

Tendering Procedure

It will be a two stage tendering procedure. The technical tenders and financial/commercial tenders will have to be submitted as PER E-TENDERING PROCEDURE.

The Technical Bids should contain detailed information of the following: -

- Nature of Ownership.
 - Composition of the Firm.
 - Bankers Name & Address.
 - G.S.T No.
 - PAN/TAN No.
 - Tax clearance i.e. ITR for Last 3 Financial year (2019-20, 2020-21 and 2021-22).
 - Whether Manufacturer/Dealers/Distributor.
 - Experience for number of years.
 - Capability/Capacity to serve as per the requirement.
 - Details of relevant infrastructure.
 - List of Clients.
 - Quality Assurance/Monitoring system followed.
- Certificates where needed should be attached duly attested.

Financial/Commercial Bids.

Financial Bid should contain the price quoted per unit/item. The following information should be clearly given in the Financial Bid:-

- Price per Unit/Item.
- Status of Taxation/Duties, GST etc.
- Lead time/Delivery Period.
- Packing & forwarding.
- Mode of Transportation.
- Payment condition.
- Acceptance of Terms of N.I.T.
- Details of Earnest money attached.

Financial Bids will be opened only of those bidders, who qualify and are found suitable during the processing of Technical Bids.

SPECIFICATIONS

Sr no-1 : Item – IVF / Assisted Reproduction Technology Work station (01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Size	Aprox. 4 feet
Work Area Dimensions	Aprox height 28-30” and Depth of 19-20”
Multi Zone Heating System	Integrated, independent heating zones with their own heating and sensor system with 3-5 independent sensors. Accuracy \leq 0.2 degree C Uniformity \leq 0.2 degree C 1 Set Point for all independent heating zones Temperature modes are required to put on/off different set of heating zones. Surveillance system is required to provide real time zone information of temperature, flow rate etc for different zones.
Noise and vibration levels	Equipment offering minimum levels will be preferred; however it should not be more than 52d BA.
Laminar Air Velocity	Average of 0.21 m/s or 41 fpm \pm 20%
Pre filter	85% arrestance or better
Filter Efficiency	>99.999% for particle size 0.1-0.3 micron per IEST-RP-CC001.3/ H14
Microscope	Position for fixing one microscope and associated provisioning for its integration etc
Transmitted light source	LED one set
PT 1000 Ports	3-5 ports

Cabinet construction	Main body – minimum 18 gauge electro-galvanized steel with white oven baked epoxy-polyester, antimicrobial powder coated finish Work zone- minimum 16gauge stainless steel SS-304 Side walls & Sash – tempered laminated safety glass
Heated Glass stage	Microscope light opening with heated glass minimum 90mm. Required to have dedicated system for temperature control and recovery in this zone.
ISO Class	3 or less

Others :-

- VOC /Carbon Filter and UV light are required.
- Touch screen full functional windows PC with minimum 15” display having USB ports/HDMI/DVI ports or any other required for connecting to the microscope camera must be mounted inside the work zone. The system should observe and record culture behaviour in real time. It should provide real time information on zone performance.
- Suitable number of electric ports for all instruments including microscope and monitor for 220-230 v/50-60HZ.
- The engineering drawing and air flow diagram/ drawing are required to be submitted.

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at no extra cost.

Full Functional Demonstration of the offered equipment is required.

Bidder can quote and submit technical papers of more than one model/make of standard equipment under this item.

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document.

The standard equipment along with all the components should be warranted for two years followed by no cost AMC for 2 years with a condition of 2 visits per year.

Onsite installation and training is mandatory. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided. Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-2 : Item – Portable Ultrasound Machine with Probe and Ovum Pick up Assembly for Bovines. (01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

The device will be used for Ovum Pick Up (OPU) sessions and per rectal gynecological examination of large bovines at PLDB's Patiala IVF lab.

Technical specifications:

- A) Portable Ultrasound machine** – It should be portable/ light weight capable of providing excellent image quality in field working conditions.
- a. It must have multiple operating modes - B mode, Colour B mode, M mode, Colour M Mode, Colour Flow M Mode, Power Doppler Imaging (PDI), Directional PDI, PW Doppler with High PRF, B & M mode.
 - b. Should have high-resolution LCD (1024X768 pixels) monitor, Ergonomic full size keyboard, 8 TGC Slider segments (pods). DICOM – compressed/uncompressed, single/multi-frame, with/without Raw Data. User Programmable Pre-set Capability.
 - c. Image storage - Machine should have internal integrated capacity to store maximum number of images and external memory –SD Card/ USB HDD/ USB Stick/ all for import / export data
 - d. Software should be user friendly for gynecological exam and ova pick up sessions in bovines.

- e. Needle recognition both tip & path to help needle stand out and visualization/ display for guided aspiration is required. Models with better convenience for carrying out Ova pick up operations will be preferred.
- f. Image quality should remain at high resolution even at deep penetrations and there should be reduced noise with increasing tissue details.
- g. Suitable Z trolley to hold scanner should be provided.

B) Probes- Equipment is required to be supplied with following two probes:-

1. It should have a trans-vaginal micro convex ovum pickup probe with multi frequency (4-10 mHz or better) and is compatible to be fitted in custom made OPU handle.
2. It should have a Endo-rectal linear probe (wide band multi frequency (5-8-mHz or better) suitable for large animal rectal examination.

