

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)
RAJIV GANDHI INSTITUTE OF IT & BIOTECHNOLOGY, PUNE

TENDER NOTICE
NOTICE INVITING TENDERS

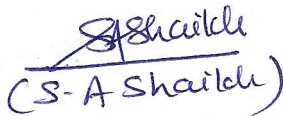
5/01/2022

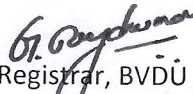
The Registrar, Bharati Vidyapeeth (Deemed to be University) (BVDU), Pune 411030, Maharashtra, India, hereby invites sealed bids from Manufacturers / Dealers / Suppliers for the following instruments to be purchased from the project grant received from Department of Biotechnology (DBT), New Delhi, vide Ref: No. BT/ INF/22 /SP41297 / 2021; dated 30/09/2021; to Rajiv Gandhi Institute of IT & Biotechnology, Pune.

Sr. No	Description	Qty
1	HPLC	1
2	Fluorescent 4 mode ELISA Plate Reader	1
3	Sorval Centrifuge	1
4	Real Time PCR	1
5	Automated DNA Purification System	1
6	Plant Cell Reactor	1
7	Lab Fermenter	1
8	Image Analysis System	1
9	Shaker Incubator	1
10	Speed Vac	1
11	Soxhlate apparatus with vacuum pump, column etc	1
12	Deep Freeze (-80°C)	1
13	Sonicator	1
14	Binocular Microscope with Camera	1
15	CO ₂ Incubator	1
16	Bioinformatics Software & processing units	1
17	Green House Facility	1
18	UPS	3

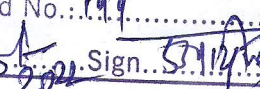
Tender documents with complete terms and conditions, technical specifications etc., can be downloaded from Bharati Vidyapeeth (Deemed to be University) website: <http://rgitbt.bharatividyaapeeth.edu>. The sealed tenders for the equipment as per the specifications as mentioned in Annexure-I, addressed to The Registrar, BVDU, Rajiv Gandhi Institute of IT & Biotechnology, BVDU, Pune- 411046, should be submitted within 15 days from the date of this advt.

Principal Project Investigators


(S-A Shaitle)


Registrar, BVDU

Registrar
Bharati Vidyapeeth
(Deemed to be University)
Pune-411 030, India

Bharati Vidyapeeth (Deemed to be University) Rajiv Gandhi Institute of I.T. & B.T., Katraj, Pune-46	
Inward No.:	199
Date:	5/1/2022
Sign:	

1. HPLC SYSTEM WITH PDA DETECTOR & ACCESSORIES

Unit-1: PUMP – SOLVENT DELIVERY UNIT

- **BLK Solvent Delivery Unit** Quantity: 2
 - High precision dual plunger design
 - System designed to work in micro, semimicro, analytical to semi prep scale
 - High speed double micro-plunger inparallel pump with automatic pulsation correction mechanisms
 - achieving pulse-free solvent delivery
 - Forced check valve design for excellent solvent delivery control
 - Flow rate range: 0.0001ml to 10.0 ml/min each Pump
 - Flow rate resolution of 3nl/step increment
 - Built in self-diagnostic, Auto Purge function
 - Flow precision is less than $\pm 0.06\%$ RSD
 - Flow rate accuracy: $\pm 1\%$
 - Concentration accuracy: $\pm 0.5\%$
- *Accessories for solvent delivery system*
 - Washing Kit, 20AD Quantity: 1
 - Gradient Mixer, SUS 20A Quantity: 1
 - Reservoir Tray, 20A BLK Quantity: 1

Unit-2: AUTOSAMPLER

- **AUTO SAMPLER, SIL-20ACHT BLK** Quantity: 1
 - *World's fastest and cleanest sampler*
 - *10sec injection time for 10 μ l sample*
 - *Injection volume range-0.1ul to 100ul*
 - *Injection volume precision- RSD 0.3%*
 - *Near zero carryover of 0.005%*
 - *Peltier cooler programmable from 4-40oC*
 - *Built in dehumidifying function*
 - *105 sample vial loading capacity of 1.5ml vial*

