संचालक अनुसंधान सेवायें
इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर (छ.ग.)

क्रमांक / सं.अ.से. / GeM / 2026 / 1752 दिनांक: 27 / 10 / 2026

परिपत्र

विश्वविद्यालय निविदा क्रमांक GEM/2026/B/7223323 Raipur dated 17.02.2026 द्वारा "Establishment of Plant Tissue Culture lab at ZARS Ambikapur " के लिए केन्द्रीय क्रय समिति द्वारा अनुशंसित एवं माननीय कुलपति जी द्वारा अनुमोदित दरें पत्र के साथ संलग्न है।

अतः अनुमोदित दरों पर भण्डार क्रय नियमानुसार स्थापना किया जाना सुनिश्चित करें।

संलग्नः उपरोक्तानुसार ।

संचालक अनुसंधान सेवायें

पृ. क्रमांक / रां.अ.रो. / GeM / 2026 / 1752 दिनांक: 27 / 10 / 2026

प्रतिलिपिः–

1. कुलपति जी के निज सहायक, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर ।
2. कुलसचिव, इंदिरा गांधी कृषि विश्वविद्यालय,रायपुर।
3. लेखानियंत्रक, इंदिरा गांधी कृषि विश्वविद्यालय,रायपुर।
4. सह–संचालक अनुसंधान, परिक्षेत्रीय कृषि अनुसंधान केन्द्र, अम्बिकापुर।
5. सर्वर प्रभारी, इंदिरा गांधी कृषि विश्वविद्यालय,रायपुर । कृपया संलग्न प्रोसिडिंग को विश्वविद्यालय के वेबसाइट www.igkv.ac.in में अपलोड करने का कष्ट करेंगे।

संचालक अनुसंधान सेवायें

इंदिरा गांधी कृषि विश्वविद्यालय

कृषक नगर, रायपुर (छत्तीसगढ़)

केन्द्रीय क्रय समिति की दिनांक 09.06.2026 को संपन्न हुई बैठक का कार्यवाही विवरण

इंदिरा गांधी कृषि विश्वविद्यालय द्वारा Establishment of Plant Tissue Culture lab at ZARS Ambikapur के लिए निविदा क्रमांक GEM/2026/B/7223323 Raipur dated 17.02.2026 Gem Portal पर प्रकाशित की गई थी। GeM Portal पर खोली गई निविदा का परीक्षण प्री क्वालिफिकेशन बीड समिति द्वारा किया गया। चयनित फर्मो का तकनीकी एवं वित्तीय परीक्षण संचालक अनुसंधान सेवायें, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर द्वारा गठित की गई समिति द्वारा किया गया। इस प्रस्ताव को केन्द्रीय क्रय समिति के समक्ष प्रस्तुत किया। संचालनालय, अनुसंधान सेवायें, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर में केन्द्रीय क्रय समिति की बैठक दिनांक 09.06.2026 को संपन्न हुई । जिसमें निम्नानुसार अधिकारीगण उपस्थित थे :–

1.	संचालक अनुसंधान सेवायें, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर	–	अध्यक्ष
2.	संचालक विस्तार सेवायें, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर	–	सदस्य
3.	अधिष्ठाता, कृषि महाविद्यालय, रायपुर	–	सदस्य
4.	अधिष्ठाता, कृषि अभि. संकाय, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर	–	सदस्य
5.	लेखानियंत्रक, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर	–	सदस्य
6.	कुलसचिव, इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर	–	सदस्य सचिव

प्रस्तुत प्रस्ताव एवं विवरण का अध्ययन करने के पश्चात गठित क्रय समिति की अनुशंसा पर विचार विमर्श कर केन्द्रीय क्रय समिति द्वारा निम्नानुसार फर्म का नाम, तकनीकी विवरण, दरें तथा नियम व शर्तो को माननीय कुलपतिजी की स्वीकृति हेतु प्रस्तुत किया गया जिसे कुलपति महोदयजी द्वारा स्वीकृति दी गई।

स्वीकृति की गई फर्म का नाम व उनके द्वारा स्थापित किये जाने वाले Establishment of Plant Tissue Culture lab at ZARS Ambikapur की तकनीकी विवरण, दरें तथा नियम व शर्तो का विवरण निम्नानुसार है:–

Tender Notice No. GEM/2026/B/7223323 Raipur dated 17.02.2026

Item Name: Establishment of Plant Tissue Culture lab at ZARS Ambikapur

Name of Firm: M/s Rajdeep Agri Products Pvt. Ltd., 3279/1, Ranjit Nagar, New Delhi

Total Amount (Including all taxes) : Rs. 2,37,67,000.00

(Two crore thirty seven lakh sixty seven thousand only)

