

دعوة العطاء رقم (٢٠١٩ / ١٧)

استناداً لأحكام المادة رقم (٢٤) من نظام اللوازم رقم (٣٢) لسنة ١٩٩٣ وتعديلاته. يدعو المركز الوطني للبحوث الزراعية المنافسين المتخصصين لتقديم عروضهم لشراء:

الرقم	قائمة اللوازم	المطلوب	
		الوحدة	الكمية
1	Microscope	جهاز	١
2	Analytical balance	جهاز	١
3	Hot plate stirrer	جهاز	١
4	PH meter	جهاز	١
5	Multi channel pipette	١	١
6	Micropipette set – Variable Volume	set	One set
7	RCR work station	جهاز	١
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وفقاً للمواصفات والشروط الخاصة والعامة المرفقة بهذه الدعوة في موعد لا يتجاوز الساعة (12) الثانية عشر بعد الظهر من يوم الاثنين الموافق ٢٠١٩ / ٠٧ / ١٨.

واقبلوا احترامي،،،

المدير العام

الدكتور نزار جمال حداد

ثمن النسخة (٢٠) دينار غير مستردة.

المرفقات:

١. تعليمات العطاءات رقم (١) لسنة ٢٠٠٨ (الشروط العامة للدخول في العطاءات والتعاقد).
  ٢. جدول المواصفات عدد (٤) ورقة.
  ٣. الشروط الخاصة عدد (2) ورقة.
  ٤. ملخص عرض العطاء.
  ٥. نموذج سند كفالة دخول العطاء.
  ٦. نموذج سند كفالة حسن تنفيذ.
  ٧. نموذج سند كفالة صيانة.
  ٨. نموذج تعهد شخصي.
- على المنافص التأكد من المرفقات وعددها، المركز الوطني للبحوث الزراعية غير مسؤول عن فقدان أو نقص أي مرفق أو صفحة بعد شراء دعوة العطاء ويحمل المنافص مسؤولية عدم قيامة بالتدقيق والتأكد من اكتمال الوثائق.

## المواصفات

### 1- Microscope:

1. Light microscope with high resolution camera and monitor used for routine life science work such as clinical hematology, microbiology, pathology
2. Body : ergonomic made from corrosion-proof, acid-proof and stain-proof material.
3. Binocular, sturdy, stable base body with focus adjustment controls
4. Eye piece :  
Paired, high quality, achromatic, widefield, 10x. inclined at 45 degrees, rotatable through an angle of 360 degrees
5. Objective lenses :  
Four objectives 4x, 10x,40x and oil immersion. All objectives should be wide field, achromatic and par focal. Each should be engraved with the following information's:-  
• Name of the manufacturer • Magnification and numerical aperture.
6. Nose piece:
  - a. Revolving nose piece to accommodate the objectives with click stops. It should be provided with ribbed grip for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment.
7. Sub-stage illuminator:
  - i. The system should have a build-in variable light source (Illuminator). This light source should be a lid illumination lamp ( 5 watt variable LED illuminator). LED bulb has a rated life of 20,000 hours. Or equivalent 20 W, 6 V Halogen lamp.
  - ii. The system should have an inbuilt protective/ safety device to withstand fluctuations of voltage from 140 V to 280 V
  - iii. The Illuminator should have a build-in field diaphragm for Kohler illumination
8. Focusing knob:
  - a. Co-axial coarse and fine focusing knobs capable of smooth fine focusing movement over the full range of coarse travel. The fine focusing movement should have sensitivity of two microns or less (finer) over the entire coarse focusing stop safety arrangement should be provided.
9. All optical parts including objectives, eye pieces and prisms should have anti-reflective coating which also gives anti-fungal property. Screen: Mountable 11.6" Retina HD Display (mounting hardware included)
10. Camera and monitor should meet the following specification (at least):
  - A. Resolution (Live) of camera: 1920 X 1080 6 M.P.
  - B. Sensor: 1/2.7"(0.5x C-mount recommended)
  - C. Frame Rate: HDMI (60fps); USB 2.0 (30fps)
  - D. Image Capture: High Speed SD Card (8GB)
  - E. Video Capture: HDMI: 1080p, 60fps to SD Card
  - F. USB 2.0: 1080p, 30fps to PC or Mac
  - G. Exposure Time: 0.001sec - 10.0 sec
  - H. White Balance: Auto
  - I. Settings: Gain, Gamma, Saturation, Contrast
  - J. Built-in Software and PC Imaging Software:
  - K. Advanced Camera Controls: live/still image measurement and annotation, flat field correction; extended depth of focus (focus stacking); image stitching; fluorescence image settings; fluorescence multi-color channel merge; HDR (High Dynamic Range) function