C) Probe holder and needle guiding system should be slim designed with excellent ease of use, light weight, easy warming, rust proof, easy cleaning and should be quoted and detailed along with all the accessories including ultrasound gel. The needle guiding system should have all the accessories,. Suitability for the Bovine OPU work will be preferred.

D) Aspiration Unit with test tube warmer - Vacuum pump of international reputed brand capable of maintain continuous vacuum pressure up to 300mm of Hg, suitably tested and used for bovine ova pick up operations. Media warming block for 50 ml tubes with adjustable warming temperature up to 50 degree C.

Power Supply: AC 240V, 50Hz/60Hz.

All the components A), B), C) and D) will be sub parts of the 'Standard Equipment'.

The standard equipment should be supplied along with all the accessories required for its intended use. The required accessories like needles and adapters to fit 17, 18, 20 gauge and 75 mm OPU needles along with tubing, ultrasound gel , silicon stopper for 50 ml tubes, cover for probe holder, sterile needle tubing ,disposable cover for convex probe at the time of aspiration etc. for at least 30 sessions should be supplied free of cost along with the Standard Equipment.

Successful bidder will complete installation and registration of the machine with the Authority designated by Government for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at no extra cost.

Water resistant, Robust, durable and dust proof case/cover for carrying the equipment and/ or its components should be provided.

Full Functional Demonstration of the offered equipment is required.

gas ports for external parameter validation. Built-in humidity sensor for accurate and continuous readings.

- Operating humidity 10% to 90% relative humidity non-condensing.
- Temperature control range 25°C to + 40°C. Temperature measurement accuracy ± 0.2 °C or better
- HEPA-VOC with UV-C filtration should clean the airstream inside the chambers.
- CO2 control range 1.9-10% and Oxygen control range 5-20%; Input gas pressure 0.6 barr.
- Input gases 100% CO2 and 100% N2. Built in gas mixer and gas sensors must be able to provide accurate gas phase composition inside the chambers.
- Equipment can be easily connected to PC through data logging software. All real time parameters of the machine and performance indicators including alarms can be viewed & logged on the computer. Branded computer system having licensed Windows OS with 21" or better LED monitor and laser printer of reputed make with latest specifications suitable/ compatible to run the supplied software should be quoted and supplied. Assembled/ aftermarket computer systems, Monitor and printers will not be accepted.

Others:-

- Power Supply 220-230 VAC, 50/60 Hz
- It should be compatible with the most of available culture dishes like NUNC/FALCON/MINITUB/BD- 4/5 well dishes ; 30mm/60mm
- Time-stamped alarm notification should include description of event.
- Standard equipment should be provided with 5 Numbers filled CO2 Cylinders and one trolley to carry them. Each Cylinder should be approximately 40 liters capacity or more (filled with medical grade CO2, at the time of supply; certificate to be provided).
- Incubator must be supplied with 5 Numbers filled N2 Cylinders. Each Cylinder should be approximately 40 liters capacity or more (filled with medical grade N2, at the time of supply(certificate to be provided).
- Compatible Two stage CO2 regulator – 02 number capable to withhold the pressure of minimum of 1.4 bars for gas supply to incubator with indicators for pressure and quantity of gas.
- Compatible Two stage N2 regulator – 02 Number, capable to withhold the pressure of minimum of 1.4 bars for gas supply to incubator with indicators for pressure and quantity of gas.

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at no extra cost.

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document.

The standard equipment along with all the components should be warranted for two years followed by no cost AMC for 2 years with a condition of 2 visits per year. Onsite installation and training is mandatory. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-4 : Item – Refrigerated Bench top centrifuge (01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Equipment must have excellent ergonomic design and robust build quality, easy to read display for routine lab work. Equipment should conform to the latest clinical and safety standards. Refrigerated centrifuge should be vibration free and balanced table top with noise level less than 50 d BA.

Parameter	Specification
Temperature range	-10 degree C to +40 degree C ;

RCF	21000 X g or better
Speed	14000 rpm or better
Acceleration/ Deceleration Rates	10/12 seconds
Time set Range	1 min – 99 min with 1 min increment Preferably with hold function

Other requirements:-

- Autoclavable, non-corrosive and chemically resistant rotors and buckets/ adapters are required to be supplied.
- The set temperature must be maintained at maximal rotational speed.
- Rapid cooling of centrifuge chamber from room temperature to set point is desired.
- User-friendly operation; key panel with provision to set speed, RCF, radius correction values that can be changed during centrifugation; Short spin key with selectable rotational speed.
- Rotor imbalance detection and automatic electronic rotor recognition.
- Quick pre-cooling function or the like is required.
- Continuous cooling mechanism to maintain a constant temperature after the run has been completed.
- Soft-touch lid closure is desired. Models with transparent rotor lid with bio containment will be proffered.
- Safety Lid inter lock to prevent cover opening during centrifugation.
- RCF around 3000x g with swing out metallic rotors. Following rotors should be supplied with the centrifuge:
 - Rotor for fixed angle 24 x 1.5/2.0 ml tubes,
 - Adaptors should available for 0.5ml and 0.2ml with rotor lid.
 - Swing out rotor (around 4 x 100 ml) with buckets for 5 ml or 15 ml conical tubes (total tube capacity - 8), 50 ml conical tubes (total tube capacity - 4), 1.5/2.0 mL micro tube (total tube capacity - 40).
- Step less Speed Adjustment.
- Power Supply: 220-240V 50 Hz Single Phase.
- CE marked and IVD compliant, CSA certified ; appropriate IEC technical standards.
- Full function Commissioning and installation will required to be done at PLDB's Patiala IVF Lab by the successful bidder at its own cost.