Total Tissue Culture Lab Area: 2606.04 sqft

A. Building area available presently Existing Area:-88ft x 20.58ft x 12ft (L x W x H) = 1811.04sq.ft.

B. Additional Building to be constructed by bidder :- 53ft x 15ft x 12ft (L x W x H) = 795 sqft

Sl. No.	Item/Facility Name	Units
1	Pre-entry room : Plant Growth Chamber & Inoculation Room 1. Size - 6' -7" x 5' 2. Size – 8' x 5'	01 Complete set
2	Double Door Room 1. Size - 6' -7" x 5' 2. Size – 8' x 5'	
3	.Plant Growth Chamber No1 Size : 29' -4'' x 20' -7''	
4	Plant Growth Chamber No2 Size : 25' x15'	
5	Grading & Washing Area Size : 12' x7'-8"	
6	Auto clave Room Size : 12' x6'-7"	
7	Corridor Area Size : 12' x 5'	
8	Inoculation Room Size : 8' x 28'-11"	
9	Washing Room: 15' x 10'	
10	Central Gallery with Stairs to First Floor (Need to be closed) Size : 12' x20'-6''	
11	Media Storage Room Size : 7'-1" x 20'-7"	
12	Sterilization Room Size : 8' x 15'-4"	
13	Media Preparation & Chemical Store room Size : 14' x 15'-4"	
14	Bottle Washing Room Size : 8' x 15'-4"	
	Technical Specifications	**Units**

	1.	**Room Wall Partition/Insulation for Plant Growth Chambers & Inoculation Room Area** **Total Area :**1404 sqf Wall Insulation with 6mm thick metallic pc sheet with aluminum profile EPDIC rubber gasket. Height of Partition wall = 12 ft.	1 set
	2.	**False Ceiling For Plant Growth Chambers& Inoculation Room** **Total Area 1151 sqf** Ceiling with 6mm thick metallic pc sheet with supporting material profile EPDIC rubber gasket	1 set
	3.	**Wall Partition :** Partition Wall for Chamber with 6mm thick pc sheet with aluminum profile EPDM rubber gasket up to 12' **Area : 1896sqf**	1 set
	4.	**Sliding Door:** Size: 1.9m × 0.91m long & wide, normally lockable made with clear 6mm polycarbonate glazing, top & bottom tracks, jambs, flashings & installation hardware.	9 Nos.
	5.	**Hinge Door:** Door of Size: 1.9m × 0.91m long & wide, normally lockable made with clear 6mm Metallic polycarbonate glazing, top & bottom tracks, jambs, flashings & installation hardware.	10 Nos.
	6.	**Commercial Tissue Culture Rack For Growth Chamber 1** **Size of Rack 1220mm x7600mm x3000mm (W x L x H)** Plant Tissue Culture Rack ➢ Shelf to Shelf Distance: 38 cm (15") ➢ Shelf Color: Square M.S. pipe white shade powder coating finish with anti-corrosive and humidity resistant. ➢ Shelf Material: 3mm Hylem sheet. ➢ Shelves: illuminated shelves in one rack are: 06nos. ➢ Total no. of Shelves (including top) in one rack: 08 nos. ➢ Daylight florescenttubes 16 nos. • One separate switch is provided for every 2 lights. ➢ Four castor wheels in a rack for easy portability. ➢ Side holder rods, on each shelf prevent the bottles etc. from falling from the three sides of a shelf, i.e. on the left, back & right. Front side is used for keeping or removing the bottles etc. PP Trays for culture bottle accommodation - qty 1092 (Each Tray accommodation capacity 25 culture bottles) Total nos. of bottle : 1092 x25 = 27300 Nos	4 Nos
	7.	**Commercial Tissue Culture Rack For Growth Chamber 2** **Size of Rack :**1220mm x5900mm x3000mm (W x L x H)	2 Nos.

		Plant Tissue Culture Rack ➢ Shelf to Shelf Distance: 38 cm (15") ➢ Shelf Color: Square M.S. pipe white shade powder coating finish with anti-corrosive and humidity resistant. ➢ Shelf Material: 3mm Hylem sheet. ➢ Shelves: illuminated shelves in one rack are: 06nos. ➢ Total no. of Shelves (including top) in one rack: 08 nos. ➢ Daylight florescent tubes 16 nos. • One separate switch is provided for every 2 lights. ➢ Four castor wheels in a rack for easy portability. ➢ Side holder rods, on each shelf prevent the bottles etc. from falling from the three sides of a shelf, i.e. on the left, back & right. Front side is used for keeping or removing the bottles etc. PP Trays (for culture bottle accommodation) qty 588 (Each Tray accommodation capacity 25 culture bottles) Total nos. of bottle : 588 x25 = 14700 Nos	
8.		**PP Tray For accommodation of 25 bottle/tray**	1600 Nos
9.		**Culture Bottle with cap**	50000 Nos
10		**HMI Panel for both growth chamber** Control system which can monitor and control temperature, humidity and light. It maintains chamber climate by optimum controlling of chamber equipment's like cooling fan, heaters, ventilation, internal screen lights etc. It should also includ switching system for operating chamber equipment with suitable relays, contractors, and safety devices • 7"/10" HMI with Feather buttons, Data logging Feature • PLC system with inbuilt analog module for sensor connection • Multi- Set point programming. • Multistage cooling /heating control • **Sensor for Temperature & RH:** Range: Range 0-50 °C and 0-100%. ,Type : 4- 20 mA • **Sensor for Light Sensor:** Range: 0- 20 KLUX, Type: 4-20 mA. • **Light Spectrum control 10-100%** **OUTPUTS:** • **Light Control:** Control Cycle: ON/ OFF, multiple stages • Accuracy: ±10 sec/day **Temperature controller:** **Cooling Control:** • Control type: PID, Multiple stage control • Temp. Range: 0.1 to 59.9°C. • Accuracy: ±1°C. • Hysteresis: 0.4°C	01 Complete Set
11.		**Heaters Control:** • Control Type: ON/OFF, Multiple stages • Temp. Range: 0.1 to 59.9°C.	

