

**COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
JABALPUR**

No. 731/Store/Vety./2018

Jabalpur Dated 07/03/2018

To,

The IPRO,
Nanaji Deshmukh Veterinary Science University,
Jabalpur

Subject: - Regarding inviting Short Tender notice for purchase of Instruments for the financial year 2017-2018.

Please find enclosed herewith the **Short Tender Notice for purchase of instruments** for wide publicity through newspapers and its downloading from our website **www.mppcvv.org**.

**DEAN
COLLEGE OF VETY. SCI. & A.H.
JABALPUR**

NANAJI DESHMUKH VETERINARY SCIENCE UNIVERSITY
COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY
JABALPUR (M.P.)

No. 731/Store/Vety./2018

Dated 07/03/2018

SHORT TENDER NOTICE

Sealed tenders are invited from the reputed manufacturers and their authorized dealers for supply of Equipment Items.

The tender's document including detailed specifications, terms and conditions of supply can be directly downloaded from our website www.ndvsu.org. Tender for each item may be submitted with IPO/D.D as Tender Cost worth Rs.1,000/- along with EMD separately for each tender positively by Registered Post on 21.03.2018 at 05:00PM. Tender will be opened on 22.03.2018 at 11:00AM.

Dean
College of Vety. Sci. & A.H.
Jabalpur

College of Vety. Sci. & A.H., NDVSU, Jabalpur (M.P.)
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DEAN

**TERMS & CONDITIONS OF SHORT TENDER FOR PURCHASE OF EQUIPMENT
ITEMS DURING THE YEAR 2017-2018**

No. 731/Purch./Vety./2018, Dated 07/03/2018

M/s. _____.

- 1 The tender document may be downloaded from the website of the University(www.mppcvv.org).Tender has to be submitted along with **Indian postal Order or Demand Draft of Rs.1,000/-** in favour of the **Dean, College of Veterinary Science & Animal Husbandry, Jabalpur**. The tender cost of Rs. 1000/- is payable for **each instrument separately**. Tenders must be submitted in sealed envelope addressed to the undersigned by **Registered Post only** and with acknowledgement due so as to reach on or before **21.03.2018 up to 05:00 P.M. It is advisable to send the tender envelope for each instrument by registered post separately. The tender after due date and time will not be accepted at any cost.** The envelope cover shall bear **the address of the tenderer along with name and number of the item/instrument as per the tender document.**
- 2 The tender without tender fees will not be valid and hence it will be rejected.
- 3 The technical bid of the tender will be opened in presence of the tenderers or their authorized representatives at **11:00AM on 22.02.2018**. In case any tenderer fails to present himself on the appointed time, the competent authority shall have the right to open the tender in their absence.
4. The tender will be based on **two bid system**. The envelope **A** will contain technical bid and envelope **B** will contain the financial/price bid.
 - A. Document to be kept in envelope A (Technical Bid)**
 - Firm Registration Fees should be deposited by online in the account of Dean, College of Veterinary Science & Animal Husbandry, Jabalpur, SBI A/c No. 32677269476 and attached the documents of registration fees. Firm has to registered himself in the college for participating in the tender, if firm is not registered then the firm is not eligible for participating in the tender. If any firm has been already registered in the college, will not desire to submit the registration fees or registration documents. The registration fees will be deposited in the college account up to 22.03.2018 positively.
 - Earnest money of the instrument as mention in appendix A.
 - Sale tax registration certificate along with TIN No.
 - Firm/tenderer copy of PAN issued by Income tax department.
 - List of installation of instrument in reputed national or international institute/university along with 2 to 3 satisfactory report of user from India.
 - A copy of registration in state/municipal corporation.
 - Firm/tenderer should provide the detail of Income Tax for last two years
 - Firm/tenderer should furnish the copy of supply order of Rs. 10 lakhs during last 3 years or copy of supply order of Rs. 5 lakhs in financial year 2016-2017.
 - Firm/tenderer should provide the self attested no-relationship certificate.
 - The copy of all the required international certifications must be enclosed.
 - The firm/tenderer should submit the compliance format (Appendix C).
 - B. The envelope B will contain the only price of the instrument in enclosed format (Appendix B). The price should be written on letter head of company, sealed and signed by authorized person of the firm/tenderer. The envelope B open only if firm/tenderer will qualified technical bid.**
 - C. Envelope 'C' will contain both envelope A + B. The S.No. of all the instrument quoted by the firm must be written on C envelope.**
5. The list of technically successful tenderer of each item will be notified on or before 24.03.2018 and upload on web site.