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document.

The standard equipment along with all the components should be warranted for two years followed by no cost AMC for 2 years with a condition of 2 visits per year. Onsite installation and training is mandatory. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-5 : Item – Table top CO2 Incubator with accessories (01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

CO2 incubator, air jacketed with O2 control facility will be used for culturing oocytes and embryos in highly precise controlled gas and temperature condition Design should be robust and chamber should made of single sheet of stainless steel.

- CAPACITY:- 160 L to 200L
- Temperature Range + 3 degree C above ambient to +55 degree C,
- Temperature control of ± 0.10 degree C and uniformity ± 0.30 degree C
- CO2 Range 1 to 20%, having 0.1% control with temperature resistant, bulb free IR CO2 sensor.
- Oxygen Range – 1 to 21% having 0.1% control with Zirconium Oxide sensor.

- Should have condensation free humidification system humidity reservoir required to be filled without removing shelves or culture plates. RH range – Ambient to 93% at 37degree C.
- Should have in built fully automatic sterilization cycle capable of reaching up to 180degreeC with uniform sterilization of all chamber surfaces.
- It should have perforated shelves with removable humidity pan and shelves. Minimum of 4 stainless steel shelves with eight stainless steel shelf guides are required with multiple door openings.
- HEPA air filtration system to minimize the risk of airborne contaminants entering to the incubator from multiple door openings. HEPA air filter system must maintain Class 5 clean room air purity. And it should continuously filter the entire chamber volume every minute for an aseptic atmosphere.
- Door mounted LCD/LED display with touch screen controls & data logging of temperature humidity, CO₂, door openings. The system to be supplied with all the necessary tubing, ports and nozzles.
- It should have optical and acoustic alarm if set point deviation or sensor defect occurs with Door monitoring and Remote alarm. System to be filled with on board data entry and logging facility and company specific interface for communication with USB port and external instrument logging along with software so that the system can be connected to PC.
- Compatible Two stage CO₂ regulator – O₂ number capable to with-hold the pressure of minimum of 1.4 bars for gas supply to incubator with indicators for pressure and quantity of gas.
- Compatible Two stage N₂ regulator – O₂ Number, capable to with-hold the pressure of minimum of 1.4 bars for gas supply to incubator with indicators for pressure and quantity of gas.
- Integrated gas guard for CO₂ and N₂ for monitoring gas flow and switch between tanks.
- Independent Inner Glass Doors dividing the large opening of the incubator in to small openings (eight glass doors with latches), should mount inside heated inner glass door, removable and can be autoclaved
- Must provide all the tubing for connection from cylinders to CO₂ incubator with one additional set. Should provide disconnect and fitting kit.
- Incubator must be supplied with filled CO₂ Cylinders-5 Numbers. Each Cylinder should be approximately 40 liters capacity or more (filled with medical grade CO₂, at the time of supply; certificate to be provided).
- Incubator must be supplied with filled N₂ Cylinders-5 Numbers. Each Cylinder should be approximately 40 liters capacity or more (filled with medical grade N₂, at the time of supply ;certificate to be provided).Cylinders should be provided with trolley to carry them.

Zoom ratio	12 :1 or better
Zoom Range	0.63x to 8X or better
Working distance	70 mm or more
Illumination	Diascopic illumination, Should have built in OCC illumination having LED Source.
Incident light illumination	Should be Bifurcated fibre optic with LED cold light source
Objective	Plan Apo 1.0X
Eyepieces	10X
Observation tube	Trinocular
Base	Compact slim base

B) Camera – Two sets of cameras with all the accessories are required

Image Sensor	1/1.8” colour C MOS sensor,
Recordable pixel	2880 X 2048
Lens mount	C mount
Maximum speed	30 fps
Speed at high resolution	15 fps
Exposure time	100 microseconds to 30 seconds
Exposure control	Automatic & Manual
Interface	USB 3

C) Software – required to be loaded separately for the two set of microscopes;

The Software should have following facilities:

- Image display:-
 - Enlarge/reduce, full screen, and magnifying glass capture thumbnail scale, annotation and profile Grid LUT, histogram, and sequence replay
- Image capture:-
 - Auto-capture time lapse Z series and multi-point stitching
- Image processing:-

- White balance and tone LUT and shading correction contrast and hue/saturation correction Edge enhancement, averaging and smoothing
- Image editing:-
 - Crop Image overlay cut, copy, paste, rotate, invert and resize component extraction Pseudo-color.
- Image analysis:-
 - Calibration(Length) Manual measurement (count, length, area, angle, circle, and ellipse) Printing, PDF output, mail transmission Optical Configurations Report generator Macro.

D) Computer system with multifunctional colour printer - Branded computer system with 21" or better LED monitor and colour inkjet multifunctional printer of reputed make with latest specifications suitable/ compatible to run the supplied software should be quoted and supplied with one set of microscope. Assembled/ aftermarket computer systems, Monitor and printers will not be accepted.