		• Hysteresis: 0.4°C **Humidity Control** • Control type: ON/OFF • Range: 50% to 90%. (Real RH: ±2%. ±1 digit (at 45%). **Other accessories:** Computer system with UPS & table, Chair Qty 2, Wall Mounted fan etc. **General Illumination for Entry cum control chamber :**LED Light 20watt Qty 20	
	12.	**AHU System for <u>Plant Growth Chamber 1 & 2</u>** AHU Required to maintain Air Pressure in Growth Chamber (3500 CFM each)	02 Nos
	13	**AHU System for Inoculation Room** AHU Required to maintain Air Pressure in Inoculation Room (9000 CFM)	1 Nos
	14	**General Illumination for Entry cum control chamber :**LED Light 18/20watt	30 nos.
	15	**Air curtain:** Air Curtain for entrance door; of size: 3' wide. M.S. Powder coated body for normal height. A heavy-duty air curtain with double blowers 4'. Prevents loss of cooling/heating effects of air. Shuts out insects totally. Shuts out Dust & Fumes totally.	2 no.
	16	**CCTV Camera :** For the Monitoring and supervision of lab ,Best clarity 2.0 MP Camera /Bullet Camera /Dome Camera , 16 Port POE switch ,16 Channel NVR hard disk 1TB cat 6 Cable and connectors with HD DVR with complete Installation in all respect	1 unit of 6 camera
	17	**Fire Extinguisher (as per BISS/ISO Standard)** for the safety purpose of lab fire extinguishers are required. The capacity of the extinguisher shall be the mass of carbon dioxide with the following capacities – a. portable steel body -2,3,4.5 kg Portable aluminum body -2,3,4.5 kg b. Trolley mounted : mild steel body – 6.5 , 9 and 22.5kg The hose of suitable size internal diameter shall be provided for above capacities. The length of the hose shall be not less than 1mtr for 2,3,4.5 and 5.6kg capacity and 2mtr for 9kg and 5 mtr for 22.5kg capacity fire extinguisher	1 unit of each Capacity
	18	All wires will be of copper and desired load and switches(Polycab, KEI Industries, RR Kabel, Havells, Finolex Cables Anchor, L&T, Schneider Electric make), extra switches also provided as standby. Each feature has own electric line with MCB and will be underground in PVC pipe complete set with A grade work.	01 Complete Facility
	19	Other Plumbing work wash basin with watering connection forwashing areas , media preparation , sterilization room etc	1 set

B. Additional Construction Building Work

Sl. No.	Item/Facility Name	Units
01	Additional Building construction work for Plant Growth Chamber (As per PWD Norms) Area :53' x 15' x 12' (L x W x H) **Tiles Flooring work** **Total Area**: 735 sqf A} Foundation ✓ Column footing Structure with RCC M-20(1:11/2:3) Depth and width will be as per soil condition (MINIMUM 1.5 Metre). B} Plinth ✓ Brick work with modular fly-ash lime bricks (FaLG Bricks). C} Superstructure ✓ RCC column & Slab with M-20(1:11/2:3) grade concrete ✓ Brick work with modular fly-ash lime bricks (FaLG Bricks)Wall Thickness 8-9inch . ✓ TMT Bars should be As per IS 456-2000 code of standard weight. D) Under Floor ✓ Sand/Crusher dust & hard moorum should be used for filling plinth . E) Flooring ✓ Plain precast interlock block concrete on porch ✓ Rectified Ceramic/glazed tiles in toilet ✓ Vitrified Double Charge tiles(600mmx600mm) flooring in other room & passage . ✓ Granite on Verandah, passage . ✓ Granite on Staircase steps & window sill . F) Doors ✓ All Door frames and doors should be made of High Grade UPVC material and should be sealed with silicon in gaps to avoid air passage . G) Windows & Ventilators ✓ All Windows should be made of High Grade UPVC material and should be sealed with silicon in gaps to avoid air passage .All window & ventilators are sliding aluminum window shutter with grill iron work. H) Steel Work ✓ Providing stainless steel Grill in windows and ventilators . I) Plastering Work ✓ 15mm thick cement plaster on the rough side ✓ 12mm thick cement plaster of inner side ✓ 6mm thick cement plaster in Ceiling	**1 complete set**

	✓ 12mm thick molded mortar band in cement plaster ✓ 12mm th. Plaster with a floating coat of neat cement. J) Painting ✓ Inner side Birla Wall care putty, cement primer &Luxuary Emulsion in interior . (Asian/Nerolac/Berger or equivalent grade/Brand) ✓ Outer side premium textured paint (Asian/Nerolac/Berger or equivalent grade/Brand) ✓ Synthetic enamel paint (Asian/Nerolac/Berger or equivalent grade) K) Roofs & Slab in R.C.C. M20 Grade . L) Electrical Specifications -All Electrical fittings and accessories should be of Fire Resistant Grade . M) Fibre Board False ceiling in complete building .	

