

**OFFICE OF THE DEAN, COLLEGE OF AGRICULTURE,
R.V.S. KRISHI VISHWA VIDYALAYA GWALIOR 474002, M.P.**

**E-TENDER NOTICE FOR THE PURCHASE OF LABORATORY EQUIPMENTS/
STRUCTURES**

(IPRO/BTC/2021-22/114 dated 27.11.2021)

Following laboratory equipments/instruments/structures are to be procured at College of Agriculture, RVSKV, Gwalior for the establishment of Biotechnology Centre and Gene Bank at Biotechnology Centre, RVSKVV, Gwalior. This procurement will be carried out through the e-procurement system of www.mptenders.gov.in. On-line bids, under Open Tender Enquiry, following the two bids systems are invited for supply of these equipments/instruments/structures. Tender documents with specifications can be purchased from this site by paying the stipulated cost as mentioned below:

Item #	Name of the Equipment/ Item/Structure	Document Cost	EMD
<i>Third Call</i>			
1.	Gel Documentation System	₹ 2000	₹ 30000
2.	Gradient Thermal Cyclor	₹ 1000	₹ 10000
3.	Tissue Lyser cum Homogenizer	₹ 2000	₹ 18000
4.	Herbarium storage racks/cabinet	₹ 1000	₹ 15000
5.	Seed germinator	₹ 1000	₹ 10000
6.	Empanelment for running tissue culture laboratory, green house/polyhouses facilities at biotechnology Centre under Rajmata Vijayaraje Scindia Agricultural University, Gwalior (M.P) for production, marketing and sale of plants for revenue generation	₹ 2,000	₹25000
<i>Second Call</i>			
7.	Refrigerated High Speed Micro Centrifuge	₹ 1000	₹ 6000
8.	Shaker Water Bath (Water Bath and Chillier Circulating Water Bath)	₹ 1000	₹16000
9.	Election Microscope (Field Emission Scanning Electron Microscope (FESEM) Complete Unit	₹ 5,000	₹400000
<i>First Call</i>			
10.	Pots	₹ 1,000	₹3000

Please read and follow the instructions carefully to avoid the rejection of the tender. You may also send your representatives, duly authorized in writing to attend the Technical Evaluation and clarification regarding bids which is scheduled at 3:00 PM on 21th December, 2021.

Dean, College of Agriculture Gwalior

**OFFICE OF THE DEAN, COLLEGE OF AGRICULTURE,
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E-Tender Document

CRITICAL DATES

S. No.	Item	Date	Time
a)	Publishing Date	27 November, 2021	16 ⁰⁰
b)	Document Purchase Start Date	27 November, 2021	10 ³⁰
c)	e-Bid Submission End Date	19 December 2021	17 ⁰⁰
d)	Physical bid document Submission end date in the Office	20 December 2021	17 ⁰⁰
e)	Opening of the Technical Bid at RVSKVV	21 December 2021	15 ⁰⁰
f)	Technical Evaluation of Bids	21 December 2021	15 ⁰⁰
g)	Financial/Price Bid e-Opening Date	24 December 2021	15 ⁰⁰

DEPOSITING THE BIDS:

The bids will be submitted through on-line mode of www.mptenders.gov.in. However, certain documents would be required to be submitted physically to our office. Details are as follows:

(A) On-line Submission:

(i) Cover-I: Will contain the Technical Bids with the following documents:

- Detailed technical write-up highlighting the model Name/Number features of the equipment offered and / or Technical literature/manuals.
- Certificate for acceptance of terms and conditions of tender enquiry on firms' letterhead.
- Original equipment manufacturer (OEM) certificate or authorized dealership/distributorship certificate as applicable.
- Manufacturing Registration No.
- Company Printed Price List (If available)
- Last 3 (three) years Income Tax Return.
- Audited Balance Sheet for Last 3 (Three) years.
- TIN number/PAN Number/Certificate/GST number
- Business Registration Certificate.
- Supplier should have at least average annual turnover of Rs one Core for major equipments and 50 lakhs for minor items for last 3 years.
- Scanned Copy of EMD as shown against each item.
- Compliance Certificate. Certificate of clause-by-clause compliance of specifications as mentioned in tender.

(B) Physical Submission:

Following documents to be submitted in hard copy physically in a sealed envelope by **Speed Post/Registered post** so as to reach prior to bid submission closing date & time. The responsibility to ensure this lies with the Bidder.

Please do not submit the hard copy of “Commercial/Price bid”.

- All the documents submitted on-line in Cover I.
- **EMD as shown against each item on-line submitted and proof enclosed physically.**
- Tender fee receipt copy (as applicable).
- Tender conditions Acceptance Certificate in form of downloaded Tender documents duly stamped and signed.
- Client list/ List of users on manufacturers’ letter head duly stamped and signed.
- User Certificate with Phone No. and E mail address.
- Guarantee/warranty on manufacturers’ letterhead.
- The supplier is bounded to supply spare parts of equipments for the at least next 10 years.