E) Job work – Successful bidder will have to install, made functional one set comprised of Microscope; camera; software; computer system with monitor and printer at one place within the IVF lab and similarly other set comprised of Microscope; camera and software is to be installed and made functional within the IVF Workstation.

The standard equipment along with all the components should be warranted for two years. Onsite installation and training is mandatory. One of the set is required to be fitted in the IVF Work station. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models (with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-7: Item – Phase contrast microscope

(01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Phase contrast microscope is required for neat semen and frozen thaw semen examination.

- Make / model : - Zeiss Axio Lab / Nikon E 200 / Olympus CX 43 or above
- LED illumination.
- Eye piece 10x phase contrast objective for neat/ post thaw semen examination and should have plan10x; 20x; 40x; phase contrast objectives. (offered model with specifications required to be attached with quotation).
- The microscopes should be fitted with full heated stage, able to provide precise control of temperature from room to 55 degree C with accuracy of 0.2 degree C. (Make/ Model & specifications required along with the quotation).
- Microscope heated stage should be compatible to use analysis chambers, disposable fixed depth slides, glass slides, Makler chamber etc.
- A separate Temperature controller with mounted heating plate is required to keep slides warm- (Make/ Model & specifications are required to be attached with bid document).

The standard equipment along with all the components should be warranted for two years. Onsite installation and training is mandatory. One of the set is required to be fitted in the IVF Work station. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-8: Item – Programmable Embryo Freezer

(01)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Equipment is required for the controlled rate freezing of bovine embryos and oocytes using liquid nitrogen as cooling medium.

- It should be easy to use and should work on AC & DC power supply.
- It should be programmable with / without the use of external computer.
- Operating module must include real time temperature logging with actual temperature progress monitored and recorded/ displayed.
- It should be equipped with user friendly software to design and operate customised freezing programs.
- Thermometry accuracy +0.1 degree C.
- It should be of reputed international brand.
- All the components including cryobath; cryochamber and controller are to be quoted and supplied by the same entity.
- Cryo-chamber should provide easy access for loading, manual seeding, inspection and removal of straws. Standard 23 slot core capable for 0.25 ml /0.5 ml straws.
- Controller should be able to provide reliable and accurate temperature regulation of specimen. It should have power back up / battery pack.
- Temperature control range +20 degree C to -43degreeC.
- Cooling rates can be specified from 0.1 degreeC/ min and temperature can be held at any point within the control range. And at the end of program controller can be directed for free fall (drop beyond control range)
- Temperature warning (onscreen or sound): User-Definable from $\pm 1.0^{\circ}\text{C}$ to $\pm 3.0^{\circ}\text{C}$
- Maximum number of internal programs: 15 or more
- Minimum Temperature Step Size: 0.04°C
- Temperature Control Resolution: 0.05°C
- Controller computer communication Ports: USB /Equipment is connectable to the PC. A branded computer system with 21" or better LED monitor and laser printer of reputed make with latest specifications suitable/ compatible to run the supplied software should be quoted and will be part of standard equipment. Assembled/ aftermarket computer systems, Monitor and

printers will not be accepted. Temperature display & User Interface: prominent and easy to operate.

- Temperature Controller can be programmable with up to 15 or more temperature programs. It should also be programmable when operated with a computer using software.
- It should have Graphic user interface with real time temperature graph and digital data.
- It should include a temperature logging module and allows actual temperature progress to be monitored and recorded in the computer/ SD card (when used).
- Temperature Data logger should have following specifications:
 - Temperature resolution: 0.1°C
 - Sampling rate: 10 per second
 - Recording rate: 10 per minute (every six seconds)
- All suitable power cords/ power packs/ battery etc should be supplied with the machine.
- Horizontal Carry Case should accommodate the Freezer along with Cryo bath and all other accessories. The case should be cushioned internally to provide protection during shipping or storage.

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document.

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at its own cost.

The standard equipment along with all the components should be warranted for two years followed by no cost AMC for 2 years with a condition of 2 visits per year. Onsite installation and training is mandatory. Bidder / OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment.

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-9: Item – Dry Bath

(03)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Dry Bath for keeping the test tubes/ micro centrifuge tubes warm for working in a IVF Lab. Equipment should be of international reputed make, robust design, sturdy for routine work and having Electro-statically applied finish that resists rust, corrosion, and scratches

- Number of chamber: Dry bath should accommodate 2 blocks and they should be interchangeable to accommodate different size blocks
- Built in temperature sensing probe design for temperature accuracy and control. Precise temperature control with PID circuit.
- Digital display and touch controller.
- Main input: 220V, 50-60Hz;
- Temp. Range: from ambient+5°C to 100°C or better
- Temperature control Accuracy: $\pm 0.5^{\circ}\text{C}$ or better
- Temperature Uniformity at 37°C: 0.2°C or better
- In built Timer is required.
- Temperature increment: 0.1°C
- Replaceable heating Blocks: Fast heating High grade, nonporous aluminium/alloy with anodized surface block; 3 blocks of following sizes should be provided:-
 - A) 1 Block for 12 x 15ml tubes
 - B) 1 Block for 5 x 50ml tubes
 - C) 1 Quick Flip Block, that can accommodate 24 x 1.5/2.0 ml or 14 x 0.5 ml or 6 x PCR Strips or 48 x 0.2 ml tube
- Provision for lifting the blocks is required.