- 6 **The price bid will be open on 26.03.2018 in presence of the successful firm/tenderer of all the items.**
- 7 The tender shall not be acceptable without the receipt of earnest money/security deposit in the shape of **Fixed Deposit Receipt (FDR) mentioned along with the name of instruments** issued by any Nationalized Bank, in favour of **“Dean, College of Veterinary Science & Animal Husbandry, Jabalpur,”** which will be refunded after warranty period, in case of acceptance of the tender.
- 8 The amount of earnest money/ security shall be refunded in full if tender is rejected.
- 9 The above security is taken for due performance of the contract as per provisions of the conditions mentioned in tender form. The same will be refunded on the expiry of the contract on successful completion of the supply with reference to specifications with proper supply and adjustment of any loss by way of purchasing the goods from other party / parties in case of dishonoring of the indent for supply and deliberate non supply.
- 10 Specifications are attached as **APPENDIX “A”** along with Terms & Conditions.
- 11 Quantity of the items to be purchased will depend on the requirement and their shall be no obligation to place order for any quantity of the item.
- 12 **Reputed Manufacturers and their authorized dealers should only submit the tenders for Appendix No. “A” without which no tender will be accepted.** In case authorized dealers is submitting the tender, certificate of authorized dealership from the manufacturer must be enclosed along with the tender documents. **Sub-dealers authorized by authorized dealer are not eligible for participation.**
- 13 Tenders shall not be accepted without Goods and Service Tax and Sales Tax registration number of the firm.
- 14 The competent authority, **“Dean, College of Veterinary Science & Animal Husbandry, Jabalpur”** reserves the right of accepting the tender in part or whole or distribution of the supply between one or more tenderer.
- 15 The submission of a tender by a tenderer implies that he has read the terms and conditions of tender/contract and is fully aware of the scope and specification of the supplies to be made. He also must satisfy himself regarding the suitability and availability of the materials as per the tender document.
- 16 The competent authority (**Dean, College of Veterinary Science & Animal Husbandry, Jabalpur**) reserves the right to increase, decrease or withdraw any item/items of supply during the contract under tender and the tenderer will be bound to comply without any claim for compensation.
- 17 **The rates quoted shall be F.O.R. delivery at College of Vety. Sci. & A.H., Jabalpur for Appendix A.** The rates quoted should be inclusive of packing and forwarding charges loading/unloading/handling charges, freight, full risk coverage, insurance, etc.
- 18 All losses during transit i.e. breakage and shortage etc. will have to be supplied by the tenderer at his own Cost within a period of **15 days** from the date of receipt of notices in this regard.
- 19 The undersigned does not bind himself to accept only the lowest rates, and decision of the purchase committee shall be final and non-challengeable at any case. Normally lowest tender will be considered. However, in special cases, in case of minor difference in cost the instrument having addition special feature if quoted by company may be recommended for purchase.
- 20 The tenderer shall not submit whole or any portion of the contract to any party or parties, else the competent authority is free to cancel the contract and forfeit the security deposit.
- 21 The tenderer shall arrange to supply the commodities within **2-4 week** (For imported items within 06-08 weeks) from the date of receipt of the supply order from the constituent units of the university, unless otherwise indicated in the supply order. In case the tenderer fails to execute the orders of supply within the stipulated period, the competent authority (**Dean, College of Veterinary Science & Animal Husbandry, Jabalpur**) will forfeit the security amount and will be free to make alternate arrangement for purchase of goods.
- 23 **The GST/CST wherever applicable for a particular instrument, has to be shown separately which will be deducted by the institute and certificate regarding this will be issued by the institute.** All other taxes, if any, has to be paid by the supplier himself.
- 24 **Although the NDVSU, Jabalpur does not have the DSIR certification for custom exemption, but have importer exporter code. Thus, if possible, especially for costly equipments (> 5.00lakhs) the imported instruments may be imported directly in favour of unit of the University, so that GST/CST will not be applicable.**