GENERAL TERMS AND CONDITIONS:

- 1.*Only the manufactures and/or their authorized dealer/distributors/sole agents/ need to submit their tender. The authorized firms should furnish a certificate from the manufacturer for their dealership/distributorship **in original** with the physical bid otherwise the offer will not be considered.
2. No person or firm shall submit more than one Tender for the same item. No offer should have more than one model quoted; in case of more than one alternate offer only the first option will be considered.
3. It is mandatory to provide all the relevant information in ***Annexure -I***.
4. Broad-based specifications of equipment/items/systems/works *etc.* are given in ***Annexure- II*** of purchased tender. The tenderer should also take note of the remarks, if any, given their in.
5. a. Last date for submission of e-Tender is 19.12.2021 up to 5:00 PM on www.mpeproc.gov.in.
b. Tender must be submitted in sealed cover to the Dean, College of Agriculture, RVSKVV, Gwalior **474002** by **Registered/Speed Post**, so as to reach on or before dated 20.12.2021, 5:00 PM.
c. Belated tender due to postal or any other delay will be rejected.
d. The tender for each item should be sent separately. The duly sealed envelope should super scribe TENDER FOR THE ITEM № _____ (NAME OF THE EQUIPMENT) DUE ON 21th December 2021 with reference number.
e. If offers for more than one item are clubbed together, tender will be rejected.

f. The tender offers should have a validity of 180 days or more from the due date. The tenders will be valid for 6 months from the date of opening and may be asked for extension by taking written concern of the firms.

g. **Price bid will be opened online at www.mptenders.gov.in on 24-12-2021 from 3:00 P.M. to 5.00 PM. If date of opening of price bid will changed due to any circumstances. That will be informed to bidders.**

h. R.V.S. Krishi Vishwa Vidyalaya (RVSKVV) reserves the right to extend the opening due date and or the date of opening the tenders.

i. All the leaflets in the offer should be marked with signature and seal of authorized person.

6. a. The rates quoted should preferably in Indian Rupees (₹) for a **single complete unit** with F.O.R. delivery at RVSKV, Gwalior. The rates quoted should be inclusive of packing and forwarding charges/loading/unloading/handling charges/freight/full risk coverage/insurance, *etc.* In case of imported goods all the expenses towards custom duty, clearing charges and transportation with insurance will be borne by the firm/tenderer and they must quote the rates inclusive of all FOR, RVSKV, Gwalior.

b. Excise duty/Sales Tax/GST/Custom duty (with and without concession certificate) and other levies, if any should be shown separately and the **total price** of each item should be worked out incorporating the same.

c. Any other charges, such as technical service charges, cost of training, installation charges, TA/DA of tenderer's staff *etc.* if any, should be shown separately for each item and each sub-item and the total price of each item should be worked out incorporating the same.

7. All losses during transit will have to be made good by the tenderers at his cost within a period of 15 days.

8. The tenderers must provide guarantee/warranty on **manufacturers' letterhead** of satisfactory functioning of the equipment/system and free service including free replacement of parts for a period of at least **3 years** from the successful and satisfactory installation of the equipment/system. Original to be deposited by the successful bidder at the time of supply.

9. Performance Guarantee: The Successful bidder/supplier will be required to furnish a Performance Guarantee in the form of FDR from a public sector bank or a private sector bank authorized to conduct government business for a sum equal to **10%** of the Supply Order value within 30 days of signing of the Supply Order. Performance Bank Guarantee will be valid up to 60 days beyond the date of guarantee/warranty.

10. Offer must be accompanied by **Earnest Money** as stated against each item must be submitted **on-line**. Without the deposition of earnest money, the offers will be rejected.

11. The standard terms and conditions of payment is in full only after the installation is affected to the satisfaction of RVSKVV authorities in INR only.

12. Please quote maximum discounted price, as no further negotiations will be made.

13. Complimentary items/gifts offered will not be given any preference and will not be taken into account for calculating the cost of the item.

14.*The offers must mention make, model all the specifications of the item clearly. The company must enclose printed literature/catalogue/manufacturer’s web-site showing detailed technical specifications required. A folder showing many instruments without detailed technical specification, or tailor-made literature mentioning “yes” or “as per your specifications” for the specifications asked for, will not be considered. Specifications given in the offer must match to the website and/or printed technical literature otherwise the offers shall be rejected.

15. Technical specifications of the equipment / items have been very clearly formulated by the users/experts of the field as per the requirement of the work to be conducted. It will be sole discretion of the bidder whether to quote or not for equipment with particular specifications.