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document .

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at its own cost.

The standard equipment along with all the components should be warranted for two years. Onsite installation and training is mandatory. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-10: Item – Bead Bath

(02)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Bead bath with temperature control unit and is capable of holding embryo/ semen straws and various tubes etc.

- Temperature controlled incubator for sample tubes or straws of different sizes (up to 15 mm diameter), with beads inside for secure fixation.
- Usable height minimum 150mm
- Temperature range: From ambient and +5°C to 80degree C.
- Requires a separate control unit.
- Temperature uniformity at 37degree C :± 0.50degreeC
- Main Input 220-230 V,50-60 HZ
- Beads: Thermal uniformity at 37degreeC: ± 1-2degreeC, beads working temperature range should be – 80degreeC to 350degreeC
- Detail of beads technical parameters and nature of material; quantity to be supplied required to be clearly mentioned in the bidding document.

- Output capacity (Approx.): 1.5 Litres/hour
- Cooling water consumption (approx.): 1 Litres/minute
- Conductivity(S/cm):1×10^{-6}
- Boiler and condenser made of quartz glass
- Supplied with Micron Filter for feed inlet
- Following accessories should also be provided:

Particulars	Quantity
Quartz Reservoir (with Teflon Screw cock) for storage of High purity water	1
Reservoir Stand (SS)	1
Quartz Bulb Condenser for extra cool distillate	Sufficient to operate machine for 2 years
Dechlorite Filter - To remove chlorine particles from water	Sufficient to operate machine for 2 years
Phosphate Cartridge - To prevent scale formation	Sufficient to operate the machine for 2 years

All the accessories/ components/consumables etc required to effectively operate the equipment for its intended use will be considered as part of Standard equipment and must be inclusive in the bid quote /document .

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at its own cost.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-12: Item – Heat Stages (02)

Equipment should be robust and sturdy and able to perform routine work in an IVF lab. It should be of reputed international brand/ make with service and technical back up in India. Equipment/its parts must be indicated for use in IVF – Assisted Reproductive Technologies and related work in bovines.

Technical specifications:

Equipment will be used for keeping the petridishes, micro slides, cover slips etc warm. There should be uniform heat spread throughout the area.

- Heavy duty construction for effortless repeated use.
- Thermostat should have accuracy +/-0.5 degree C with real time digital temperature display.
- Power compatibility -220-230v ; 50Hz
- Minimum size workable plate should be of around 1.6 feet.

Successful bidder will complete installation for the full functioning of the equipment at PLDB'S IVF Lab at Patiala at its own cost.

The standard equipment along with all the components should be warranted for two years. Onsite installation and training is mandatory. One of the set is required to be fitted in the IVF Work station. Bidder/OEM should have service centre in India with factory trained personnel.

Only latest updated models(with prescribed or higher specifications) available on date should be quoted. Bidder/OEM should provide user list of at least 3 National/ International Labs having used same make/ model for bovine OPU work or 20 National/ International Labs having used same make/ model for human IVF Labs along with satisfactory function report from at least 3 users.

Equipment should have all the relevant certifications CE, IEC, ISO etc supporting documents must be supplied along with tender.

Original catalogue should be provided for the system featuring all the technical points for the offered Model/ Make. Point wise compliance statement should be provided Packing list should be provided along with the shipment. Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Sr no-13: Item - VORTEX

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- Vortex machine with RPM 0 to 3000. Continuous and pulsing type. Include rubber platform for micro centrifuge tube and for 5 ml for vortexing. Electricity: 230 V, 50 Hz. Built in feature for current overload. European CE (certified to be provided).
- Fit to Indian electric system and ISI marked.
- Should be installed at site.
- Warranty: 2 years.
- Must provide catalogue number of all parts as above.

Sr no-14: Item –VERTICAL AUTOCLAVE

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- The Unit should comprise of steam jacket electrically heated, inner chamber & lid made of stainless steel, should fit on Indian electrical system, fitted with automatic pressure control switch, safety valve etc. ISI/ BIS certification.
- The chamber should be made of heavy gauge, stainless steel, fitted with stainless steel forged ring and forged lid, chamber should be fitted with two safety valve of stainless steel, pressure gauge, water outlet valve and Air inlet valve, stainless steel steam condenser, tube with stainless steel eject valve.
- The steam generator should be made out of stainless steel heavy gauge fitted with pressure gauge and water draining valve.
- The outer cover should be made out of stainless steel, duly insulated with high density mineral wool from the inner chamber and fitted with stable legs. Should have the capacity of dia x depth 300x500 mm and 4 kw. Single phase. Supplier should provide the calibration certificate.
- Should supply one complete set of suitable Spare accessories a). Neoprene Rubber joint less gaskets & Heating elements suitable for Vertical Autoclave.
- Should have time and temperature control display.
- Warranty: 2 years.
- Free of cost AMC after expiry of warranty
- Must provide catalogue number of all parts as above.