Accessories for Autosampler

- Column Oven Quantity: 1
- Degassing Unit Quantity: 1

Unit-3: PDA DETECTOR

- **High Sensitivity Quantitative PDA Detector** Quantity: 1
 - Lamp: Deuterium (D2) lamp, Tungsten lamp
 - No of Diodes: 1024
 - Wavelength Range: 190-800nm
 - Wavelength Accuracy: ± 1 nm
 - Wavelength Precision: ± 0.1 nm
 - Noise: 4.5×10^{-6} AU
 - Drift: 0.4×10^{-3} AU/h
 - Cell temperature control range: 19 to 50°C, 1°C Step (up to 50°C)
 - Operating temperature range: 4 to 35°C

- Flow precision is less than $\pm 0.06\%$ RSD
- Flow rate accuracy: $\pm 1\%$
- Concentration accuracy: $\pm 0.5\%$

Accessories for PDA

- SOLAR C18 250mm GS Kit (Column & Vials) Quantity: 1
- Shim-Pack Solar C8, 5u, 4.6 X 250mm Quantity: 1
- Solvent Bottles with Cap 5/PKT Quantity: 1
- CBM-20Alite System Controller Quantity: 1
- Suitable Software Quantity: 1
- Power Cord Quantity: 5
- E-IQOQ Quantity: 1
- Suitable branded laptop : Quantity: 1

2. Fluorescent 4 mode ELISA Plate Reader

Plate reader

Requirements

- Detection modes: UV-Vis absorbance
 Fluorescence intensity
 Luminescence
 Time-resolved fluorescence (secondary mode)
- Read methods : End point, kinetic, spectral scanning and well area scanning
- Microplate types: 6- to 384-well plates
- Other labware supported: PCR plates, Petri and cell culture dishes
 Take3 Micro-Volume Plates
- Temperature control: Incubation to 50 °C wit +/- 0.2 °C at 37 °C
- Shaking: Linear, orbital
- Software: Suitable

ABSORBANCE

- Light source Xenon flash
- Detector photodiode
- Wavelength selection monochromator
- Wavelength range 200 - 999 nm, 1 nm increments
- Monochromator bandwidth 2.4 nm
- Dynamic range 0 - 4.0 OD
- Resolution 0.0001 OD
- Pathlength correction yes
- Monochromator wavelength accuracy +2 nm
- Monochromator wavelength repeatability +0.2 nm
- OD accuracy <1% at 2.0 OD
 <3% at 3.0 OD
- OD linearity <1% from 0 to 3.0 OD
- OD repeatability <0.5% at 2.0 OD
- Stray light 0.03% at 230 nm

FLUORESCENCE INTENSITY

- Light source Tungsten halogen

- Xenon flash (option)
- Detector PMT
- Wavelength selection Filters
- Wavelength range 300 - 700 nm (200 - 850 nm option)
- Dynamic range >6 decades
- Sensitivity Top and Bottom: Fluorescein 5 pM (1 fmol/well 96-well plate)
- Reading speed (kinetic) 96 wells: 31 seconds
- 384 wells: 80 seconds

LUMINESCENCE

- Wavelength range 300 - 700 nm
- Dynamic range >6 decades
- Sensitivity 10 amol ATP (flash) - Lum and Abs / Lum configurations
30 amol ATP (flash) - Multi-mode configurations

TIME-RESOLVED FLUORESCENCE

- Light source Xenon flash
- Detector PMT
- Wavelength selection Monochromator

ALPHA DETECTION

- Light source Tungsten halogen
- Detector PMT
- Wavelength selection Filters
- Sensitivity 300 amol of biotinylated-LCK-P peptide, 25 µL/ well in 384-well plate
- Read speed 2 minute (96-well plate)

REAGENT DISPENSERS

- Supported detection modes All modes
- Number 2 syringe pumps
- Supported labware 6- to 384-well plates
- Dead volume 1.1 mL with back flush
- Dispense volume 5-1000 µL in 1 µL increments
- Dispense accuracy +1 µL or 2%
- Dispense precision <2% at 50 - 200 µL

PHYSICAL CHARACTERISTICS

- Connectivity 1 USB, 1 RS232 for external PC control
- Power 100-240 VAC, 50/60 Hz

