parameters AMC will take in to effect.

Part B (i): Component charges applicable as and when if any of the parts need replacement during AMC period.

| SI No | Components | Quantity | Specifications | Make | Rate | Amount |
|-------|---|--|-------------------------|--------------|------|--------|
| 1 | Structural material | | As per Site | Any std make | | |
| 1.1 | FATE structure including G.I mast beam 3m height from Ground level with fasteners and stay | 1set | -- | -- | | |
| 1.2 | Hand rolled Ratchet arrangement for manual height adjustment of IR heating devices with all accessories | 1set | | | | |
| 1.3 | RING CO2 Release: HIGH DUROMETER POLYURETHANE TUBING - HU/HUM SERIES or Polyurethane PU CO2 release system -per running meter including tube fixing and gas release requirements, | 1 met | | | | |
| 2 | CO2 Tank and Supply arrangements 1. 20KL Capacity CO2 Tank with, 2. Rinac chiller with electric panel, 3. In, out and return safety releases, 4. In, Out and return Delivery SS Valves, 5. Aluminium Evaporator liquid to Gas CO2 delivery 6. Pipe Tubing SS308 pipe network per meter running length including fittings 7. Section delivery devices SS308 Flange and Valves | 1 no 1no 1no 1no 1no 1no 1no | 20 KL with PESO licence | Barat | | |
| 3 | Air Temperature sensor : 2-Wire-Temp Transmitter | 1 | Pt100 | Radix | | |

| | | | | | | |
|----|--|---|---|--|--|--|
| 4 | Infrared Heat Sensor IR Sensor: Temperature range (°C) -20-500°C Spectral response 2-14µm, Accuracy (TC) ±1.5% of reading ±2°C ,or ±4°C, Repeatability(TC) ±0.5% of reading ±1°C ,or ±2°C, Response time (95% energy) 150 ms Temperature resolution 0.1°C RAYCMLTJ3M | 1 | RAYCMLTJ 3M | Ray teck FLUKE CO. U.S.A | | |
| 5 | Infrared Heaters : Ceramic IR Heaters in SS Enclosure FSR or FSM series ceramic infrared panel heaters, which are designed for operating temperatures up to 720 °C. Surface ratings up to 64 kW/m² at 2-10µm wavelength. | 1 | FSR1000, 230V 1000W | ELSTEIN | | |
| 6 | Analog Input Module Analog Input Module-8I/P channels, 2x16 backlit LCD, 3 key, 3 level prog, 4-20 mA output, RS485/MODBUS RTU Ord. Code 2310 or compatible higher model only | 1 | Radix SCM201 | Radix | | |
| 7 | CO2 Analyser & Monitor: Infrared gas monitor with near-analyser quality continuous sampling, measurement and display of CO2 gas concentrations with detection level ranges of between 0-2000ppm and 0-100% by volume, Make: Edinburgh Sensors UK, GuardianNG+ | 1 | PRIVA Guardian NG+ | EDINBURGH SENSORS UK | | |
| 8 | Solenoid Valves - Direct Acting Normally Closed Solenoid Valve -2 Port diaphragm solenoid valve with Pressure range 0 to 150 bar. Rotex Automation's Fluid control solenoid valve Model number 20101 | 1 unit | 20101 | Rotex Automation Ltd | | |
| 9 | CO2 Tubing HIGH DUROMETER POLYURETHANE TUBING HU/HUM SERIES or Polyurethane (Shore A 98) in Two sizes: OD/ID=12mmx8mm for supply, 6mmx4mm for sampling. Preferably Resistance to Air, water, Co2 gas with required numbers of push-in fittings, perfect sealing based on NF E49-101 Push in type Connectors. | 1Unit (running meter) | | Parker Legris/ Surethane/ Hi Duro | | |
| 10 | PLC -Mitsubishi PLC - FX3U-32M Base Model FX2N16EYT Parts for above FX2N8EYR-ES Parts for above 1 X 8 port Relay modules Parts for above Power supply-source Parts for above Redix SCC401Signal Isolators, Redix 201 Analog Input Module-8I/P | 1 unit 1unit 1unit 1unit 1unit 1unit | MELSEC FX3U-32M Redix Redix | Mitsubishi Redix Redix | | |
| 11 | CPU Work station for Dell Vostro CPU Work station either with Dell Precision 7820 Tower or HP Z440 Workstation with suitable Original Genuine OS, AV-IS, Data Management Hardware specifications on the day of replacement including workstation setup with SCADA software. | 1 Unit | HP/Dell | HP/Dell | | |
| 12 | SCADA/HMI software - Advance Version of xArrow runs on Latest Microsoft Windows with xArrow OEM licence Key including installation and setup. | 1 unit | Xi'An Rui Arrow Software Ltd | Xi'An Rui Arrow Software Ltd | | |
| 13 | PC SMART-UPS Output power capacity 5.4 KW/6.0 kVA, Output Voltage 230V, Topology: Double Conversion, Sine wave, Input voltage:160-285V, frequency 40-70Hz, with Surge Protection and Filtering. | 1 Unit | SRC6KUXI | APC | | |
| 14 | Replacement of UPS VRLA batteries Amron/Exide of same size and rating for above with 1hour FL backup. | 1each | Amron / Exide | Amron /Exide | | |
| 15 | SS308 standard ISI make gas Fittings ½" size valves 1"size valves ½" Size Flange 1"size Flange ½" Size Pressure Gauge large dial all weather outdoor 1"size Pressure Gauge large dial all weather outdoor | 1 no 1 no 1no 1no 1no 1no | | | | |
| 16 | Control box 1. Schneider electric contactor up to LC1D32 2. Schneider electric MCB -TP up to 40amp 3. Schneider electric MCB -SP up to 16 amp 4. Schneider Thermal Magnetic Circuit Breaker GV2ME07 as per current settings 5. Electric Connectors, wire terminals etc-with upto 30 meter suitable size copper wire. 6. Mounting Box IP55 suitable size Hager/better | 1 unit 1 unit 1 unit 1 unit 1 set 1 Unit | | | | |

Part B (ii):: Labour Charges

| Sl no | Details | Year | Price | Amount |
|-------|---|--|-------|--------|
| 1. | Comprehensive AMC Charges for Complete FATE Facility including all charges except spare parts whose prices are quoted here with separately. | 1 st year (0-12Months) | | |
| 2. | Comprehensive AMC Charges for all eight chambers including all charges except spare parts whose prices are quoted here with separately. | 2 nd year (13 th to24 th month) | | |

| | | | | |
|----|---|--|--|--|
| 3. | Comprehensive AMC Charges for all eight chambers including all charges except spare parts whose prices are quoted here with separately. | 3 rd Year (25 th to 36 th month) | | |
|----|---|--|--|--|

Total AMC Charges: Part B(i) + Part B(ii)= Rs _____
(Rs. _____ in Words)

Price bid

| | |
|---|--|
| <p>Total Price (One Time Repair charges + AMC charges)</p> | |
|---|--|