Sr no-15: Item –5 KW ONLINE UPS WITH BATTERY FOR 3 HOURS BACK UP:

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- Single phase, IGBT based, online 5KW UPS system with battery backup for 3 hours at full capacity.
- Should have Input 220/230V AC single phase frequency 50Hz, Output 3.0 KVA, 220/230V AC single phase frequency 50Hz, three wires.
- IGBT rectifier with LCD Display to monitor electrical parameter.
- UPS should be reputed brand make and should have static and maintenance bypass with static switch.
- Suitable for ambient condition temp. 0-50°C, relative Humidity 95%, less noisy (<55dB)
Battery should be sealed maintenance free and come in rack for close housing in suitable lockers, all

details should be specified for battery (Brand, quantity, A-H rating). It should be a reputed brand like

Exide, Panasonic, etc.

- All the related indicators and meter should be provide for UPS and battery.
- Battery has been desired to switch automatically to the battery mode 'ON' at the time of power cuts, eco-friendly, Fast battery charging, short circuit MCB protection.
- Low operating and maintenance cost. 3 Years Warranty.
- All wires, tubing and connection accessories provided along with complete installation in laboratory.
- Should be suitable for lab equipment's. All the related functional test certificates should be provided.
- Should be complete installation at the site with warranty of min. three years.
- Must provide the company name and catalogue no. for quoted item.
- Quote for only one model in accordance to the specification desired, technical bid with multiple option shall be summarily rejected.
- Should install the system in the existing electrical system.
- 2 years standard warranty with minimum 2 visits per year at site.
- 2 years free of cost AMC after expiry of warranty

Sr no-16: Item – Refrigerator

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- The Refrigerator (Fridge) would be used to keep chemicals/ medicines/ media/buffer/etc. at lower temperature between 4 and 8°C.
- The Refrigerator should conform to the following technical Specifications:
 - Capacity: 360litres
 - Star Rating for energy consumption: 5 Star
 - Capable to work without Voltage Stabilizer
 - Refrigeration: Cascade refrigeration, refrigerants CFC free ecofriendly
 - Frost free and Anti defrost
 - Double door and stainless steel made door
 - Fitted with Door Lock and Open Door alarm
 - LED - LCD electronic control panel with user interface panel
 - 6th sense Intellifresh technology
 - Ice twister and collector
 - Provided with micro-block technology to avoid contamination of microbes
 - Fresh Flow Flexi Vents with antibacterial filters to avoid entry of bacteria
 - Digital inverter
 - Toughened glass shelves – 2 nos.
 - LED RC Lamp
 - Humidity Controller
 - Anti-bacteria Gasket
 - Power supply: 230 V AC
 - Supplied with sturdy Base Stand
 - Minimum 5 system installations of same model in India with addresses and performance reports from at least 3 users from university/ govt. organizations/ cooperatives etc.
 - Supplier should have their service centre in India
 - Compressor warranty: 10 years
 - Original catalogue should be provided for the system featuring all the above points
 - Point wise compliance statement should be provided
 - Packing list should be provided

Sr no-17: Item – SET OF EPPENDORF MICRO PIPETTES SET EACH 0.5 - 10 μ L, 20 – 200 μ L AND 100 - 1000 μ L 1000-5000 μ L CAPACITIES WITH TWO SET OF STANDS TO HOLD 4 PIPETTES:

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- Imported, Micropipette Adjustable, single channel, working volume ranges should be as follows **0.5 - 10µl, , 20 - 200 µl and 100 -1000 µl 1000-5000 µl** – two sets of each pipette for each volume range.
- It Must provide 2000 sterilized tips , MEA/certified for embryo handling for 0.5 - 10µl, 20 - 200 µl and 100 - 1000 µl, 1000 - 5000 µl pipettes.
- Additionally provide 2000 sterilized filter tips 0.5 - 10µl packed in the tip boxes (Racked), MEA/certified for embryo handling.
- It should be autoclavable and resistant to UV light.
- It should be CE marked and certified. Certificate to be provided.
- Spring loaded cone, very low operating force, combined control button and ejector.
- It should be easy to operate and have 4 digit volume displays.
- Warranty: 2 years.

Sr no-18: Item – DENUDATION PIPETTE FOR BOVINE OOCYTES:

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specification

- Suitable denudation pipette for denudation of bovine Oocyte. Micropipette with comfort grip with sterile tips MEA and LAL tested, suitable for denudation of bovine oocytes after the IVF procedure.
- The size is 130 to 150 µm .In pack of 10 or less. Total of 200 tips required.
- CE conformity certified and provide certificate in original.
- Bidders must submit the sole/exclusive distributor certificate issued by the manufacturer.
- Should be of International brand
- Warranty: 2 years.
- Must provide catalogue number of all parts as above.

Sr no-19: Item – Servo controller-Power Stabilizer

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specifications of voltage stabilizer

- Input Voltage : 380 – 500 Volt
 - Output Voltage : 400 Volt \pm 1% (Phase to Phase)
 - Frequency : 50 Hz
 - Type of Cooling : Air Cooled
 - Over Load Capacity : 110% for 10 minute
 - Mode of Operation : Auto/Manual Selectable
 - Duty Cycle : Continuous on full load
 - Efficiency : Better than 98%
-
- Bidders must submit the sole/exclusive distributor certificate issued by the manufacturer.
 - Should be of International brand
 - Warranty: 2 years.
 - Must provide catalogue number of all parts as above.