- 25 Single rate should be offered for the entire tender period i.e. up to **31.03.2018**. Rates quoted for less than this period are liable to be rejected.
- 26 The agreement bond should be executed mentioning that the **company will abide by the tender terms and condition on a non-judicial stamp paper worth Rs.100/-** within two week by the successful tenderer. In the event of failure on the part of any successful tenderer to execute the agreement bond on non judicial stamp paper within the prescribed time limit, **“Dean, College of Veterinary Science & Animal Husbandry, Jabalpur”** will be competent to forfeit the security deposit of such successful tenderer.
27. **International certifications (CE/EU/ISO etc.) as indicated for each item separately must be submitted along with the technical specification in envelope A.**
- 28 In case of any dispute arising out of this contract, the arbitration power rests with the Vice-Chancellor, NDVSU, Jabalpur whose decision will be final.
- 29 Tenders once submitted the tenderer cannot withdraw the tender.
- 30 Tenderer has to write clearly the name, address, E-mail and telephone/mobile number of authorized person of the firm.
- 31 **Please quote the rates in Indian Currency only.**
- 32 **In case of any dispute judicial area will be Jabalpur High Court only.**

DEAN
College of Vety. Sci. & A.H.,
Jabalpur

LPM-01 Automatic swinging cow brush -

- Rotating at 360° revolution suitable for cattle over one year old
- Should have solid Swinging brush of approx 50 cm diameter with long bristles for brush grooming of cows all over
- should have automatic on/off with one switch for additional safety
- Rotating speed – approx. 26-31 RPM
- Should have provision for Wall mounting (standard) and Post installation
- Voltage 110-230 V AC over load protection

VAN- 02 Veterinary Post Mortem Kit

- Material : stainless steel
- Rustfree
- Ultrasonic cleaned,
- Polished,
- Individually packed

VAN- 03 LED SCREEN/ SMART TV

- IPS 4K
- 43- Inches
- 1920X1080 Pixel resolution
- Intel Wi Di Tecchnology
- Telly Bean Technology
- 5 Star rating
- Min. 1 Year warranty

VAN- 04 Demonstration model of Cow

Model Fiberglass Unbreakable Material

VGO- 05 Color Doppler Ultrasound Unit for Veterinary Applications;

- Unit should be able to give very high image quality for animals scanning with advance technologies like compound imaging for better cardiac contrast resolution, tissue differentiation and edge detection, equivalent to high end cart based systems. Please specify the technology.
- Unit should be compact, durable & less than 5 kg in weight.
- System should have both online (Read) as well as offline(Write) zoom facility
- Imaging modes of Real time 2D, Color Doppler, Power Doppler and Pulsed wave Doppler must be available.
- System must have fast start up to scanning in less than 30 seconds from off condition, for use in critical and emergency field situations.
- System should support transducer technologies like phased array, convex, linear, Trans rectal for use on small & large animals.
- The system should have a broadband architecture with an operating frequency of at least 1 to 15 MHz
- Cine memory should be available on all operating modes.

- The system shall process a dynamic range that is at least 165db. The system must display at a maximum depth of 35 cm.
- The system must have dedicated calculation packages for basic cardiac & obstetrics measurements in Equine/Bovine/Ovine.
- Flat LCD/ TFT monitor of at least 10 inches with flicker free image.
- Alphanumeric soft keys backlit and splash resistant keypad with easy access scans controls, facility to sanitize the system keyboard to avoid cross contamination.
- The system must have the ability to function by AC/DC or battery power with the same degree of functionality, the battery life (run time) shall be at least 2 (Two) hours, this need to demonstrate.
- The system must have archive capability for storage & retrieval of images and clips. It should have atleast 2 USB slots, which allow for direct sharing of images (JPEG) and clips(AVI) to a PC.
- Unit & transducers must be rugged, resistant to breakage & damage on fall/hit so as to withstand veterinary & field situations.
- System should have both European CE and US FDA quality certification.

Transducers & other accessories to be supplied as standard:

- 2-5 (+/-1 MHz) MHz multi-frequency broadband curvilinear transducer for general abdominal, Obstetrics scanning for large animals with Biopsy Guide facility.
- 5-10 MHz (+/-1 MHz) broadband Linear array transducer for obstetrics, urology & vascular applications in large animals.
- Approx. 50-mm Trans rectal probe broadband linear array for obstetric, musculoskeletal, lung and urologic imaging.
- 5-8 MHz transvaginal probe for large animal transvaginal examination.
- Trolley from the same manufacturer.
- Triple Transducer Connector with electronic switching facility to toggle between transducers.
- Up gradation with Needle visualization software should be possible which can dynamically optimize the image to give the best possible view of the needle in real time.
- Black/White Thermal printer

WARRANTY: Main unit and transducers should be covered with comprehensive onsite warranty for five years commencing from the date of issue of installation certificate. The firm must arrange for PMDT registration of the machine.