- L. Image Types: JPEG, BMP, TIFF and RAW
- M. Output Modes: Mode 1: USB 2.0 / Mode 2: HDMI
- N. System Compatibility: Windows XP, Vista 7 and 8 (32 or 64-bit)

- 11. All Configuration Accessories, spares and consumables required for installation and standardization of system to be provided
  - 12. Two years warranty
  - 13. Dust cover is provided
- All QC certificates are must and CE mark with and the IP RATING IP44- IP65

**2- Analytical balance:**

- 1. Aluminium alloy body material and stainless steel platter with clear glass wind shield
- 2. having sliding door opening/closing system
- 3. LCD display with backlight makes it easy to read in all lighting conditions
- 4. Overload Protection.
- 5. Calibration: touch key with built in or external weight.
- 6. Leveling feet and Level indicator
- 7. Can be connected to RS232 interface WITH USB to connect PC.
- 8. Maximum Capacity: 310 gm.
- 9. Readability: 0.0001 g
- 10. Repeatability : 0.0001 g
- 11. Linearity : 0.0003
- 12. Response time: 2 sec.
- 13. AC Adapter 220 Volts.
- 14. Tare range full
- 15. Platform dimension: 90 mm.
- 16. Balance dimension: in the range of 347x204x345 mm (L X W X H) (but not necessary )
- 17. Dust protective Covers
- 18. user and service manual in the English language or translated into English must be supplied

With all required ISO and CE certificates and with good IP (IP65)

**3- Hot plate stirrer:**

- 1. digital heating magnetic stirrer with coated material that ensures excellent resistance to chemicals acids, bases and solvents and scratches, is extremely easy to clean
- 2. Highly polished aluminium heating plate for optimum heat transfer
- 3. Heating temperature range of RT to 450° C
- 4. Digital LED display for both speed and set and actual temperature of medium.

5. Maximum stirring quantity should be 15 L with speed range of 50-1500 rpm and option of speedless.
6. Adjustable safety temperature limits (50 - 360 °C) for avoiding flash points of medium.
7. Control accuracy:  $\pm 0.5^{\circ}\text{C}$
8. Digital error code display.
9. Protection rating CEI EN 60529: IP 42
10. Warranty: 2-3 Years

Voltage: 220 V

#### **4- PH meter:**

- pH-range 0.00 to 14.00
- pH-resolution 0.01
- pH-relative accuracy  $\pm 0.01$
- Temperature range  $^{\circ}\text{C}$  0.0 to 100.0
- Temperature resolution  $^{\circ}\text{C}$  0.1
- Temperature accuracy  $^{\circ}\text{C}$   $\pm 0.5$  Calibration
- Max. 3 point,
- Display LCD
- Power supply 220 volt
- Data storage 99 measurements
- Temperature compensation
- LE438pH electrode,
- electrode arm,
- 2 X 4.01 & 2 X 7.00 & 2 X 9 buffer sachets
- Hard carrying case
- Calibration certificate for one year
- Battery operated/with suitable AC
- Protective Covers

Warranty 2 years

#### **5- Multi channel pipette :**

- 1- Multichannel pipette(8 channels) with rack or stand , volume 30-300  $\mu\text{l}$
- 2- Material of construction must be anti- corrosion and resistance for any chemicals and UV light
- 3- Increments [ $\mu\text{l}$ ]:1 , 4 digit is preferable
- 4- Built-in, streamlined tip ejector facilitates easy tip ejection and access to narrow necked bottles and tubes , with spring loaded tips cones so low tips attachment and ejection forces to reduce effort on arm
- 5- Fully autoclavable or you can autoclave tip cones as required
- 6- Ergonomics, light weight, designed to reduce the strain on hand and arm during pipetting . with the lowest weight and lowest operation forces
- 7- Accuracy and Precision values should be those laid down in the ISO 8655 standards
- 8- calibration certificate must be provided with each pipette
- 9- Easy to calibrate and maintain, and easy to disassemble for autoclaving