16.*Firm must provide a compliance statement vis-à-vis specifications in a following “tabular form” clearly stating the compliance, supported by technical literature with clear reference. This statement must be signed, with the company seal, by the Tenderer for its authenticity and acceptance that any incorrect or ambiguous information found submitted will result in disqualification of the offer.

Name of Equipment:		
Technical Specification	Compliance (Y/N)	Deviation, If any

17.*Offer must be accompanied with a comprehensive list of users on manufacturers’ letterhead, wherever possible bidders may also provide certificates for satisfactory working of the equipment from users of universities and institutions of repute.

18. a. If so desired by RVSKVV, the bidders shall have to enter in to an agreement.

b. Any wrong information about item, any forged document and any deviation, variation of non-compliance of the terms and conditions by the tenderers shall be considered as a breach of contract and RVSKVV reserves the right to forfeit the amount of earnest money and/or security deposit in full and take action as per legal arrangement.

19. Should there arise any dispute, the Hon'ble Vice Chancellor, RVSKVV, Gwalior shall be the sole Arbitrator whose decision in the matter shall be final and binding. Each and every judiciary transaction shall be subjected to Gwalior only.

20.*Tender will not be considered if the firm does not supply a copy of the TIN/ GST& PAN allotted to it. PAN of the owner or any other persons will not be accepted.

21. This tender is being issued with no financial commitment and the Buyer reserves the right to change or vary any part thereof at any stage. Buyer also reserves the right to withdraw the tender, should it become necessary at any stage.

22. RVSKVV reserves the right to accept or reject any or all offers in full or in part without assigning any reason (s) thereof. It also reserves the right to place an order wholly or in part with one or more than one firm as it may be convenient to RVSKVV, Gwalior.

23. The tenderer shall have to give an undertaking that the terms and conditions as mentioned above of this tender are acceptable to the tenderers in form of downloaded Tender documents duly stamped and signed.

24. If firm wishes, they can send their representatives, duly authorized in writing, to attend the Technical Evaluation and clarification regarding bids which is scheduled at 3:00 PM on 21th December, 2021.

25. In case, if single manufacturer of the any item and having propriety rights. Items may be purchased with the permission of concerned higher authority.

26. The 75% payment will be made after successful installation of the equipment/structure and remaining 25% after six months of satisfactory smooth working.

Dated: 26-11-2021

Dean, College of Agriculture, Gwalior

**OFFICE OF THE DEAN, COLLEGE OF AGRICULTURE,
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SUPPLEMENT / CHECK-LIST TO BE PROVIDED WITH TECHNICAL BID**

ITEM No. _____ NAME _____

S.No.	Information required	Proposed
1.	Make of main item	
2.	Model of main item	
3.	Name of manufacturer of Main Item	
4.	Country of origin of main item	
5.	Name, Make and model of sub item I (if any)	
6.	Name, Make and model of sub-item II (if any)	
7.	Name, Make and model of sub-item III (if any)	
8.	Delivery within (days)	
9.	Rate of Excise duty (%) with surcharge, if applicable (item-wise if different ED is applicable)	
10.	Rate of GST (%) livable. If no, state basis and terms of the exemption.	
11.	Is Service Tax extra? If yes, rate of Service Tax livable (%)	
12.	Is Custom Duty Exemption (CDE) required? If yes, Rate of Customs Duty (%) payable.	
13.	Any other Taxes / Duties / Octroi / Entry taxes <i>etc.</i> in %	
14.	Order to be placed on	
15.	Guarantee/Warrantee (3 years)	
16.	Validity (at least 180 days)	
17.	FOR: RVSKVV, Gwalior?	
18.	List of current users (Attach, if any)	
19.	Certification of satisfactory working of the equipment (Attach, if any)	
20.	Compliance of equipment with current directives of ISI / CE / EEC / US / EU or equivalent standards	
21.	Whether manufacturer / authorized distributor/sole agent? (Attach original certificate)	
22.	Technical literature (Attach, if any)	

23.	Earnest money (EMD) deposited on line and proof has been enclosed	
24.	Situations of Authorized service centers/ service personals <i>etc.</i> (Provide complete address)	
25.	Relevant documents such as ITCC, ST registration shop Act. establishment certificate, factory registration <i>etc.</i> (enlist and attach)	
26.	TIN and PAN allotted (Attach a copy)	
27.	GST number	
28.	Any other relevant information	

DECLARATION

The terms and conditions as mentioned in the tender are acceptable to us.