VGO- 06 Infrared thermal Camera

- Resolution 100-120X 90-100
- Fixed focus
- Should have three presets of infrared fusion with the facility of autoblend
- Should have quick documentation facility
- Detector Resolution (min.) – 12,000-14,000 Pixels
- Detectable temperature range should be from -30 to +300 °C
- Precision/ Accuracy should be \pm
- Temperature measuring accuracy of reading (or better) - ± 2.0 % °C
- Colour LCD Display - $N \geq 7$ cm
- Thermal sensitivity (NETD) - $N 0.02^{\circ}\text{C}$ at $+30^{\circ}\text{C}$
- Minimum focus distance should be 0.4 to 0.5 m
- Should have facility of touch screen monitor
- Should be able to operate in full color infrared range
- Should be able to produce full color visual image output
- Should have facility of making and analyzing measurements

- Image output should be in standard JPEG format and should have facility of visual video recording
- **VM- 07 Portable Mastitis Detector/Handy Hand Electro Scan**
 - 4x4Q, Should have 4-cup design with a 4 quarter display
 - Should be detect medical condition separately for each quarter, displaying the difference between quarters
 - Battery operated
 - Measurement control single chip microcomputer
 - LCD display 4x3 digits
 - Measuring range 10-990 units; resolution -10 units
 - Operation and storage temperature between 5 to 45°C
 - Warranty 36 months

VM-08 Deep Freezer Vertical -50⁰C or more (-86⁰C)

- Temperature range -50 to -86⁰C
- High quality and effective compressor
- Gross capacity minimum 300 liters or more
- Refrigeration system frost free
- Defrost system automatic type
- Control System- Microprocessor control, keyboard lock and password protected configuration page, delayed start and safe stop interval between restart and being terminated
- Display- Large screen LED display
- Door- Front opening lockable door with full height handle, with vacuum release port
- Power Supply- 220V; 50Hz/60Hz
- Warranty 36 months

VM-09 Generator 7.5 KV

- Should have Fuel Tank Capacity Range 15- 50 Litres
- Cylinders- 1 ; Phase: Two Phase
- Weight Range 50-100 Kgs
- Minimum Speed 1500 rpm
- Battery Capacity 88 Ah
- Hand start
- Warranty 36 months

VM-10 Somatic Cell Counter For Milk

- Analysis time - less than 30 seconds
- Capacity - Min. 100 samples per hour
- Working Factor- Min. 1,000
- Measurement range – 10,000 to 4,000,000 cells/ml.
- Optimal 100,000 to 1,000,000/ml

- Software - Suitable computer software for documentation and presentation.
- Printer - External printer for documentation
- Warranty 36 months

VM-11 Electronic Balance

- Maximum weighing 200 to 220 gram and minimum 0.0001gram
- Display update should be 0.1 to 0.4 seconds
- Operating temperature should be +10°C to +40°C
- High contrast, LED /LCD display
- Fully automated internal calibration
- Power source 120 VAC AC adaptor
- Built in standard RS-232 C interface
- Warranty 36 months

VM-12 Water Purification System

- Compact and easy to use
- Battery operated with no need of electric outlet
- Automatic low/high pressure cut off
- 3 Stage pre treatment system
- should be capable of producing >1 Megaohm resistivity with pretreatment cartridges, Reverse Osmosis, Electro Deionization with feed water acceptance of upto 2000 micro Siemens conductivity
- should have carbon cartridge and tank vent filter
- Capacity purified water 3- 5 liter/day
- Should have Conductivity cell after RO which can reject the contaminants as well as the permeate water quality
- Warranty 36 months

VM-13 Micro Centrifuge Machine

- Maximum capacity 18 x 2.0mL
- Should have RCF 14,800 x g
- Maximum Angle 45° Max.
- Maximum Speed 21 000 rpm
- Diameter (Metric) Tube 11mm
- Should have Fixed Angle Length (Metric) Tube 50mm
- Radius (Metric) 8.5mm
- Dual Row Rotor with Screw-On-Lid Item
- Warranty 36 months