3. High volume-capacity Centrifuge: Quantity-1

Specifications

- Capacity
 - >Max Capacity 4-liter capacity (4 x 1000 mL)
 - >Max. RCF 5590 x g
 - >Max. Speed 15,200rpm
 - >Refrigerated Yes
 - >Display Digital
 - >Noise Level < 61 / < 55* dB
- Electrical Requirements 230V 50/60Hz
- Controller Type Microprocessor
- Temperature Range -10° to +40°C
- Fixed angle rotors for the 15 ml/1.5 ml tubes

Additional features

- Intuitive controls with simplified operation for operating parameters and processing status
- Motorized lid latch/ automatic lock System
- Easy access to rotor chamber for quick cleaning, a healthier working environment
- Glove-friendly, one-handed open/close capability
- Good rotor management system maximizes acceleration, braking and residual load imbalance for each rotor and bucket option
- Optimizes safety and improves separations

4. Real-Time PCR: Quantity-1

Specifications

- No. of channels: 5
- Multiplexing: 5 Color
- Sample Capacity 96-Well PCR plate, 12x8 Strip, 96x0.2ml (Bottom Transparent)
- Dynamic Range: 1~1010 Copies
- Excitation Wavelength: 300-800nm
- Emission Wavelength: 500-800nm
- Detected Fluorescence: F1: FAM, SYBR
F2: HEX, TET, JOE, VIC
F3: ROX, TEXAS-RED
F4: CY5
F5: CY5.5
- Passive reference dye: Rox or other dye not required (optional)
- Block Temp. Range: 4~105°C (Minimum Increment 0.1°C) Soak Low Temperature, Conservation Function
- Heating / Cooling Rate: 4.0°C/s (max)
- Temp. Control Accuracy: $\leq \pm 0.1^\circ\text{C}$
- Temp. Fluctuation: $\leq \pm 0.1^\circ\text{C}$
- Temp. Uniformity: $\leq \pm 0.3^\circ\text{C}$
- Temp. Control Mode: Block / Tube Simulation Mode (Automatic Control Based On Sample Volume)
- Sample Volume Range: 5~100 μl
- Gradient Temp. Range: 1~36°C
- Hot-Lid Temp. Range: 30~110°C (Adjustable Default 105°C), Automatic Hot-Lid
- Fluorescence Detection Repeatability: Within 5%
- Scan Mode: Entire Plate or Designated Line
- Run Time: Max 20 Segments for each Program, Max 99 Cycles
- Operation Mode: Continuous
- Scan Period: 5.5 seconds
- Feature Function: Absolute Quantification; Automatic Data Analysis; Melt Curve; Genotyping; Gradient; Correction; Customized Parameters
- Operating System Microsoft: Windows 7/ Windows 8.1/ Windows 10,
- Software: Excel 2000/2002/2003/2007/2012
- Required PC Configurations: Memory 4GB RAM, Hard Disk: 500GB, CPU: Intel i3 & latest, Virtual Memory: $\geq 1000\text{MB}$
- Power Supply: 100 - 240V ~ 50/60Hz 600W
- Socket USB Adapter, Bluetooth Adapter

5. Automated DNA purification system

Specifications

- Sample Capacity: 1~16
- Process volume: 50 to 1000µl
- Sample Volume Range: 25 to 400µl
- Elution Volume: 50µl (can be optimized upto 25µl based on assay suitability)
- Consumables: Individual cartridge +96 Deep well plate + Special magnetic rod's tip
- Working principle: Magnetic beads method
- Magnetic Rod: 4200 gauss
- Purification accuracy: 100 copy sample positive rate > 95%
- Stability: CV<3%
- Magnetic beads recycling rate: >95%
- Temperature Range: Room temperature to 120°C
- Lysis temperature: Room temperature to 120°C
- Elution temperature: Room temperature to 120°C
- Mixing: Mixing ways can be editable
- Operation interface: 4.3 inch
- Built-in protocol: 8 groups of preset protocols, 100 groups of protocols can be stored
- Protocol management: New, Edit, Delete, Save as Template, Create
- Expansion interface: Standard USB, Ethernet port and RS 232 available
- Lighting: Yes
- Sterilization: UV light
- Exhaust way: By Fan
- Data storage: Available, with built-in SD card
- Max. input power: 150W