C . Green House Infra structure

S No.	PRODUCT TECHNICAL SPECIFICATIONS	Units
1	**Control Green House** Total Area :500 sqm Size : 26m x 19.2m • Side Height : 4m. • Centre Height : 6.m. **Gutter slope:** 1-2 % provided in civil work **Structure:** All Structures, Rafters, Perlin's, Trusses are hot dip galvanized and design to take a wind load up to 100km/h. **Specification:** Hot dip galvanized Steel Structure: Using galvanized tubular structure or equivalent sections. **Pipe sections to be used for different Structural Member will be as below or equivalent:** • Columns: 80 mm x 50 mm and 2 mm thick • Arch: 60 mm and 2mm thick • Trusses: Bottom cord 42 mm x 2mm; Truss Members 48mm x 48mm, bracing 32mm x2mm, B-class GI steel pipe; structural member will be fitted with zinc plated nuts & bolts without welding. • Purlins: using specially designed profile 32 mm x2mmthick. • **Nuts and other metallic parts:** Includes all the elements required for joining and water tightens components (such as fittings, clamps, screws, and nuts plated against corrosion). **Cladding:** **Complete Attaching the Plastic on Roof & Side walls, of Greenhouse**	1 complete set

& pre-entry room

200-micron UV stabilized poly film having 85% light transmission, multilayered, anti-drip. This is attached with the structure by the spring & GRP profile & GRP clamps which click into it.

Later on, the spring can be clipped out in order to fit new plastic. The profile does not get distorted and the profile can also be used again.

Side Ventilation: Both sides ventilation opening length wise through gear mechanism for cross ventilation (for the time of electric failure) with covered by proper mess protection by 40x40 mesh – Complete set

Internal Screen: - Manual Internal Thermal screen mechanism using on wire rope, driving shaft, Pull Rod Clamp, Directing clamp, aluminum pipe for more long life & light in weight. Retraction mechanism supported on polyester wire having with high abrasion strength- which results smooth operation & long durability.

Thermal Net 50:50 net

External shading net: fix of Roof covered with 50:50 Green UV net

Ante Room & Doors:

1. **Pre-Entry Room/Vestibule:** The Polyhouse will have a specific Pre-entry Room of size- 4 m. × 3m. × 2.5m. (L×W×H), where all the other spare items can be stored/ dumped out. Qty1
2. **Doors:** 1.5m. Wide & 2m. Tall single door complete with polycarbonate sheet glazing, top & bottom tracks, jambs, flashings &installation hardware. Qty 2

Control system

Microclimate Control Panel for Temp. & Humidity controller with piltz timer and manual operating option and, voltmeter, RYB indicator etc.

Technical feature of Temperature Control System
-Accuracy: ±1°C.
-Hysteresis: 0.4°C with sensor probe Pt-100 Sensor Humidity controller with piltz timer

Evaporative Cooling System: Complete set

1) 5ft height x lengthwise evaporative cooling pad complete with all necessary framing material of Aluminum required supporting distribution & returning piping.

- Gutters, down spout end caps & drip pan, plumbing kit as per Required pump 440 volt - 3 phase 50 cycles, Drilled PVC piping cap, pad retainer, all suspension hardware.
- Metalflashingsasrequiredtosealpadtoventopening,4"thick Evaporative cooling pad material.
- Pad Area: lengthwise × 5' x 4'' (w x h x Thickness)

	• **Construction Material:** Aluminum Profiles: Tray Sides, Top Etc. Plastic Profiles: Water Distribution tray. Cooling Media: 100mm thick • At velocities of 1 to 3 M/s to give efficiency from 60 to 95%. Filtration: 25 to 55mm viscous filter for 30 m efficiency. **Miscellaneous:** Fasteners, Galvanized, Rivet- aluminum. 40 Mesh Nylon: for extra protection from dust, fitted behind the pad. 2) **Slow Speed Axial Flow Fan** - 54" single speed belt driven exhaust fan, 440V, 50 cycles, 3 phase) with Louvers opening /closing assembly Qty. 04 **Fogging system:** Fogging Nozzles, lateral pipe with supporting wire, pump with screen filter, water tank 1000 Ltr etc. Complete set **Benching System: qty 5** Growing bench made of Hot dip Galvanized Top frame angle 32mm x 32mm with 3mm thickness and top covered by diamond cut shape GI mesh with mesh thickness of 3mm x2.5mm Size: 24mx 1mx0.8m (L x W x H) **Civil Work:** Foundation wall for Chamber WIDE BASED 1' below earth's surface.2' above earth's surface, as 9" wide. Frame base block height 3'x9"x9" each with front side wall plinth protection 2'wide 6" thick only front area. Center pathway -1 m pathway inside chamber & Inside Front wall made by PCC (1:6:8)75mm thick then over that CC (1:2:4)50mm thick with dully plastered. complete set **Floor:** natural soil as it is **Electrical Wiring. Complete set** All wires will be of copper and desired load and switches, extra switches also provided as standby. each feature has own electric line with MCB and will be underground in PVC pipe complete set with A grade work	
02	**Hardening Facility** **Total Area:**1036.8 sqft Size: 36m x28.8m (L x W)=1036.8 sqm • **Each Bay Size** :9.6 m x3 Nos. • **Side height** :4 m • **Central height** :6 m • **Shape** : Arc Structure **Structure Main features:** **A) Complete Pre-Machined Structure** All Structures, Rafters, Perlin's, Trusses are hot dip galvanized and designed to take a wind load up to 100 km/hr. Frame Works Structure: Its assembly style without any welding point. All main parts are hot galvanized with zinc cover 275g/m^2.	1 complete set

Pipe sections to be used for different Structural Member or equivalent will be as Pipe sections to be used for different Structural Member or equivalent will be as below, given structure size in OD:

- Pillar: 80mm x 50mm x 2mm thickness hot galvanized rectangular tubes. Distance between pillars on
- Central line: 4m.
- Arc: 50mm x 50mm x 2mm thickness.
- Ridge: 40mm
- Crop Bar: 40mm x 1.8mm thickness.
- Trusses Tie: 32mm OD pipes, structural member will be fitted with zinc plated nuts & bolts
- Gutter: 4m. Long, 248mm wide and 1.5mm thick molding hot galvanized steel plate
- Roof beam: 40 mm OD 1.8mm hot GI pipe
- Bolts and Nuts: DIN Steel

Nuts and other metallic parts: Includes all the elements required or joining and water tightens components (such as fittings, clamps, -screws and nuts plated against corrosion).