VM-14 Ultra Short Throw LCD Projector with Interactive panel

- Resolution 1024x768 or better
- Contrast Ratio 8000:1 or more
- Brightness 3100 ANSI lumens or more
- Short Throw Distance 2 feet to 3 feet or better
- Image Size / Projection Area 70 inches to 100 inches or better
- Compatibility HDTV Formats (720p, 1080i, 1080p, 575i, 575p), Digital Input (HDMI), Personal Computers, Standard Video, Component Video

- Aspect Ratio 16:10 (WXGA) or better
- Interfaces Mini USB, HDMI Inx1, MONITOR OUTx1, COMPUTER IN X2 Nos., LAN inputx1, Computer Audio- 1Nos., S Video Input With audiox1, Video Input with Audio x1
- Keystone correction +/- 15%
- projection system must be capable of project 90" image from distance of 25" or in same ratio

Motorized Screen with remote control

- Size 120" (Diagonal); Aspect Ratio 4:3
- View Angle 160 degree Free to stop any location
- Super high grain, Matt white fabric, Screen should be retractable and can be operated (pull down and wound back) via motion and preferably wireless remote control

VPP-15 Fully Automated Tissue Processing Unit Comprising :

Automatic tissue processor, Automatic paraffin Embedder, Automatic Microtome, Automatic stainer

a. Tissue Processor Unit

- Automatic, user friendly, microprocessor vacuum based Tissue Processor.
- Capacity of processing of minimum 30 tissue cassettes, stainless steel tissue basket.
- Reagent station minimum, 06 with preferably 3 wax station
- Temperature range of 50-65° C. Excess temperature cut off facility.
- Provision to minimize evaporation of reagents and exposure the hazardous fumes.
- Agitation facility for quick processing
- Vacuum and carbon filter facility.
- Facility of manual intervention. Essential accessories with 200 tissue cassettes.

b. Paraffin Embedder Unit

- Microprocessor controlled tissue embedding system.
- Consisting of heated paraffin station with cold plate and heated electric forcep.
- Heating paraffin station should have - paraffin reservoir, tissue cassette holding area, / box. , with temperature setting range from 50°C to 70°C.
- Optimum illumination of the working surface by LED lamp.
- Heated removable waste tray.
- Essential accessories such as a Cover for Cold plate area, Embedding rings, pack of 1000, Stainless steel embedding molds 24 x 24 x 5 mm-12 qty, Stainless steel embedding molds 24 x 30 x 5 mm--12 qty, Stainless steel embedding molds 24 x 24 x 12 mm-12 qty should be quoted along with the instrument.

c. Microtome Unit

- With specimen feed system, hand wheel and LCD display.
- Option for sectioning and trimming of tissue section.
- Easy to operate, Section thickness -0.5-60µm with increments of 0.1 µm
- Blade holder setting angle upto 10° with marking of 0, 5 and 10° in the blade holder. Specimen retraction in the return stroke.
- Precise specimen orientation of 8° in X-Y with anti tilt feature.
- Blade holder for both High profile blades and low profile blades setting.
- Security features – specimen clamp, emergency knob, knife holder.
- Disposable finger guard protection should be available.

d. Staining Unit

- Staining station with LCD monitor.
- Staining minimum 25 capacity.
- Easy to programme different staining methods like H&E, PAS.
- High throughput robotic stainer for multiple staining applications.
- Staining station for 18-24 reagents capacity of minimum 100 ml
- Integrated oven with temperature setting from 30° to 65°C for optimal slide drying.
- Continuous loading and unloading of slides via rack entry and exit door, middle intervention provision.
- Efficient drain facility and efficient water supply.
- Fume extraction fan with charcoal filter to remove hazardous fumes. Gentle vibration to slide rack during lifting to reduce carry over contamination. Audible warning buzzer in case of any error during operation.