6 & 7. Microbial lab fermenter/Plant cell reactor: Quantity: 2

Requirements:

- Fermenter vessel :-
 - > Borosilicate (pyrex) glass vessel
 - > Nominal capacity 5 litres (approx.)
 - > Working volume range 2 to 3 litres (approx.)
- Stainless steel support plates with ports & fittings for the following :-
 - > Air inlet to sparger
 - > Air exhaust (vent)
 - > Inoculation cum sampling
 - > Cooling finger heat exchanger
 - > Sensor port(s)
 - > Addition port(s)
 - > Thermowell
 - > Spare port(s)
- Agitation (stirring) arrangement :-
 - > Bottom driven seal-less & totally leak-proof magnetic drive agitator
 - > Rugged industrial grade AC induction motor
 - > Variable frequency (ACVF) drive for motor speed variation, range 250-750 RPM
 - > Digital RPM meter for motor speed
- Aeration control system :-
 - > Oil-free mini air compressor
 - > Air flow rotameter with needle valve for manual flow control setting
 - > Autoclavable sterile air filter for inlet air, rating 0.2 micron

- Temperature measurement & control system :-
 - >Microprocessor-based digital on/off type temperature controller
 - >Control range : 5 °C above cold water temperature upto 35 °C
 - >For heating : Non-contact type infrared (IR) heater, as the heat source
 - >For cooling : Cold water circulation through cooling finger heat exchanger
- Cold water provision for temperature control :-
 - >Induced draft cooling tower in FRP with fan
 - >Cooling capacity upto 5 °C below room temperature
 - >Submersible water pump for recirculation
- Online sterilizable pH monitoring & control system :-
 - >Autoclavable gel filled glass body pH electrode
 - >Panel-mounted microprocessor-based digital on/off type pH indicator-controller
 - >3-way selector switch for selecting between acid-based or alkali-based pH control strategy
 - >Panel-mounted programmable cyclic timer with programmable on & off timing
 - >Suitable for programming the addition volume of acid/alkali to fermenter
- Online sterilizable DO monitoring system (without control facility) :-
 - >Autoclavable glass body galvanic DO electrode with PG13.5 process connection
 - >Detachable cable for the above electrode, length 3 metres
 - >Panel-mounted microprocessor-based digital DO indicator
- Online sterilizable foam control system (antifoam addition based) :-
 - >Autoclavable foam sensor
 - >On/off type blind foam controller
 - >Panel-mounted variable speed peristaltic pump for antifoam dosing
- Control panel console
 - >Suitable for tabletop mounting adjacent to fermenter
- Mounting
 - >Suitable for mounting on laboratory benchtop or platform
- Suitable autoclave unit for the autoclaving
- Suitable Chiller unit should be included
- Model in general should be suitable for following applications
 - >College-level experiments, demonstration, practicals
 - >Research work on the following :-
 - > Microbial cultures (bacteria, yeasts, actinomycetes, fungi)

9. Refrigerated Incubator Shaker : Quantity:1
Standard Specification for

SHAKING SPECIFICATION

- Shaking Frequency : 25-400 RPM
- Shaking Deviation : ± 1 RPM
- Shaking Display : Colour LCD
- Shaking Change via: HMI (Touch Screen)
- Shaking Motion : Orbital
- Diameter of Orbital Motion : 26 mm (1 inch)
- Platform Dimension (W x D) : 420 x 420 mm
- Universal Platform to accommodate

Standard clamps of sizes from 10 ml upto 2 L
16 Nos. of 500 ml/9 Nos. of 1L/4 Nos. of 2L .

TEMPERATURE SPECIFICATION

- Temperature Range : 5°C to 80°C

- Temperature Accuracy : $\pm 0.1-0.5^\circ \text{C}$ in 5°C to 80°C
- Temperature Display : Colour LCD
- Temperature Change via : HMI (Touch Screen)

OTHER SPECIFICATIONS

- Internal Dimensions (W x D x H) Per Unit : (500 x 490 x 425) mm
- External Dimensions (W x D x H) Per Unit : (570 x 702 x 815) mm
- Multiple Step programming upto 4 parameters
- Audible & Visual alarm for Temperature deviation
- Thermostat cut-off for Temperature over shoot
- Non Volatile Memory with automatic Power failure restart
- Electrical Requirement : 230V,16 Amps, 50 Hz, 1 Φ
- Net Weight (Kg) Per Unit : 125
- Gross Weight (Kg) per Unit : 225