- 10- Manufactured as per ISO 9001:2008.. Each pipette should be individually calibrated according to ISO 8655 standards
  - 11- Spare Parts:are included Gaskets & Lubricants
  - 12- Compatible with universal tips
  - 13- Manufactured in USA OR EU from a well known company in pipette manufacturing
- Warranty for at least 1 year

**6- Micropipette set -Variable Volume:**

- 1. Variable Volume Micropipettes set with rack 0.5-10 µl, 5-50 µl, 50 - 200 µl, 10 - 100 µl and 100-1000 µl
  - 2. Material of construction must be anti- corrosion and resistance for any chemicals and UV light.
  - 3. Increments [µl]:1, and for the 1-10 µl 0.5 , preferable to have 4 digit
  - 4. Built-in, streamlined tip ejector facilitates easy tip ejection and access to narrow necked bottles and tubes . with spring loaded tips cones so low tips attachment and ejection forces to reduce effort on arm
  - 5. Fully autoclavable or you can autoclave tip cones as required
  - 6. Ergonomics, light weight, designed to reduce the strain on hand and arm during pipetting . with the lowest weight and lowest operation forces
  - 7. Accuracy and Precision values should be those laid down in the ISO 8655 standards Accuracy (±) %: 2.5 to 0.7 , and Precision (±) %: 1.5 to 0.3
  - 8. calibration certificate must be provided with each pipette
  - 9. Easy to calibrate and maintain, and easy to disassemble for autoclaving
  - 10. Manufactured as per ISO 9001:2008.. Each pipette should be individually calibrated according to ISO 8655 standards
  - 11. Color coded for each volume
  - 12. Compatible with universal tips
  - 13. Spare Parts:are included Gaskets & Lubricants
  - 14. Manufactured in USA OR EU from a well known company in pipette manufacturing
- Warranty for at least 1 year

**7- PCR work station:**

- 1. Table top one working station For Contamination control with filtered & sterilized air circulation for setting up of Polymerase Chain Reactions (PCR).
- 2. inner work area not less than 70W x 50D cm.
- 3. Shall be provided with three-stage filter system for active decontamination with high quality Prefilter (to capture large dust particles), Carbon filter (activated charcoal – to eliminate gases, odor, smoke, etc.) and HEPA filter (to blocks particles down to 0.3 microns) to create a particulate-free work area
- 4. HEPA filter rated at 99.99% efficient to remove particle down to 0.3 µm.
- 5. UV sources shall be provided at filter area and work chamber in order to ensure maximum sterility.
- 6. Noise Level: 65 decibel on “A” scale ± 5 as per NSF 49
- 7. Shall be equipped with fluorescent white light and suitable UV light arrangements.
- 8. Shall be provided with a safety shut-off switch which ensures ultraviolet light turns off automatically when the door is open.
- 9. Interior working surface shall be of antimicrobial coated metal (stainless steel) in order to minimize any microbial growth.
- 10. Built-in power outlets (minimum 3 nos.) shall be provided inside the chamber to allow operation of small equipment within the camber while preparing PCR reagent mixes.

11. Body and panels made from ethanol resistant material and front view panel shall be of acrylic or equivalent capable to block wavelengths below 400nm (UV light).
12. System should come along with the entire necessary accessory and should be ready to work
13. should be CE certified and comply with ISO/ASHRAE / NSF / USA&EN 12469 certification requirements.