VPP-16 Ultra Heavy Duty Tissue homogenizer

- Application: DNA/RNA extraction, Cell Lysis, Protein Extraction.
- Output of minimum 700 watts of power
- Rpm ranging approximately 500 to 10,000
- Quickly homogenizes tissues and solids -from 0.25 to 30 liters
- Viscosity max approx 5000 m Pas. Frequency 20-40 KHz
- Continuous or pulsed ultrasonic.
- Easy to operate on/off switches, electronic speed control, LCD display
- Programmable machine can store 15-20 programme.
- Dispersing element- stainless steel (can be cleaned quickly and easily)
- Provided with the easily cleanable probe
- Option should be provided with all essential accessories required for the running of the equipment/

VSR-17 FORK LIFT

- It shall have a compact design so as it could to be operated in moderate space like gallery/ corridors of veterinary hospitals
- **Load Carrying Capacity** : 1000 to 1500 Kg in normal terrain
- **Power** Diesel
- **Tyres: Front / Rear** Solid without air
- **Wheel (s) Front / Rear** 2/2
- **Fork Size (LxWxT):** has to be modified for large animals (4x6x2feet) As per mentioned size for large animals like cattle/ buffalo/ horse (4x6x2feet)
- **Tyres Sizes** Front: 6.00- 10 to 12 -10 to 12 PR
Rear 5 to 8– 10 PR
 - **Brake (s)** Service Hydraulic foot pedal
Parking Mechanical – Hand Lever
 - **Engine Horse power :** Approx. 40 bhp @ 2500- 3000 bhp/r.p.m
 - **Number of Cylinders:** 04 Nos.
 - **Fuel Tank Capacity :** 40 - 60 Liters. approx.

Operating Pressure For Attachment- 150-200 gm/cm²

- All the standard accessories/ components complete in all aspects will be supplied by firm.
- The firm should be a reputed and ISO certified.
- There must be **05 to 08** installations in M.P.
- Two year AMC will be provided by firm on site.

VSR-18 Phacoemulsification Machine (model pertaining to veterinary (canine) ophthalmic surgery)

Technical Specifications

- Fluid delivery should be Gravity fed and continuous along with foot operated.
- I/V Pole should be manual and automatic both.
- Hand piece should be light weight, cool 40kHz.
- Should have Continuous, pulse, burst, M pulse modes.
- U/S power should be up to 100%.
- Should have Peristaltic pump.
- Should have 5-500 mmHg linear/non-linear vacuum level.
- Flow rate should be up to 1-50cc per minute or better (linear / non linear)..
- Diathermy should be bipolar and approx. 7Watts.
- Power should be between 5-10 watts.
- Vitrectomy should have single cut to high speed cutting, approx. 50-2500 cuts/min.
- Should have all modes like U/S, I/A, CAP, DIA & VIT.
- Should have foots switch for Ultrasound, Vitrectomy and Aspiration.
- Should have LCD display with touch control.
- Should have video overlay facilities in all modes.
- Should occupy minimum space along with trolley and tray.
- Electrical specifications - Approx.110-240V, 50/60 Hz, 6 Amps.
- Power consumption approx.150Watts.
- Should be MICS compatible
- There must be 05 – 10 installations in M.P./ India

VSR-19 Shadow Less Ceiling Operation Theatre Lights

Main Head / Satellite Head

- Light head diameter: approx.50 – 60 cm
- Illumination intensity @1m: approx.120.000 – 1,60000Lux
- Focus diameter : approx.15-20cm
- Color temperature: approx.4000-4500 K
- CRI (Color Rendering Index) : approx. 90-100
- Focus : adjustable
- No. of LEDs : approx. 60-100
- LEDs lifetime : 40000 to 50000 hrs
- Light rotation: 360 degree
- Brightness control: By capacitive touch control
- Arm length: : approx. 4-5 feet
- Arm Rotation: approx. 180 degree
- Power back up: approx. 30 min to 1 hour

- Should have warranty of 03 years on all parts
- The firm should be well reputed and ISO certified.
- There must be 05 – 10 installations in M.P.

VSR-20 Shadow Less Pedestal/ Mobile Operation Theatre Light

Technical Specifications- Main Head

- Diameter of Light: 40- 60 cm
- Illumination intensity @ 1m: approx. 1 Lakh lux (Min)
- Focus diameter : approx. 10- 20 cm
- Color temperature: approx. 4300-4500 K
- CRI (Color Rendering Index) : approx. 90-100
- Focus : adjustable
- No. of LEDs : approx. 60-90
- LEDs lifetime : 40000 to 50000 hrs
- Light rotation: will be preferred
- Brightness control: By capacitive touch control - Multistep
- Power back up: approx. 30 min to 1 hour
- Warranty/ AMC Should have warranty of 03 years on all parts
- The firm should be well reputed and ISO certified.
- There must be 05 – 10 installations in M.P.