Cladding

Attaching the Plastic on Roof Covered with 200 Micron UV Stabilized Polyfilm& Side walls, of Polyhouse 200-micron UV stabilized poly film having 85% light transmission, multilayered, anti-drip. And all side covered with Insect Proof 40 mesh net This is attached with the structure by the spring & GRP profile & GRP clamps which click into it.

Micro sprinkler system: Micro Sprinkler Nozzles, lateral pipe with supporting wire, pump (singe Phase) with screen filter, water tank 1000 Ltr etc. Complete set.

Control System: Auto On/Off Control system for Micro Sprinkler system.

Internal Screen: Internal Screen system with manual arrangement with green net 50:50 UV Stabilized

Double door room & sliding doors:

a) Double door room: of size 4m x 4m x 2.43m (L×W×H) covered with UV Stabilized Polyfilm qty 1

b) Sliding doors: Double door entry, each door size 1.2m. Wide & 2m. Tall single door complete with Shading net sheet glazing, top & bottom tracks, jambs, flashings & installation hardware. Qty 2

Civil work: Civil Work: Foundation wall for Chamber WIDE BASED 1' below earth's surface.2' above earth's surface, as 9" wide, Frame base block height 3'x9"x9" each with front side wall plinth protection 2'wide 6" thick

	only front area. Center pathway -1 m pathway inside chamber & Inside Front wall made by PCC (1:6:8)75mm thick then over that CC (1:2:4)50mm thick with dully plastered. complete set **Floor:** natural soil as it) **Electrical Wiring.** All wires will be of copper and desired load and switches, extra switches also provided as standby. each feature has own electric line with MCB and will be underground in PVC pipe complete set with A grade work	

2.LAB EQUIPMENT'S

S. No.	Technical Specifications	Units
01	**LARGE HORIZONTAL AUTOCLAVE (Approx. 540lit.)** **Brand:-Equitron /Yorco /Medica/Hospharma** • Rectangular design horizontal autoclave mounted on a sturdy, heavy M.S./SS tubular stand. • Inner chamber, door lid, boiler & outer jacket cover made of SS304 Chamber should be rectangular in shape with crevice free smooth rounded corners • Single hinged door and manual radial locking system • Steam is generated in a separate boiler which is placed separately from the main body. • Lid is made of S.S. plate provided with pressure locking system which prevents opening of the door while Steam is inside the chamber. • Industrial grade energy efficient heaters reduce power bills drastically • Gap between inner and outer cover wall is filled with high grade fibre/mineral glass wool blanket insulation • Fitted with pressure gauge for chamber, boiler, spring loaded safety valve and separate manual steam release ball valve for boiler and chamber. • Automatic Pressure Control Switch for over pressure safety. • Automatic Low Water Level Cut-off Device fitted for general safety of heating element. • Digital temperature indicator cum controller - Controller has LCD display which displays set value and process value. It has inbuilt automatic digital minute • For ensuring proper sealing of the door with the chamber and zero leakage a high tensile joint less Silicon gasket is used which is seated in an integrated groove Chamber Condensate Line is incorporated with steam trap • Autoclave is fitted with water level indicator glass gauge and easily replaceable heaters • Inner chamber should be made of 5mm 304 grade sheet with at least two re informants of the shell should be given from outside. • Hydraulically tested at 30 psi • Boiler should be of minimum 125 litres capacity. • EN285:2015, EN556-1, EN13445-1:2014 (Unfired Pressure vessels-Part 1: General), IS 3829-1, IS 3829-2, ISO 12100: 2010, ISO 13485: 2016, ISO 45001: 2018, equivalent directives (PED) 2014/68/EU, IEC 60601-2-19:2020, IAF ISO certificate from the OEM for quoted item.	2 No.