Authorized Signatory

(Seal of the Firm)

SPECIFICATIONS

ITEM NO. 1 GEL DOCUMENTATION SYSTEM (*THIRD CALL*)

- With ≥ 5 -megapixel digital camera with auto exposure.
- With large $\geq 25 \times 30$ cm viewing area.
- With a viewing pane having universal 560nm amber filter for gel inspection.
- With an interchangeable filter slide having 620nm ethidium bromide filter as standard.
- Should include a front LCD indicator panel/latest version of desktop/laptop for safe and convenient gel inspection.
- With an option for blue epi-illumination module.
- With white light table for viewing visible gels and making the gel doc suitable for imaging most fluorescent and colorimetric gels.
- Should have a cabinet with door with pull out transilluminator.
- The system should include analysis software.
- Camera: CMOS scientific grade sensor with auto-exposure; pre-focused ≥ 5 mega pixel camera; Maximum CMOS resolution $\geq 2400 \times 1800$ pixels; Pixel density RAW 8 bit/10 bit/12bit; with ~ 6 mm focal length; F1.2 aperture size with manual adjustment.
- Software: With options to rotate image, flip image, brightness, contrast, zoom, selecting image lanes, addition and deletion of lanes, Lane analysis, auto find and adding the peaks. Should have image summarization option which includes calculation of density and calculation of molecular weight. Option for Dot/Blot positive and negative analysis. With automated software for rapid analysis of 2d protein spots between samples. Database Software to match unlimited number of primers in unlimited Gels; Genotyping capabilities, Create cluster analysis, RFLP, RAPD, SSR, Fingerprinting, VNTR analysis, Genotyping, etc. All the software should be supplied with a lifelong license and should free upgrades as and they are introduced. Also, in the event of softwares being accidentally deleted from the PC, they should be supplied free of charge.
- Transilluminator: Should be 312nm single wavelength transilluminator. Viewing area size should be $\geq 25 \times 30$ cm; with at least 6x8W UV tubes.
- Darkroom: with 6x1W white lamp module; UV lights shuts off when the door opens.
- Data Processing Unit with Intel i7 Processor, 8GB RAM, 1TBROM, Licensed latest version Windows Professional, MS Office and Adobe Photoshop. Should be supplied with suitable on-line UPS.

ITEM NO.2 GRADIENT THERMAL CYCLER (*THIRD CALL*)

- Sample volume 10 μ L to 100 μ L.
- Universal Gradient Block for 96x0.2 and 70x0.5 ml PCR Tubes/96 well PCR Plates.
- Heating ramp rate 3⁰C/s or more & Cooling ramp rate 2⁰C/s with block accuracy of +/- 0.2⁰C.
- Touch Screen/Keypad with real time display of Programme.
- Gradient temperature range of $\sim 30^{\circ}\text{C}$ to $\sim 99^{\circ}\text{C}$.
- Remote access feature to allow the access from web enabled device, start a run and stop a run or just to check on its status.

- Pre-loaded protocols for some of most popular protocols
- PCR Wizard feature for quick and customized protocol creation.
- Memory capacity of at least 10000 protocols.
- With USB ports.
- With compatible online UPS for 2 h backup.

ITEM NO. 3 TISSUE LYSER CUM HOMOGENIZER (THIRD CALL)

- Sample throughput should be 1.5 and 2ml or both tubes.
- Should be compatible for 24x2ml, 24x48ml, 24x4.5ml, 12x15ml, 2x50ml and provide adaptors for above sample quantity.
- Adapter compatibility: Adapter should be cool able at -20°C or less.
- Adapter cooling to operate in cryogenic conditions even without liquid nitrogen.
- Sample tube loading: Top-loading design for angular motion during processing.
- Sample type must be able to homogenize plants, animal, human, faces; insect, tissues, bacteria, bone, teeth & Environmental.
- Motion should have (3D-8 shaped) multi directional angular vibratory motion with typical sample processing time less than one minutes.
- Program memory up to 12
- Recommended programme >70
- Lid protection: Should have lockdown lid and safety interlock for operator protection and should have transparent for viewing of sample while lysis processing.
- Sample process time 1-120 Sec.
- Speed settings: Up to 10 m/s or equivalent or more if quoted in different units.
- Acceleration <2 Sec to maximum speed.
- Deceleration: <2 Sec to stop.
- Cycle between sample run 1-9.
- Cycle pauses: 1-300 seconds.
- Beads format should be able to use with different types of available beads like glass, ceramic and metal *etc.*
- Noise Less than 70db.
- Touch screen User Interface HD Monitor.
- Comply having certification with CE or equivalent

ITEM NO.4 HERBARIUM STORAGE RACKS/CABINET (THIRD CALL)

Cabinet Construction:

- Herbarium storage racks/cabinet with double doors, including 50-55 compartments.
- Size: 50-60"W x 20-24" D x 80-85" D.
- Suitable to keep botanical specimens safe from dust, light, insects and water.
- All-welded heavy-duty steel construction with 18-gauge doors, tops, bottoms, backs and sides and 12-gauge base.
- Steel inserts constructed of 20-gauge metal.
- All edges are folded for a smooth surface to prevent snagging of folders.
- Doors with four-point or six-point latching system for air-tight storage.