VSR-21 HIGH FREQUENCY X-RAY MACHINE

X-RAY GENERATOR

- High Frequency X-Ray Generator with micro-processor controlled high frequency
- Power output of generator should be 80 KW to 100 kW suitable for large animal radiography.
- Radiographic KVP Range should be 40 to 200 KV.
- mA Range (Rad.): upto 800 mA or higher.
- Exposure time (Rad.): 1ms to 3Sec.

X-RAY TUBE AND COLLIMATOR

- Dual focus Rotating Anode with minimum 80-100KW capacity.
- Dual focus-focal spot 0.6mm/1.2mm with 8000 rpm or more
- Anode heat storage capacity of tube should be more than 1.0 MHU.
- Collimator with auto shut off facility should be provided.
- Output X rays should be able to penetrate a minimum thickness of 100 cm.
- The generator and X ray tube system must be manufactured by same manufacturer.

CONTROL PANEL

- LCD / LED Control Panel can be supplied in Floor or Wall mount with Spill Proof design.
- Tube focal spot selection Switch.
- In build stabilizer for complete system.

TUBE STAND:

- Ceiling mounted tube stand, Horizontal movement more than 2 m, Vertical movement more than 1m, Transverse movement 1.5 m,
- Tube rotation on its own axis: 180 degree.

VERTICAL BUCKY STAND:

- Vertical Bucky Stand with oscillating Grid of Ratio 8:1

- The stand is floor-mounted type & can accommodate cassettes up to 14" X 17".
- The Bucky is tilted in 6 steps of 15 degree Angle each for various Radiographs.

POWER REQUIREMENT:

- The unit should be operable on 3 Phase, 440Volts AC 50Hz with line resist less than 0.4 Ohms. Line Regulation +10%.

TABLE:-

- Floatex table with 4-way movement of the table top
- Motorized reciprocating bucky with Grid of size approx. 14" X 17" or more, Ratio 8:1
- The table top should be made of low radiation absorption, waterproof material.
- Table Accessories like stainless steel cassette tray, Compression band should be provided.

General Requirements

- The firm should be a well reputed, ISO certified and approved by AERB for radiation safety
- There must be a minimum of 5-10 installations in MP/India.
- The demonstration at site to fulfill the radiographic requirement for large animals.
- Warranty and AMC for three years on all components.

VPA- 22 Binocular Microscope

- Ergonomic & compact design
- Seidentopf observation head
- *Fixed quadruple nose piece
- Mechanical stage, travel range approx. 76mm x 30 mm
- *Objectives: Plan acromatic 4x/0.10, 10x/0.25, 40x/0.65 and 100x/1.25 oil (Anti fungus)
- *Eye piece: Wide field 10x/18 mm (Anti fungus) with eye guard
- *Whole system should be Anti fungus treated
- *Condenser: Abbe type with aperture iris diaphragm NA: approx. 1.25
- SMPS circuit for constant voltage output
- Observation Tube: 30- 45 degree inclined binocular tube, interpupillary distance adjustment range: approx. 50 - 75 mm
- Focusing: Stage Height movement (coarse and fine focus graduation)
- *Built in transmitted illumination system LED
- **Voltage: approx. AC 100 - 120/220 - 240**
- **Optional Accessory:** Mirror unit, 20x eyepiece (anti fungus)

VPA-23 Stereo Zoom Microscope with Digital Imaging System

- *Apochromate Stereozoom, zoom ratio approx.12:1
- *Magnification range 10x-200x or better
- Apochromatically corrected zoom optics
- Observation tube Viewing angle
- Working distance min 75mm or more.
- *Trinocular Video/photo tube
- *Eyepiece 10x
- *Objective 0.5x Apochromate to 4.5x Apochromate
- *Illumination -Transmitted light stage with efficient LED or cool light.
- Reflected light illumination.
- **Digital Imaging System**
- *Digital Microscopy scientific Colour Camera
- 5 million pixel resolution or better