Warranty 2-3 years comprehensive warranty

#### **8- Micro plate Incubator shaker:**

1. Compact Bench top shaker with temperature control range from Ambient to 100C
2. Temperature control accuracy  $\pm 0.5^{\circ}\text{C}$  of set point
3. Orbital shaking
4. Speed up to 1500 rpm with accuracy of  $\pm 2$  rpm and can be set without shaking.
5. Should have timer of up to 96 Hrs.
6. LED display for temperature, speed and running time
7. Audible alarm when time is finish or any wrong condition happened
8. Universal platform and clamps to hold 2 plates (96 wells)
9. Operational voltage -  $220 \pm 20\text{V}$ , 50 Hz
10. It should meet CSA, UL & CE standards

Two years standard warranty from the date of installation

#### **9- Autoclave:**

1. Table Top Steam Sterilizer with capacity 75-90 liter
2. Should be a fully automatic micro processor based High pressure, high vacuum autoclave for sterilizing material including agars, sterilization of solution in open & closed bottles, disinfection of materials and waste decontamination.
3. The sterilizer should have Rectangular /Cylindrical chamber
4. Door should be electrically controlled having fully automatic function with multiple safety arrangements.
5. Sealing system should be based on silicone seal.
6. Should have at least 50mm thick insulation materials on jacket and in doors to ensure low thermal losses. Working temp. Of the door should be less than  $45^{\circ}\text{C}$ .
7. Should be high grade Stainless steel.
8. Should have at least 8 pre programmed standard cycles plus 3 or more user programmable cycles
9. Working temperature adjustable from  $45^{\circ}\text{C}$  to  $135^{\circ}\text{C}$ .
10. Safe Working pressure range should be from 15 to 32 PSI (1.1 bar – 2.2 bar)
11. The materials in contact with steam (chamber, internal parts of the doors, piping, valves...) and steam condensates shall be made of high corrosion resistant stainless steel (e.g. AISI 316Ti or 316L) and where appropriate, coupled with sanitary-type clamp fittings.
12. Steel components that are not in contact with steam or steam condensate including the structure, jacket and external surface of the autoclave, will preferably be made of stainless steel AISI 304L, 304 or better. As an alternative, the external surface could be made of other materials protected against corrosion (e.g. epoxy painted).
13. The jacket (AISI 304 or better) and all the pipe work operating at elevated temperature will be insulated with non-toxic materials to be specified.

14. Quality System Compliance: Sterilizer should comply the quality systems as per ISO 9001:2000, EN ISO 13485:2003, and ISO 14001:2004. Sterilizer should be CE or FDA or BIS Certified
  15. IP 68 or any equivalent certificate to ensure quality
  16. Types of Cycles Process: Table Top Sterilizers should be equipped with Bprocess as per latest international standards
  17. Chamber: Should be made of S.S.316 & should comply the Pressure
  18. Equipment Directive (PED) & EN 13445 norms or equivalent. Chamber
  19. should have minimum 2-3 years warranty or should confirm 44-50,000 process minimum life.
  20. Chamber should have working pressure 2.2 bar & design pressure up to 3.8 bar. Chamber should have Stress & Fatigue
  21. analysis reports for material & construction of the pressure vessel. Chamber
  22. should be equipped with electrically heated jacket for preheating on standby mode.
  23. Door should have horizontal sliding/Hinged door with silicon
  24. elastomer rubber gasket to withstand temperature up to 140°C.
  25. Air Filter: A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber and the filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm.
  26. Pre-programed cycles: It should have pre-programmed cycle for autoclaving of different stuff like liquid, glass utensils, solid waste.
  27. Water Storage Tank: Sterilizer should have inbuilt water reservoir with storage capacity up to 5 Litres. The water reservoir should have easy access for cleaning & to avoid bio film.
  28. Steam Generator: Sterilizer should have inbuilt steam generator with warranty of 2-5 years on heating elements.
  29. Control Panel: The control system should be microprocessor based PLC system.
  30. Alarms: Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time -out, doors not properly closed, power failure (less than 10 sec should be ignored), current over leakage protection, automatic over pressure release value to ensure user safety, low water level, monitoring and maintenance of constant level for safety of heaters. A safety device to prevent opening the door when the chamber is pressurized. Prevent starting of runs if doors are improperly locked. • Safety feature should allow opening of doors only when the temperature reaches a pre
  31. -set temperature and pressure reaches atmospheric pressure.
  32. All the alarms should be audio -visual.
- Accessories: The sterilizer unit should include a suitable size of basket and other accessories fitting to be included