02	**VERTICAL AUTOCLAVE (Approx 200 lit)/ AUTOMATIC VERTICAL AUTOVLAVE** **Brand:-Equitron/Yorco/Medica/Hospharma** • Vessel size of 550mmx900mm (approx) made of SS304 grade steel of4mm thickness Used for sterilization under saturated steam pressure at any selected point between 15 to 30 psi (adjustable), however this can be used for higher pressure up to 30 psi. • Working temperature of 135°C. • Outer wall is covered with stainless steel sheet. • Thick stainless-steel lid is tightened by radial locking system and can be lifted through a pedal lifting device for user comfort • Fitted with joint less neoprene rubber gasket. • Systems are hydraulically tested up to 30 psi. as Safety Measure. • Autoclaves should be fitted with standard accessories such as temperature controller, water level gauge, pressure gauge, steam • Release cock, safety valve, pedal lifting device and heating element. • Heating is done through specially designed water heaters of3 KW wattage to ensure optimum sterilization time in every sterilization cycle. • Supplied complete with S.S. basket, cord and plug. Supplied with cord and plug to work on 220/230 volts A.C. Supply • EN285:2015, EN556-1, EN13445-1:2014 (Unfired Pressure vessels-Part 1: General), IS 3829-1, IS 3829-2, ISO 12100: 2010, ISO 13485: 2016, ISO 45001: 2018, equivalent directives (PED) 2014/68/EU, IEC 60601-2-19:2020, IAF ISO certificate from manufacturer.	04 No
03	**AUTOMATIC HIGH PRESSURE STEM STERILIZATION** • Vessel size of 370 X D750mm, internal capacity 80L • Operating temp. range 45~135°C. • Max. working pressure 0.255MPa. • Supplied with cord and plug to work on 200~240 volts A.C. Supply	01No
04	**LAMINAR AIR FLOW** **Brand:- Aeromech/Yorco/Biobase/Microfilt** Size :6' x 2' x 2' (Width x Depth x Height) Size in Meter :1.8 x 0.6 x 0.6 (Width x Depth x Height) Body : Mild steel, duly powder coated. Product Color : White/Pink Air intake : Top Vertical Air flow : Horizontal air flow Light : Sufficient light is available on working platform i.e. 1000 -1250 Lux Working Area : Stainless steel top, anti- glare Noise : permissible sound limits Operating voltage : 220 V ± 9% A/C Power cord : 3 meter- long power cord with 15 Amp plug.	5 No.

	Front door/cover : Material is solid polycarbonate folding type: **Front door/cover**: Material is solid polycarbonate folding type: First fold at ¾, ½ inches, hinge stainless steel. Second fold from ceiling to hold the aforementioned sheet; two magnetic catchers are provided to hold the front door.	
05	**HOT AIR OVEN:** **Brand:-Remi/Yorco/Medica/Equitron/labtop** Hot air oven. Double walled construction. Outer chamber should be made of mild steel with thick stove powder coating and inner chamber made stainless steel. • The gap between the two walls should be filled with thick blanket of glass wool. • Temperature range: Ambient +5°C to 250°C. • Controller: Temperature should be controlled with PID type digital temperature indicator cum controller. Digital timer facility should be provided to run the oven for a pre-set time along with timer bypass facility. • Temperature accuracy of ±1°C. • Air circulating fan: to maintain temperature uniformity with in the chamber. • Air ventilation should be provided. • Chamber size should be 450x450x450mm /600x600x600mm • No of self: 2 in size 450x450x450mm and 3 in600x600x600mm.	4 No
06	**POSITIVE PRESSUREMODULE** **Brand:-Aeromech/Yorco/Klenzaids/Dyna** • Air Flow Capacity- 250 CFM • Outlet Air Quality- Class 100 • Flow Direction- Horizontal • Velocity at grill: 90/20(0.45/20 m/sec) • Power Supply- 230X50 Hz single phase • HEPA size- 450X450 (WXDXH) • Pre Filter- Pre Filter down to 5 micron particulate at an efficiency of 95% in aluminium frame with epoxy ceiling. • External pre wire and with external 3 meter with 5/15 amp 3pin top.	5 No.
07	**GENERATOR: Genset 128KVA with AMF panel** • Make: Kirlosker/Mahindra/KOEL • Frequency- 50 • Power Factor- 0.8 • Voltage- 230(1@)&415(3@) • Governing class- G2 • Fuel tank capacity- 230 (approx.) • Electric Battery starting voltage- 12 • Cubing Capacity- 4.32 • Insulation- Class H • With installation extra work • ISO 9001, ISO 14001, ISO 45001, ARAI certificate from the OEM for quoted Generator Set (DG Set).	1 set

08	**2 to 8 ^{0}C REFRIGERATOR:** **Brand:-Celfrost/trufrost/Remi/Yorco/Elanpro** Laboratory refrigerators • Used to cool samples or specimens for preservation. • Unique air distribution system. • Cabinets should maintain a correct and uniform temperature throughout. • The cold air should be directed down behind the air Distribution plate positioned at the back of the cabinet. From there, it should circulate around the cabinet and back to the evaporator fan in the top of the cabinet. • Should have Right hand hinged reversible door with lock. • Should have 8-10 shelves • Defrost : Automatic • Should have wheels caster for easy mobility • Exterior should be white • Interior should be ABS lining in white • Easy cleaning: durable one piece moulded ABS inner lining with rounded corners. • The door gasket should be easily removable for cleaning • Control system should have built-in alarms and emergency programs that should help to maintain temperature until a fault is rectified • Functional design should be with full-height integrated door handle • Should have Ultra-low energy consumption • Should have Ventilated air distribution system • Should have Digital temperature display • Capacity : ~ 5500 Litres • Temperature range = 0 °C to 10 °C. • Voltage: 208 - 230 V • Interior Light : 2 LED • Energy consumption w/door closed: 1.6 kWh/24hSound level: 38.6 dB (A) Supplied with suitable voltage stabilizer.	2 No
09	**DIGITAL WEIGHINGBALANCE** **Brand:-Sartorius/Aczet/Shimadzu/Precisa** 100gm minimum for semi micro range\ 200 gm Minimum for analytical range \ Minimum weight : 200mg Minimum weight calculation • Minimum weight alert. • Technology : Aluminium die cast single piece uni block or mono block • Inspection support • User management • Molecular weighing. • HPLC buffer solution preparation protocols should be built in. • Sample preparation protocols should be built in. • Mol conversion • Display capture function: Weighing display can be recorded into USB memory • External Numeric key pad: Available as optional. • Periodic performance inspection report function	2 No