10. Speed Vac: Quantity:1

11. Soxhlate apparatus with Vacuum Pump: **Rota vapour and Soxhlet assembly**

Requirements

1. Capacity: 3 Lit

- Temp range: Room Temp to 180°C
- Shape: Round
- Receiving flask: Round bottom, 1 lit capacity
- Vacuum: 2 mbar pump

2. Soxhlet Apparatus

- Sample weight : Upto 15 g
- Solvent jar capacity: 150 ml

1 Rotary Evaporator System

12. Deep Freezer -80°C

- Capacity : 368 Ltrs
- Temperature range : -50°C to -86°C
- 2" Box Capacity : 240
- Vial Capacity (2 ml) : 24,000
- Display : Digital display.
- displays setpoints, system status and alarm messages
- Easy-to-use microprocessor control panel
- Operating Mode : Standard operation mode
- Security : Key lock with compatible pad lock
- Data Management
- Dry Contacts – Standard Optional PT100 Probe
- Improved temperature recovery after door openings
- Dust protection on condenser : Easy to remove washable air filter

13. Probe Sonicator

Probe Sonicator-With

- | | |
|--|-------------|
| 1. Probe 3 mm : | Quantity: 1 |
| 2. Extra Probe-2 mm : Process Capacity-0.5-5ml | Quantity: 1 |
| 3. Extra Probe-12 mm : Process Capacity-50-500ml | Quantity: 1 |

- Touch screen Display,
- Microprocessor Controlled
- Completely Programmable
- Data Memory-20 Groups,
- Variable power output control

14. Binocular Microscope with Camera: Research Microscope with Digital camera

Binocular Microscope

- with infinity corrected optical system
- built in transmitted Led illumination system
- coaxial & fine focusing knob on both side with torque adjustment for coarse
- focusing stopper
- quadruple revolving nosepiece with inward tilt
- anti-fungus plan achromatic, Objectives
- 4x, 0.10 WD, 27.8mm
- 10x-0.25 WD 8 mm
- 40x-0.65 WD 0.6mm
- 100x-1.25 WD 0.13mm
- Spring Oil
- mechanical XY Stage with travelling range- 76mmx30mm
- Single Specimen observation tube.
- wide field paired eyepiece of 10x
- abbe condenser

2. Digital camera for image recording

- MagCam DC-5 (with 0.5x TR adapter) 11.3.2

15. CO₂ Incubator

CO₂ Incubator, 167 liter 5.9 cu.ft.

Required features

- Fan-less, six-sided direct heating with seamless, deep drawn stainless steel chamber
- Unique IR sensor for CO₂ offers specific measurement and control of CO₂ levels
- Auto-calibration feature of sensor automatically ensuring CO₂ accuracy
- Sealed inner Glass door for conservation of inner chamber ambience
- Connections/ Communication ports: Ethernet 1x
- User & 1x Service; with BMS relays 0-5V & O₂ Nos. of 25mm access ports
- Stackable up to 2 units high
- Large volume humidification pan with dedicated independent heater
- HEPA filtration of gas supply inlets to minimize contamination risk
- 4 position shelving rack with 3 perforated shelves as standard supply; optionally upgradable to 8 shelves.
- Flatness tolerance of Shelves = 1mm and thickness of shelves = 1.5 mm
- High Temperature Disinfection [HTD]: 140°C 2-hour cycle

- Convenient and simple operation
- CO₂ sensor remains in the chamber during HTD • Ensures a clean and disinfected environment for cell culture

Additional features:

- Building Management System (BMS) Relay for integration into centralized building alarm system is standard on all models
- Advanced control maintains temperature accuracy and uniformity while minimizing costly gas consumption
- auto-calibration to ensure accurate CO₂ calibration measurements
- Access Port for adding instrumentation or probes
- High quality door gasket maintains a leak-free seal
- In-line filters for gas supply inlets ensure sterility
- Space-saving stackable (x2) design; requires optional stacking stand