Sr no-20: Item – Genset 25 KW

[Equipment under this schedule should conform to BIS/ ISO Certification Standards, a proof of which shall have to be submitted along with the Technical Bid]

Technical Literature, brochures and all other relevant information supporting the bid must accompany the Technical Bid.

Technical specifications of Genset 25 KW

- Generator set specifications Governor regulation class ISO 8528 Part 1 Class G2 Voltage regulation, no load to full load \pm 1.0%
- Random voltage variation \pm 0.5% - 3 Phase only
- Frequency regulation Isochronous
- Random frequency variation \pm 0.5%

Engine specifications

- Bore 95.0 mm
- Stroke 115 mm
- Displacement 3.3 litres
- Configuration Cast iron, in-line, 4 cylinder
- Battery capacity 550 amps at ambient temperature of 0 °F to 32 °F Battery charging alternator 40 amps
- Starting voltage 12 volt, negative ground Fuel system Indirect injection,
- number 2 diesel fuel, fuel filter, electric fuel shut off Fuel filter Single element, 10 micron filtration,
- spin-on fuel filter with water separator

- Air cleaner type Dry replaceable element
- Lube oil filter type(s) Spin-on, full flow
- Standard cooling system 50 °C ambient cooling system

Alternator specifications

- Design Brushless, 4 pole, drip proof, revolving field
Stator 2/3 pitch
- Rotor Direct coupled, flexible disc
- Standard temperature rise 120 °C
- Standby Exciter type Torque match (shunt) with PMG/EBS as option
- Alternator cooling Direct drive centrifugal blower
- AC waveform total harmonic distortion < 5% no load to full linear load, < 3% for any single harmonic
- Bidders must submit the sole/exclusive distributor certificate issued by the manufacturer.
- Should be of International brand
- Warranty: 2 years.
- Must provide catalogue number of all parts as above.

TERMS AND CONDITIONS

(Tender for establishment of IVF Lab)

1. E-Tenders are invited to provide items/equipments for department of Animal Husbandry through the e-tendering process of Govt. of Punjab. For additional details such as items specifications, important dates etc visit the websites: <http://eproc.punjab.gov.in> and www.husbandrypunjab.org Tender form, items details, specifications, terms and condition can be obtained from this website after paying the requisite fee, if applicable.
2. Bids shall be accepted only who have experience of supplying the same/similar items/equipments to the Govt. or Private Institutions/Organizations.
3. The bid procedure will be in double bid system i.e., Technical Bids and Financial Bids. The Technical Bid should contain comprehensive technical details of the items being provided. Technical Bids would be opened first and Financial Bids will be opened subsequently of only those bidders who qualify in the Technical Bids. Incomplete/conditional bids not received as per guidelines of e-procurement procedure will be out rightly rejected.
4. The Bidder must enclose attested copies/proof of Pan Card, GST, Registration/Authorization of the firm etc.
5. The Bidder should not be black listed/debarred by any department/ organization. The Self attested affidavit regarding the same must be attached along with the documents.
6. The bid should be submitted online till **upto 01-08-2023 on 05:00pm and the same will be opened 02-08-2023 on 11:00 am.**
7. The bid must be accompanied with earnest money amounting **Rs. 2,00,000/- (Rs. Two lakh only)** (online payment) as per guidelines of e-procurement procedure.
8. Bidders are also required to submit only soft copy on websites: <http://eproc.punjab.gov.in>
9. The Punjab Livestock Development Board reserves the right to accept, reject or cancel one or all bids and holds the discretion to increase/decrease the quantity of any or all the items as per requirement.

10. Successful bidders will have to submit a Security deposit of 10 % of the purchase order value within 10 days, after issuance of orders in the form of DD/FDR/Bank guarantee payable at SAS Nagar (Punjab) in the name of Punjab Livestock Development Board.
11. For participating in the above bid, the Bidder shall have to get themselves registered with e-procurement portal and get ID & password. Bidders who have not registered with e-procurement portal need to get registered by paying the requisite registration fee for e-procurement portal participation.
12. Bid details can also be obtained from the Departmental website www.husbandrypunjab.org.
13. Rates should be quoted in Indian Rupees only.
14. Brochure/leaflets/catalogues for items should be submitted along with documents.
15. The Bidder should give an undertaking that he/she will be responsible for the replacement of the items/equipments in case of any manufacturing defect within a stipulated period of 60 days as well as the prescribed timely free services during the Guarantee Period of the items/equipments.
16. In case of failure to provide uninterrupted services, security money deposited by the Bidder would be confiscated.
17. The Bidder would be bound to replace the items immediately whose working is not found satisfactory by PLDB within the period of 30 days.
18. In case of any dispute or difference in opinion in interpreting the terms and conditions of this bid, the PLDB would be the final deciding authority. The decision of PLDB would be final and not challengeable before any court of Law.
19. PLDB shall deduct Income Tax and GST-TDS against the payment made to firm.
20. No information pertaining to PLDB should be shared by the Bidder with anyone during or after the completion of bid process, failing which the Bidder would be prosecuted in the court of law by PLDB.
21. Only district court of Sahibzada Ajit Singh Nagar (Mohali) would be the Legal jurisdiction in case of any dispute.