	Technical features : • Dual Weighing capacity : 100gm Minimum for semi micro range\ 200 gm Minimum for analytical range \ Minimum weight : 200mg • Sensitivity (Minimum weight) : 0.01mg in semi micro range and0.1mgm in analytical range. • Calibration weight: Built in. \ Calibration system: Built in automatic with press of a button • Repeatability : 0.1mg or better \ Linearity : ± 0.2mg or better • Response time : 4 seconds or better • Sensitivity stability against standard deviation : ± 2ppm\°C(10to 30°C) • Pan size : Minimum 85 mm or more • Display : OEL display (Dot matrix)	
10	**Digital Weighing balance :** **Brand:-Phoenix/Sansui/K.Roy/Essae** • Weighing Capacity : 10 kg Maximum • Least Count 2g • Plastic weighing Pan • Built in Battery backup	1 No
11	**pH METER:** **Brand:-Eutech/Thermo/Systronics/Orion** • pH Range 0.00 to 14.00 pH or better. • Resolution & Accuracy 0.01 & ±0.01 pH • Ion Concentration Range Not required. • Resolution & Accuracy. • mV Range ±199.9 mV; ±1999 My \ Accuracy 0.1 mV & ±0.2mV (within ±199.9 mV); 1 mV & ±2 mV (beyond ±200 mV) • Temperature Range&Accuracy : 0.0 to 100.0 °C \ 0.1 °C &±0.3 °C • No. of Calibration Points Up to 3 points minimum. • pH Buffer Options USA (pH 4.01, 7.00, 10.01); \ NIST (pH4.01, 6.86, 9.18) • Memory 50 Data Sets or more. • Temperature Compensation Automatic / Manual (0 to 100°C) • Recorder Output • Special Functions Stability Indicator; Self-diagnostic; \ Hold& pH Slope/Offset Display • Power 9VDC, using AC adapters 110VAC or 220VAC, 50/60Hz	2 No
12	**Commercial Water Softener (Attached with 0 TDS Water, RO,UV system)** **Capacity : 100 LPH** • Excellent quality soft water • Offers protection for both hair and skin • Featuring a low-maintenance design • Effortlessly provides the entire household • Reducing hard water stains • Usage/Application: Industrial • Automation Grade: Automatic • Water Source: Bore well Water • Softener Tank Type: Vertical	1 set

	• Cleaning System: Ion-exchange Resin Method • Material: Resin • Volume: 51 - 100 Liters • Color: Blue • Max Water Recovery Rate:50-60% • Outlet Hardness(TDS) : 0 TDS • Filter Media :Carbon filter media • Regeneration Time(hours) :1-2hours	
13	**FUMIGATOR:** **Brand:-Yorco/Rajat/Imported** • Body: 304 Grade Stainless Steel • Tank Capacity: 4 Litre of chemical storage • Blower Motor: > 26000 RPM Motor Nozzle: 1 Counter Rotating Vortex Nozzle • Chemicals: Can atomize both oil-based and water-based liquids. • Control Valve: One turn. Brass Valve • Particle Size: 0.5-30 micron. adjustable. viscosity and density can affect particle size. • Range: Visible Fog, 20-40 ft. • Input: 230V. 50Hz Single Phase AC Supply • Dimensions: 33x41x23.5 CM • Net Weight: 4.60 Kg (Approx.)	01 No
14	**Magnetic stirrer with hot plate** **Brand:-Remi/Ika/Borosil/Tarson** • Magnetic starrier with heating and ceramic heating to plate to offers excellent chemical resistance. • Powerful motor for stirring quantities of up 10 Ltr. of water. • Simultaneous digital display of target actual temperature via LCD Display • Simultaneous digital display of target and actual temperatures via LCD display. • Directly connection for a PT 1000 temperature sensor enable a precise temperature control (included in delivery). • Control accuracy in medium +/- 0.5 K (in combination with PT 1000). • Display of actual temperature value in medium with 0,1 K resolution when using PT 1000 temperature sensor • 3 operating modes to choose (standard, safe, adjustment protection) • Fixed safety circuit of 550 °C • Hot Top indicator >> hot surface warning to prevent burns! • Digital error code display • Elevated control panel for protection against leaking liquids	2 No
15	**Vortex Mixer:** **Brand:-Remi/Ika/Borosil/Tarson** Designed for mixing small test samples with touch and continuous function. • Small, compact and reliable	2 No

	• For small containers up to 30 mm in diameter, e.g. test tubes, centrifuge tubes, • Motor rating output: 8 W, Motor rating input; 10W with maximum speed of 3000 rpm. • Shaking diameter 4.5mm, DC voltage : 24V, Current consumption 800mA, • Permissible shaking weight including attachment: 0.5kg. • Minimum adjustable speed: 200 rpm • Timer setting maximum 999 minutes, Timer setting minimum 1\60 minutes, Permissible ON time 100%. • Capable to work with one microliter plate. With touch function • Protection class according to DINEN 60529: IP 21 • Type of movement: Orbital mode, timer and continuous operation. • Speed display : scale, Timer Display :7 segment LED • Voltage : 100-240V, 50/60Hz	