- Locking compression handles.
- Should be supplied with 100% non-off gassing silicon gaskets.
- Removable doors capable of lifting off of the hinges.
- Glass or solid doors.
- Leveling base.
- Solvent-free powder-coated finish.
- With large pull-out work shelf /Vents.

Shelf Construction Details:

- One-piece 18 gauge formed steel shelves with 20-gauge reinforcements.
- 16-gauge adjustable support rails for shelves.
- Shelves adjustable on 3/4" centers with no tools required (counter high cabinets adjust on 1" centers).
- Standard shelf load capacity 250 lbs; heavy-duty shelf load capacity 500 lbs of evenly distributed weight per shelf.

Tray Construction Details:

- 18-gauge welded construction.
- Adjustable on 3/4" center.

ITEM NO.5 SEED GERMINATOR (THIRD CALL)

- Standard chamber with very high humidity control and uniformity.
- The interior should be made up of stainless steel and designed with 5 shelves on the base unit and up to 25 additional shelves available as an option.
- **Lighting:** Standard lighting of the chamber includes light fixtures mounted vertically on the sides of the cabinet separated from the germination area by dual pane sealed glass barriers.
- The base equipped with four lamps in each fixture with the option to upgrade to eight lamps per fixture.
- Observation Window 10-12" x 14-16".
- **Light** options also should provide for use as a dark germinator.
- The unit provided with an adjustable fresh air intake port for air exchange.
- **Refrigeration:** Cooling self-contained air-cooled condensing unit with hot gas bypass for continuous compressor operation.
- Water cooled condensing unit.
- **Temperature/Humidity Control:** (Based on ambient condition) 5-50 °C.
- **Humidity Range:** Up to 98% RH, limited by a +25°C dew point. Control: ±3% RH. With wet bulb sensor complete with wet sock. An electronic modulating valve provides **temperature control** while ensuring noiseless operation.
- To be provided with pressure transducers for monitoring the status of the refrigeration system. User programmable alarms with user-defined set points without the need for adjustment every time the set point is redefined. Backup "high/ low" alarms.
- Exterior Dimensions: 35-40" W x 35-40" D x 75 -80" H.
- Interior Dimensions: 25-30" W x 25-30" D x 45-50" H
- Interior Capacity: (550-600 liters).
- Bonded paneling using CFC-free polystyrene insulation. Interior Finish: Stainless steel and water-tight. Trays: Five stainless steel trays 2.5" x 22.5" included with basic unit.
- Capacity: Up to 30 trays spaced 1½" apart.
- A full complement of 30 trays

- Instrument Port: One port, 1” with light tight cap.
- Additional stainless-steel trays to a total of 25.

ITEM NO.06 EMPANELMENT FOR RUNNING TISSUE CULTURE LABORATORY, GREEN HOUSE/POLYHOUSES FACILITIES AT BIOTECHNOLOGY CENTRE UNDER RAJMATA VIJAYARAJE SCINDIA AGRICULTURAL UNIVERSITY, GWALIOR (M.P) FOR PRODUCTION, MARKETING AND SALE OF PLANTS FOR REVENUE GENERATION (THIRD CALL)

Sealed “Notice Inviting tender” are invited in two bid systems. Technical bid and financial bid, respectively, from ISO 9001:2000 certified reputed agencies, expertise in production of large-scale tissue culture plants their marketing and sale to generate high revenues on Public Partner Participatory (PPP) mode in the already established facilities and well-equipped plant tissue culture laboratory at Biotechnology Centre, RVSKVV, Gwalior with capacity to produce more than 10 million saplings per annum. Initially the production would involve Banana, Bamboo, Sugarcane and Strawberry saplings but may be extended for other plants species too.

Eligibility Criteria

1. The agency must have expertise and experience in raising demand, production of tissue culture plants, sales and marketing, at least for the last three years.
2. The agency must have undertaken research technology innovation including field trials and has implemented similar project with all components and having proven record for running such facilities.
3. The experience detailed in the technical bid must be supported by literature in printed form (in original) along with the specifications of products produced on commercial level and marketed.
4. The firm should provide certificate that the company or its sister company, if any, is not black listed by any institute or department within the country and also in abroad.
5. The firm having approval under DSIR as R&D Company by Govt. of India and Department of Biotechnology, BCIL with ISO certification will be given preference.
6. The agency should also submit the non-black listing certificate issued by the non- judicial rotatory stamp paper.