- **Technical specifications:**

Capacity: 167 liter

Temperature Management: Range: 4°C above ambient to 50°C,

Control increment: ± 0.1 °C

Accuracy: ± 0.4 °C at 37°C

Uniformity: ± 0.3 °C at 37°C and ambient 22°C

Stability: ± 0.1oC at 37°C and ambient 22°C

High Temperature Disinfection: 140°C 2- hour cycle CO₂ gas management

Gas range: 0.1 - 20% with Control increment of 0.1%, Accuracy: + 0.3% at the specified

Relative Humidity (RH) at 37°C and ambient 22°C,

Stability: ± 0.1% at 37°C and ambient 22 on Uniformity: ± 0.1% at 37°C and ambient 22°C

Gas Recovery after door opening: Approx 5 min

Connections: Gas tubing Inner diameter of 6.5 mm and outer diameter of 10 mm, gas service pressure required: 0.1 MPa (1 bar/ 14.4 PSI). Range: 0.05 to 0.2 MPa (0.5-1.5 bar/ 7.2 -21.8 PSI)

Humidity: Reservoir: removable SS pan volume = 2.5 lts,

RH (37 °C) up to 95% Controller: Diagnostic interface to show system parameters and functions

- Electrical: 220 - 240 volts, 50/60 Hz.
- Power: 500 W, Weight: Net. 81 to 105 kg. Depending on options w/o accessories.

16. Bioinformatics Software and processing unit:

Specification:

Software: Dassault Systemes' BIOVIA Discovery Studio Academic Teaching Suite
BIOVIA Discovery Studio Academic Teaching Suite - 30 Users. Perpetual Licence

Processing Unitv : 1 - Dell R750 Series Server with GPU :- Qty -02

Components

1 329-BGJR R750 Motherboard

1 329-BERC Assembly BOSS Blank

2 338-CBWJ Intel Xeon Silver 4310 2.1G, 12C/24T, 10.4GT/s, 18M Cache, Turbo, HT (120W)
DDR4-2666

1 379-BCQV iDRAC Group Manager, Enabled

1 321-BGZO 2.5" Chassis with up to 8 Universal Drives

1 325-BCHU PowerEdge 2U Standard Bezel

1 330-BBRW Riser Config 2, Full Length, 4x16, 2x8 slots, DW GPU Capable

1 350-BCED Dell EMC Luggage Tag

1 350-BBYW Quick Sync 2 (At-the-box mgmt)

- 1 370-AAIP Performance Optimized
- 1 370-AEVR 3200MT/s RDIMMs
- 4 370-AGDS 32GB RDIMM, 3200MT/s, Dual Rank 16Gb BASE x8
- 1 385-BBQV iDRAC9, Enterprise 15G
- 3 400-AZVM 960GB SSD SATA Mix Use 6Gbps 512 2.5in Hot-plug AG Drive, 3 DWPD,
- 1 405-AAZB PERC H755 SAS Front
- 1 384-BBBL Performance BIOS Settings
- 1 412-AAVC Heatsink for 2 CPU with GPU configuration
- 1 450-AJHG Dual, Hot-Plug,Power Supply Redundant (1+1), 1400W, Mixed Mode
- 2 450-AGDF Jumper Cord - C13/C14, 4M, 250V, 10A (India BIS)
- 1 461-AAIG Trusted Platform Module 2.0 V3
- 2 470-AEFO PE R7525/ R750 Acceleration Standard Cable
- 1 481-BBFG PowerEdge R750 Shipping Material
- 2 489-BBCG NVIDIA Tesla M10 GPU, Requires GRID 2.0 SW for VDI Function
- 1 540-BCOC Broadcom 57414 Dual Port 10/25GbE SFP28, OCP NIC 3.0
- 1 542-BBBP On-Board LOM
- 1 631-AACK No Systems Documentation, No OpenManage DVD Kit
- 1 750-ACFQ Front PERC Mechanical Parts, rear load
- 1 750-ADGL High Performance Fan x6
- 1 770-BBBQ ReadyRails Sliding Rails
- 1 770-BDRQ Cable Management Arm, 2U
- 1 780-BCDS Unconfigured RAID
- Software
- 1 379-BCSF iDRAC,Factory Generated Password
- 1 605-BBFN No Media Required
- 1 611-BBBF No Operating System
- 1 800-BBDM UEFI BIOS Boot Mode with GPT Partition
- 1 528-BIYY OpenManage Enterprise Advanced
- Service
- 1 683-19784 Basic Deployment Dell Server R Series 1U/2U
- 1 709-BBHI Basic Next Business Day 36 Months
- 1 865-BBMY ProSupport and Next Business Day Onsite Service Initial, 36 Month(s)