- Approx.5-15 frame per second capture capability
- Sensitivity equivalent to ISO 60 or better
- Software should be comes along with camera for acquiring & capturing of images.
- Camera should be compatible to attachment with desktop.
- C-Mont – 0.5x c mont adapter
- ***Software** – Automatic calibration , point to point measurement , annotation, Auto counting, live image capture, multipoint image capture etc.
- ***Hardware** – Latest HP/DELL Core i5 PC with 8GB RAM, 500GB HDD, “approx. 18.5” color LED monitor or better.
- All required accessories, adapter power cable should be provided.
- Should be supplied with 2KV a online UPS.
- Microscope camera and software should be from same manufacturer for better compatibility.
- *Firm should provide the CE/ISO certification
- Should provide 2 years guaranty/warranty

VPA- 24 LCD Projector

- Advanced connectivity features for convenient and hassle free projections
- Should be portable, compact and light weight
- Should be based on 3-chip LCD technology, HDMI Input
- Brightness of up to 3200 lumens
- Contrast ratio of approx. 15000:1
- Resolution: approx. SVGA(800x600)
- Throw Ratio: approx. 1.45 to 1.96
- Should have horizontal keystone adjuster
- Should have automatic vertical keystone detection and adjustment
- Life of Lamp approx. 5000-10000 Hours
- Audio Features: should delivers approx. 2W monaural sound output.
- Noise Level: Should have <40 dB/ 30 dB (normal/ eco) noise level.
- Connectivity: should be equipped with a wide range of interfaces like HDMI, USB, VGA and LAN
- Additional features include direct power on/off, approx. 10 seconds start-up period, split screen, new home screen, lock, password protection function
- Warranty: Minimum 3 years
- ISO or equivalent certified

VPA-25 Stereomicroscope

- Ergonomic design
- Working distance Approx. 105 mm
- Smooth magnification changeover
- Complete with paired widefield eyepiece 10x
- Whole system should be Anti fungus
- Having with in-built Light Stand (Incident: 6V15W Lamp / Transmitted : 5W Fluorescence Lamp)
- With 2x & 4x in-built objectives
- Supplied with 15x and 20x eye piece, ISO certified

VPA- 36 Laminar Flow Bench Vertical

- Direction of Flow : Vertical down to worktable
- Cleanliness Level : Class 100
- Noise Level : Max. 65 db

- Controller : Microprocessor Controller based with LCD display,
- Working Table : Made of perforated stainless steel sheet
- Front Door : Made of clear perspex sheet
- Pre filter and HEPA Filter: Efficiency 99.97% – 99.99%
- Blower Assembly: Single phase, directly coupled with a pair of metallic centrifugal impeller.
- Standard Accessories : Pressure manometer, Gas inlet nozzle, floor leveling screws & wire cord
- Power Supply : 220 V 50 Hz, Single Phase, AC supply
- Construction Material : Full body made of Mild Steel / G. I. Sheet duly powder coated with S. S. table top
- UV Tube, Fluorescent Light, Front Door Interlocking
- Working Table size – Approx.1200x600x600mm(4’x2’x2’)
- UV Tube Life Meter, HEPA Filter Life Meter
- Microprocessor Based LED+LCD Controller
- Initial self cleaning cycle
- ISO Certification

VPA- 27 Computer with printer and UPS

1. **Computer:** one

Specification: Branded Desktop computer with preloaded Windows 8 professional operating system; CPU: Intel core i3 or higher configuration; Memory: 4/8 GB DDR3 RAM or higher ; Hard disk drive 1TB or higher, Preinstalled MS Office, Intel® HD Graphics 630

Monitor: LED/TFT Digital colour monitor

Key board: 104 keys and Optical mouse with USB interface

Ports: 06 USB ports, DVD ROM drive, CD writer

2. **Printer:** One

Specification: HP LaserJet

3. **UPS:** One

Specification: APC 700

VPA-28 Digital SLR Camera

- High resolution 16.2 mega pixel or more
- DX- format CMOS image sensor,
- High speed 6 fps continuous shooting upto 100 shots, ground breaking 2.016 pixel RGB (3D color sensor, exped 2 image processing and 14-bit A/D conversion,
- Breath taking full 1080HD movies full time auto focus, dynamics
- ISO range from 100-6400,
- Customizable 39 point AF system ,
- Compact but durable with magnesium alloy top and rear cover, superior weather and dust seals, along with routine and tele lenses.
- 3D sweep panorama, Lens AF-S70-200 mm f/2.8 GED VR II, AF-S 16-35 mm f/4 G EDVR.
- With long battery backup, 16 GB Memory card and other accessories