Available infrastructure Details

S.No.	Product detail	Qty
01	Plant Growth Chamber	3
02	Media preparation & Sterilization room	1 each
03	Inoculation room	1
04	Laminar airflow	15
05	Store Room	1
06	Washing Area	1
07	Green House	1
08	Hardening facility	1

Terms and conditions

1. The Contractor/ Second Party shall manage, run and Up-keep the Tissue Culture Laboratory and attached infrastructure and facilities **for a period of three years which can be further extended subjected to performance based on revenue generation.**
2. The mother plants will be procured and confirmed from DBT recognized centers for virus indexing and genetic fidelity. Supply of desired plants will be worked up, so that disease free plants are available for tissue culture. The expenditure incurred for purchase of mother plants and their virus indexing shall be initially borne by **Second party.**
3. The Land and Lab and basic facilities will be provided by RVSKVV, Gwalior over which the captioned/said project will run. The laboratory will be handed over in as is where is basis along with equipments/facilities already available and successful bidder will be solely responsible for maintenance and daily running. Bidder may visit carry out site visit **with prior information** to assess facilities/laboratory.
4. Necessary electricity connection shall be made available by first party.
5. The RVSKVV Gwalior will retain legal identity of laboratory and various facilities and equipments provided.
6. The Second Party will provide Power back-up for the facility and will bear all running expenses, electricity bill *etc.* during the period of Contract.
7. The first party (RVSKVV) shall provide 10 Interns (B.Sc UG IVthYear Students) to work as intern for technical work. The stipend fixed shall be paid by the Second party.
8. The revenue shall be generated by virtue of the sale under joint Brand of RVSKVV and Second party.
9. **The distribution of the net profit shall be in suitable and agreed proportion between both the parties.** After deducting the entire expenses during the year so permitted and agreed upon by the parties the profit shall be vested to the first party who will make the suitable and agreed percentage of the net profit to the Second Party.
10. The Taxes applicable shall be deducted from the bill of the Second Party as per rule and law from time to time in operation.
11. A committee of experts constituted by First Party will supervise the Management and work of the Second Party and during supervision if any defect is found and pointed out by the committee, the Second Party shall carry out such rectification at their risk and cost as rectification defects of the project during that period as and when the same occur.
12. If during the validity of the contract, First Party, comes to the conclusion that Second Party is unable to perform its role, it may appoint another Agency, to take over the tasks and function being performed by in any or all the work allotted, or may assume the role of the Second Party itself and terminate the agreement with Second Party.
13. The firm may give a technical power point presentation before a high-level technical committee, if asked to the compliance of the requirements of the University.
14. **Technical bid should consist of the following:**
 - Catalogue of the products.
 - GST No. should be mentioned clearly and Xerox copy of last three years & Income Tax clearance certificate.
 - List of Institute/Organization where the concerned firm work and set up the Tissue Culture unit.
 - The firms should enclose the photocopy of authorization certificate.
 - The firms should enclose the photocopy of sold quantity of Tissue Culture Plants of last two years.

- Audited financial statement of the last three years should be enclosed.
- Each submitted sheet should be signed and stamped by the bidders.
- **The technical competence shall include agency profile, CV of Key and Technical Persons. Details of project undertaken in last three years, list of clients/list of purchasers**

15. **Financial bid should consist of the following:**

S.No.	Infrastructure details Available for Tissue Culture Facility	Minimum Rental annual Charges (Rs.)	Quoted prices (Rs.)
01	Available for Tissue Culture Facility	300000.00	

ITEM NO.07 REFRIGERATED HIGH SPEED MICRO CENTRIFUGE (SECOND CALL)

- Microprocessor controlled table top refrigerated micro centrifuge for 1.5-2 ml tubes.
- Display speed in rpm and/or g-force.
- RCF: above $\geq 24,000 \times g$
- Speed above $\geq 15,000$ RPM
- CFC free rapid cooling system.
- Brushless maintenance free drive
- Temp range: -5°C to $+40^{\circ}\text{C} \pm 1^{\circ}\text{C}$.
- Temp. Increments 1°C .
- Timer: 10 sec-99min.
- Last run memory.
- Automatic door opening facility after the run.
- 24x1.5-2 ml tubes rotor
- Large LED display for Time, Speed and Temperature.
- Max Noise Levels : ≤ 60 dBA.

ITEM NO. 08 SHAKER WATER BATH (WATER BATH AND CHILLIER CIRCULATING WATER BATH) (SECOND CALL)

(A) Water Bath

External control for on/off scheduling.
 Ambient $+5^{\circ}\text{C}$ to 99°C .
 0.1°C setting resolution.
 Drain tap & transparent lid.
 Timer & presets.
 Adjustable over temperature alarm.
 230V models.
 Must have set and forget technology.
 Polycarbonate Lid.
 12L capacity.
 Stability 0.2°C .

Wide angle viewed LED display.
 Front panel lock facility.
 Count down timer (1-999 minutes) with audible buzzer.
 User calibration.
 3 programmable temperature presets.
 Advance dry run protection.
 Non drip clear lid.