स्थापना की कार्यवाही भण्डार क्रय नियम एवं विश्वविद्यालय द्वारा निर्धारित शर्तो के अनुसार ही की जायेगी । देयक भुगतान के पूर्व सुनिश्चित कर लेवे कि स्थापित की गई सामग्री की गुणवत्ता कसौटी पर सही हो एवं संतोषप्रद प्रदर्शन के उपरांत ही देयक सत्यापन कर भुगतान संबंधी कार्यवाही की जावे।

TERM & CONDITIONS

1. EMD: The earnest money Rs. 6.0 Lakh as Demand Draft payable to Director Research Services, Indira Gandhi KrishiVishwavidyalaya, Raipur should be submitted within 10 days of award in the name of Director Research Services, which will be refundable after satisfactory establishment of lab.
2. The agency shall be responsible for supply, installation and commissioning of various Machines, Lab equipment's, Structures, Infrastructure work, Furniture etc. Required for the production of Tissue Culture Plants as per given capacity at RMD College Agriculture and Research Station, Ambikapur (C.G.).
3. All Machines, Lab equipment's, Structures, Infrastructure work and Furniture etc. should be compatible with proper voltage supply. Electrical wiring for interconnection of the machines up to main supply wherever necessary should be supplied along with machines.
4. **Essential test report certificate to be submitted/provided by the bidder**
   a. Test report from CIPET for covering material shade net plastic sheet(NABL/Government accredited lab).
   b. BIS Certificate for structure material pole Steel Tube (NABL/Government accredited lab).
   c. CCTV Security: UL product IQ, Certificate of registration product, brochure.
   d. Fire Extinguisher: - BIS certificate for portable fire extinguisher.

GENERAL TERM & CONDITIONS

1. **Warranty:** The bidder will provide at least three years on-site guarantee/warrantee after completion of the project on the infrastructure developed, the entire item supplied, Lab equipment, electronics and electrical instruments against manufacturing defects. Under guarantee/ warrantee period all the damages shall be repaired/replaced by the bidder at their cost and risk. If equipment has any manufacturing defects, the same will be preferably replaced from another one, or repaired up to client satisfactions. No sub-standard items will be accepted.
2. **Service:** The bidder will provide service within 3 days from the date of such complaint otherwise penalty will be posed to the firm/company.
3. **Training and Supervision:** The bidder will be responsible for training and supervision of the established facility/laboratory for 03 years after satisfactory completion of the project. Dedicated manpower (Supervisor-01 and Technical person-02) will be appointed in this regard ***(The cost to hire the manpower will be borne by the bidder)*** and one lakh plants in 1st year and two lakhs by next 2 years each will be produce per year upto 03 years, and the recurring cost will be provided by the University (An affidavit on Rs 100.00 Stamp to be submitted).
4. The rates quoted by the bidder are complete for supply and placing of the finished items as per the specification(s) and inclusive of all applicable tax, duties loading, unloading, packing, transportation from works to Tissue Culture Lab, installation etc. and nothing extra/additional shall be payable on these rates.
5. In case the item(s) are fabricated/ finished in the campus, the bidder shall ensure the protection of their items at site from fire, flood water, moisture etc. or any kind of damage at their cost.
6. The University will not compromise with the quality & standard of the material. At any stage, if it is found that supplier has supplied inferior quality or different material or used inferior quality or different SS/MS material as specified in the supply order containing specification(s). Payment shall be made for such items after reasonable deduction(s)/rejection of the lot, which will be decided by the University.
7. The Institute can ask any clarifications & documents at any stage of the procurement depending upon the circumstances to ascertain quality of material used in manufacturing of items. All would/should be fully seasoned with no defect.

8. The successful bidder has to submit duly signed Pre-Contract Integrity Pact to Indenter in prescribed format available on University web site www.igkv.ac.in.
9. Name of consignee: will be indicated in the supply order (within the state).
10. Court of Jurisdiction: Raipur, Chhattisgarh.
11. For any dispute, the Vishwavidyalaya shall be the final authority and its decision shall be final and binding on both the parties.
12. The lab will be subjected for accreditation in 2nd year of running bidder will be responsible for structural and technical compliance for complete accreditation only payment for accreditation will be borne by the institute.
13. **Payment** - The payment will be released based on following scheme :-
    a. 50% of the total project cost on supply of infrastructure material, material required for civil work, Lab equipment, electronics and electrical instruments.
    b. 30% of the total project cost on completion of fabrication/erection work of infrastructure and installation of Lab equipment, electronics and electrical instruments.
    c. 20% of the total project cost after one month of satisfactory function of the established/ developed facility.
    d. Before final payment, the firm has to submit the FDR/ Bank Guarantee in INR (7% of the total project cost) as Performance Bank Guarantee for the three year
14. The applicable TDS/GST shall be deducted at source at the time of payment as per government rules, certificate *in lieu* of which shall be issued on demand.
15. **Taxes** -As applicable at the time of supply.
16. **Work Complementation Period** –The work must be completed **within 2 year** after confirm order. Similarly, the same time limit will be applicable for all other supply and fixing work related to tender.
17. **Validity** - The offer will be valid for one year from the date of CPC circular or it may be further extended with mutual consent of the firm and IGKV.

Director Research