22. Annual turnover for the last three financial years i.e. 2019-20 to 2021-22 (2020-21 to 2022-23 assessment years) for each year must be minimum of Rs. 3 crores of the bidder/OEM. The annual turnover must be duly certified by the CA.
23. The bidder shall be disqualified if any of the bid document provided by the bidder is unclear, unreadable and protected with any kind of password.
24. Order should be on F.O.R. Basis and no separate freight charges would be payable by Punjab Livestock Development Board..
25. In case the bidder procures the items from other authorized firm/dealer then he/she must submit the authorization certificate of the concerned firm/dealer for this specified tender.
26. The term(Period) regarding supply as well as installation of the ordered Items would be detailed in Purchase Order.
27. The bidder must quote each item specified in the tender and will be liable to supply each and every item specified in the tender on quoted price.
28. The bidder/OEM should have experience of setting up of IVF Labs and must have at least two Purchase Order of minimum value of 1 crores in last 5 years.

ਪੰਜਾਬ ਸਰਕਾਰ

ਸ਼ਾਰਟ ਟਰਮ ਈ-ਟੈਂਡਰ ਹਵਾਲਾ ਪੱਤਰ ਨੰ:730 ਮਿਤੀ 10-07-2023

ਪੰਜਾਬ ਪਸ਼ੂਪੰਨ ਵਿਕਾਸ ਬੋਰਡ ਦ/ਡਾਇਰੈਕਟੋਰੇਟ, ਪਸ਼ੂ ਪਾਲਣ ਵਿਭਾਗ, ਪੰਜਾਬ, ਲਾਈਵਸਟਾਕ ਕੰਪਲੈਕਸ, ਸੈਕਟਰ-68, ਐਸ.ਏ.ਐਸ. ਨਗਰ - 160062 ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਆਈਟਮਾਂ ਦੀ ਖਰੀਦ ਕਰਨ ਲਈ ਆਨਲਾਈਨ ਈ-ਟੈਂਡਰ ਦੀ ਮੰਗ ਕਰਦਾ ਹੈ:-

ਲੜੀ ਨੰ:	ਆਈਟਮ ਦਾ ਨਾਮ	ਮਾਤਰਾ
1	IVF / Assisted Reproduction Technology Work station	01
2	Portable Ultrasound Machine with Probe and Ovum Pick up Assembly for Bovines	01
3	Bench top Incubator for IVF work with accessories.	01
4	Refrigerated Benchtop centrifuge	01
5	Table top CO2 Incubator with accessories	01
6	Stereo-zoom microscope	02
7	Phase contrast microscope	01
8	Programmable Embryo Freezer	01
9	Dry Bath	03
10	Bead Bath	02

ਲੜੀ ਨੰ:	ਆਈਟਮ ਦਾ ਨਾਮ	ਮਾਤਰਾ
11	Double Distillation (Quartz) Plant	01
12	Heat Stages	02
13	Online Ups 5kva	01
14	Servocontroller Power Stabiliser	01
15	Power Genset 25 Kw	01
16	Vertical Autoclave	01
17	Set of Eppendorf of Micropipette Set with stand and tips holder	02
18	Misc. lab items like Vortex etc.	01
19	Refrigerator	01
20	Denudation Pipette for Bovine Oocytes	02

ਸ਼ਰਤਾਂ :

- ਈ-ਟੈਂਡਰ ਮਿਤੀ 01-08-2023 ਨੂੰ ਸ਼ਾਮ 5:00 ਵਜੇ ਤੱਕ ਆਨਲਾਈਨ ਜਮ੍ਹਾਂ ਕੀਤੇ ਜਾਣੇ ਹਨ ਅਤੇ ਇਹ 02-08-2023 ਨੂੰ ਸਵੇਰੇ 11:00 ਵਜੇ ਖੋਲ੍ਹੇ ਜਾਣਗੇ। ਹੋਰ ਨਿਯਮਾਂ ਅਤੇ ਸ਼ਰਤਾਂ ਦੀ ਡਿਟੇਲ ਲਈ, ਕ੍ਰਿਪਾ ਕਰਕੇ ਵੈੱਬਸਾਈਟ <http://eproc.punjab.gov.in> ਤੇ ਜਾਓ।
- ਸ਼ਾਰਟ ਟਰਮ ਈ-ਟੈਂਡਰ ਦੇ ਵੇਰਵੇ ਵੈੱਬਸਾਈਟ www.husbandrypunjab.org ਤੋਂ ਵੀ ਪ੍ਰਾਪਤ ਕੀਤੇ ਜਾ ਸਕਦੇ ਹਨ।
- ਸੋਧ ਪੱਤਰ ਜੇਕਰ ਹੋਵੇਗਾ ਤਾਂ ਉਹ ਸਿਰਫ ਉਪਰੋਕਤ ਵੈੱਬਸਾਈਟਾਂ ਤੇ ਹੀ ਅੱਪਲੋਡ ਕੀਤਾ ਜਾਵੇਗਾ।

(Handwritten Signature)
10/07/2023

(ਡਾ. ਰਣਬੀਰ ਕੁਮਾਰ)

ਵਧੀਕ ਮੁੱਖ ਕਾਰਜਕਾਰੀ ਅਫ਼ਸਰ

10-07-23

ਫੋਕਸ ਨੰ: 0172-2217084

ਟੈਲੀਫੋਨ ਨੰ: 0172-2217083

ਈ-ਮੇਲ : pldb68@gmail.com