(B) Chillier circulating water bath

Temperature range	-25°C to 150 °C
External control for ON and Off scheduling	Must
Temperature stability	0.02 °C
Flow rate (max)	14 – 22 Ltr/ min (adjustable)
Pump pressure (max)	530 m bar
Tank volume L	6L
Working Area (D x W)	120-130 X 150-160
Min/Max liquid level	130/145
Calibration points	5
Programs	1 x 30 segments
Communication interface	USB
Temperature probe socket	6 pin mini DIN
Display	Full colour QVGA TFT
Languages	5 (EN, FR, DE, IT, ES)
Timer	1 min to 99 hrs 59 mins
Temperature presets	3
Alarms	High and low
Electrical power (max) W	2280/2760 (60/50 Hz)
Safety	Adjustable over temperature cut-out
Ready to use kits	Assembled and supplied with standard tubing, insulation, clips and connectors

Note: Please quote the rate for both capacities (A&B) separately

ITEM NO.09 ELECTION MICROSCOPE (FIELD EMISSION SCANNING ELECTRON MICROSCOPE (FESEM) COMPLETE UNIT (SECOND CALL)

High resolution Field Emission Scanning Electron Microscope (FESEM) having fully automated microscope setup with Energy Dispersive Spectroscopy (EDS) and Sputter Coater, system should have specification similar or better than as given below.

1	Electron Gun	High brightness Field Emission Schottky Emitter
2	Image Resolution	<ul style="list-style-type: none"> • Resolution with SE detector 1.2nm at 30 kV or better • Resolution with BSE detector 2.0 nm at 30 kV or better
3	Accelerating voltage	Adjustable from 200 eV to 30 KeV
4	Probe Current	<ul style="list-style-type: none"> • Variable from 2 pA to 400 nA or better.

		<ul style="list-style-type: none"> Probe Current should be continuously adjustable by entering the desired value in [pA or nA] Beam Spot Size should be continuously adjustable by entering the desired value in [nm] Probe current setting must be fully automatic without need for column tuning or change of aperture
5	Magnification	2x to 10,00,000x or better
6	Imaging Modes	<ol style="list-style-type: none"> Resolution mode for high resolution imaging. High Depth mode for enhanced depth of focus. Wide Field mode for extra-large non-distorted field of view with measurement facility. Changing from one mode to another should be fully automatic and software controlled.
7	High Vacuum System	<p>Should have IGP for GUN and TMP with dry scroll pump for ultra clean and fast pumping.</p> <ul style="list-style-type: none"> Chamber Vacuum: 10^{-3} Pa or better Gun vacuum: 10^{-7} Pa or better Pumping time: Less than 3.5 minutes after specimen exchange.
8	Low vacuum mode	<p>The system should be able to image in the low vacuum mode for charge compensation of non – conducting samples with</p> <ul style="list-style-type: none"> Differential pumping systems for specimen chamber Low Vacuum Range: 1 – 700 Pa or better, continuously variable
9	SEM Chamber	<ul style="list-style-type: none"> Internal Diameter: 230 mm or more Max specimen height- 54mm or better Max sample size- 145mm(X) x 145mm(Y) Chamber ports 12 or more with ports for future upgradation like EDS, WDS, EBSD, etc.
10	Specimen Stage	<ul style="list-style-type: none"> All 5 axes fully motorized compucentric stage with X = 80 mm or higher Y = 60 mm or higher Z = 50 mm or higher Tilt from -80° to $+80^{\circ}$ or better Rotation: 360 degree continuous Multi sample holder for holding 7 or more sample stubs. Stage movements must be fully Software controlled for absolute or relative co-ordinate movements, storing of positions, resorting to saved positions, moving to pre-set specimen positions, mouse click to Centre moving, drag with mouse, WD & Z movement synchronization.
11	Standard Detectors	<ul style="list-style-type: none"> Chamber SE Detector preferable with YAG scintillator Chamber BSE detector. A fully retractable BSE detector with YAG scintillator will be preferred. Detector for Probe current measurement: Integrated Pico ammeter with faraday cup for continuous display of probe current / absorbed current.
12	Anti-vibration support:	SEM Chamber and Electron Gun Should have a built in, fully integrated self-leveling pneumatic vibration isolation.
13	SEM Automated Operation	<ul style="list-style-type: none"> WD (Focus) & Stigmator Contrast & Brightness