2 -Dell Precision 3650 Tower (Work Station)

Component	Component
Precision 3650 Tower CTO BASE- i5,8GB,512GB SSD,win 11 pro, 3 year support	1
Dell 19 Monitor - E1920H	1
11th Generation Intel Core i5-11500, 12 MB Cache, 6 Core, 2.7 GHz to 4.6 GHz	1
ENERGY STAR Qualified	1
Precision 3650 Tower with 300W up to 90% efficient (80 Plus Gold) PSU, Standard Front I/O, no SD card	1
reader	
8GB (2x4GB) DDR4 UDIMM non-ECC Memory	1
No Hard Drive	5
512GB PCIe NVMe Class 40 M.2 SSD	1
Thermal Pad 3640	1
HEATSINK for 65W CPU	1

No External ODD	1
System Power Cord India 16A	1
Kit - 6Amp Power Cord - CustKit (India only)	1
Intel Integrated Graphics	1
No Additional Port	1
Internal Speaker for Precision 3650	1
No Additional Network Card Selected (Integrated NIC included)	1
No Wireless LAN Card (no WiFi enablement)	1
No Driver	1
Dell MS116 Wired Mouse Black	1
Dell Wired Keyboard KB216 Black (English) - US International	1
Dell Client System Update (Updates latest Dell Recommended BIOS, Drivers, Firmware and Apps)	1
Waves Maxx Audio	1
SupportAssist	1
C1: M.2 SSD Boot + Optional M.2 SSD (No SATA HDD)	1
No RAID	1
Not selected in this configuration software	2
No Front Cooling Fan	1
Windows 11 Pro, English	1
OS-Windows Media Not Included	1
Microsoft Office Trial(30 Days)	1
Intel Management Engine disabled	1
Dell SupportAssist OS Recovery Tool	1
Dell(TM) Digital Delivery Cirrus Client	1
Dell Optimizer for Precision	1
Dell Premier Color 6.0	1
No Anti-Virus software service	1
Basic Onsite Service 12 Months	1
3Y Basic Advanced Exchange Service	1
Basic Onsite Service Extension, 24 Month(s)	1

OR

3 – DELL OptiPlex 3090 Tower XCTO

OptiPlex 3090 Tower XCTO	
Configuration- i5/8gb/512ssd/DOS	Component
Dell 20 Monitor - E2020H	1
OptiPlex 3090 Tower with D10 260W up to 85% efficient Power Supply (80Plus Bronze)	1
Trusted Platform Module (Discrete TPM Enabled)	1
Acceleration Use Only Intel Core i5-10500	1
ENERGY STAR Qualified	1

8GB (1x8GB) DDR4 non ECC memory	1
M.2 512GB PCIe NVMe Class 35 Solid State Drive	1
System Power Cord India 6A 1 Kit - 6Amp Power Cord - CustKit (India only)	1
No UPC Label	1
Not EPEAT Registered	1
Intel Integrated Graphics, Dell OptiPlex	1
No Additional Add In Cards	1
No PCIe add-in card	1
Speaker for Tower and SFF	1
No Wireless LAN Card (no WiFi enablement)	1
No Hard Drive Bracket, Dell OptiPlex	1
Dell USB Optical Mouse-MS116 (EPEAT) - Black	1
Dell Wired Keyboard KB216 Black (English) - US International	1
Dell Applications for Ubuntu or kylin	1
M2X3.5 Screw for SSD/DDPE	1

4 - Network Switch

Cisco SX350X-24-K9-IN

24-Port 10GBase-T Stackable Managed Switch : Qty - 02

17. Green House Facility:

Specification:

Greenhouse Tunnel with Fan and Pad system (45 ft X 35 ft)

18. UPS:

Specifications: 10 KVA- Quantity: 01

6 KVA- Quantity: 02