		<ul style="list-style-type: none"> • Scanning Speed (According to Signal – Noise Ratio) • Gun heating • Gun centering • Column Centering • Vacuum Control • Auto-diagnostics • Direct and continuous control of beam spot size • Direct and continuous control of beam current • All parts including valves, apertures should be operated through computer-controlled software.
14	SEM Computer	Intel® Core i7-, RAM 16GB, HDD 1TB, Windows 10 64-bit 24-inch screen
15	Image Acquisition and display	<ul style="list-style-type: none"> • 32-inch HD LCD screen • Scanning Speed: From 20 ns to 10 ms per pixel adjustable in steps or continuously • Image Size: Selectable up to 8,192 x 8,192 pixels or better • Image Depth: Up to 16 bits per channel • Image Formats: BMP, TIFF, JPEG, JPEG2000, GIF, PNG or PGM, PPM • Point & Line Scan, Image rotation, Image shift, Tilt compensation • Dynamic Focus – in plane or folded plane • Multi Detectors Display: Displaying of up to 4 live detector signals simultaneously in four frames side by side • Detector Mixing: Provision for mixing in user defined ratios& display of different live signals from same field of view. • Signal averaging using Frame Accumulation or Line Accumulation • Pseudo coloring: Provision for Images to be artificially colored using colour mapping.
16	3D Imaging	<ol style="list-style-type: none"> 1. 3D image acquisition with stage tilts / beams tilting / scanning around XY axis for 3D imaging. 2. 3-D Imaging Software for Live Stereo Imaging with storage in AVI format.
17	SEM Software	<ul style="list-style-type: none"> • Image Operations • Analysis & Measurement • Image Processing • Image Measurement • 3D imaging using Beam tilting / scanning around XY axis for 3D scanning and imaging • Remote control network software with internet TCP / IP open protocols. • Built-in self-diagnostics for system readiness check • 3-D Imaging Software for Live Stereo Imaging with storage in AVI format
18	EDS System:	<ul style="list-style-type: none"> • EDS X-Ray Micro Analysis System • Liquid Nitrogen Free EDS detector • SDD type crystal with active area 30 mm sq • Resolution 129 eV or better. • Silicon Nitride window • Software capability for qualitative quantitative analysis • ZAF algorithm for bulk samples • Intensity mapping line scan multipoint analysis
19	Spares and Consumables	Spare parts and consumable availability should be 10 years.

20	On-Line UPS	6kVA on-line UPS with minimum 30 minutes back up
21	Essential Accessories	<ul style="list-style-type: none"> • Track ball for imaging operations • IR Chamber scope: Chamber view camera (IR CCD) • Touch alarm safety detector for specimen stage and detectors. • TCP / IP Remote control Network interface & software for remote operations and on-line fault diagnostics. • All essential operating accessories like air compressor, gas cylinders, regulators, chillier, etc., if required have to be included in the offer.
22	Sputter Coater	<ul style="list-style-type: none"> • Rotary pumped sputter coater, suitable for coating specimens with noble metals, such as gold / palladium alloys, • Should be combined with carbon coater, using carbon fibre to coat SEM specimens. • Two stage rotary pumps with oil mist filter. • Should include all consumables including gold target and carbon fibre for one years of operations.

ITEM NO.10 POTS (FIRST CALL)

Pots

(A) Size: 20"

Would not be crack, not fed in colour Material: Plastic

Colour: terracotta

(B) Size: 18"

Would not be crack, not fed in colour Material: Plastic

Colour: terracotta

(C) Size: 16"

Would not be crack, not fed in colour Material: Plastic

Colour: terracotta

(D) Size: 14"

Would not be crack, not fed in colour Material: Plastic

(E) Col Size: 12"

Would not be crack, not fed in colour Material: Plastic

Colour: terracotta

our: terracotta

(F) Size: 10"

Would not be crack, not fed in colour Material: Plastic

Colour: terracotta

Note: Please quote the rate for both capacities (A&E) separately

College Level Technical Purchase Committee

1. Dr. R. K. Pandya, Professor, Department of Plant Pathology, COA, Gwalior (Chairman)
2. Dr. M. K. Tripathi, Professor & Head, Department of GPB& PMB&B, COA, Gwalior (Member)
3. Dr. R.S. Sikarwar, Scientist (Senior Scale), Department of G&PB, COA, Gwalior (Member)
4. Dr. Akhilesh Singh, Scientist (Senior Scale), Department of Agricultural Engineering (Member)
5. Dr. Sushma Tiwari, Scientist, Department of PMB&B, COA, Gwalior (Member Secretary)

College Level Purchase Committee

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3. Dr. R. K. Pandya, Professor, Department of Plant Pathology, COA, Gwalior (Member)
4. Dr. M. K. Tripathi, Professor & Head, Department of GPB& PMB&B, COA, Gwalior (Member)
5. Dr. Sushma Tiwari / Dr. Shobhna Gupta, DDO, COA, Gwalior (Member)

Technical Expert/ Advisor: Dr. Sharad Tiwari, Director, Biotechnology Centre, JNKVV, Jabalpur

Dean College of Agriculture, Gwalior