Department of Microbiology, Gauhati Medical CollegeGuwahati-32, Assam, India

No. GMC/MICRO/2019/850. Dated: Guwahati, 31/05/2019

SHORT TENDER NOTICE

Sealed tenders affixing court fee stamp of Rs. 8.25/- (Rupees eight and twenty five paisa only) are invited from recognized registered and resourceful bidder for supply of the following equipment for DBT funded project entailed **"Comprehensive approach on NTM species identification, drug susceptibility testing methods, and strengthening NE state laboratories,(BT/PR23173/NER/95/562/2017)"** in the Department of Microbiology, Gauhati Medical College during office hours on all working days. The technical specifications of the equipment will be available on the website www.gmchassam.gov.in from 5th June2019 and the last date of submission of the bids is 21st June 2019, on or before 2:00PM.

List of the Equipment:-

1. PCR Thermocycler
2. Real time PCR system
3. Microvolume Spectrophotometer
4. Trinocular Research Microscope with Imaging System
5. Biological safety cabinet
6. Ultrapure Water Purification System

Yours faithfully

(Dr. Chimanjita Phukan)
Associate Professor & PI of the Project
Department of Microbiology
Gauhati Medical College & Hospital
Guwahati-32

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.

TECHNICAL SPECIFICATIONS OF THE GOODS

Tender No.: GMC/MICRO/NTM/2019/351 Date: 30/05/2019

SL NO	ITEM SPECIFICATIONS
1	**PCR Thermocycler** **Technical Specifications** 1. The quoted Thermocycler should be Peltier based heating and cooling PCR system with touch screen control and remote control via App (iOS and Android) 2. The offered system should be authorized / licensed for PCR applications, the vendor should produce the certificate for the same. 3. The quoted Thermo cycler should be gradient with user exchangeable blocks for giving maximum flexibility. 4. Block to be supplied: High speed anodized alloy block for 96 x 0.2ml PCR tubes, plates or strips. 5. Blocks should be interchangeable with other blocks like block for 60 x 0.5 tubes, 384 well plates etc. 6. 96 well, 60 well & 384 well modules should be available with gradient option for quick optimization of new protocols. 7. Blocks should be interchangeable without using any tools in less than 10 seconds and should be supported by automatic block recognition feature. 8. The thermao cycler should have gradient span of 30°C and linear gradient tool for programming of equal temperature increments between the 12 columns of the block. 9. Should have a temperature range of 3-99 °C with control accuracy of ± 0.1 °C. 10. Should have a maximum ramp rate of 6.0°C/sec (Heating) and 6°C/sec (Cooling) with average ramp rate of 5.5°C/sec (Heating) and 5.5°C/sec (Cooling). 11. Should have temperature uniformity down to Appr. +/- 0.20 °C. 12. Should have high performance smart heated lid for improving temperature uniformity in the range of 30 °C to 110 °C. 13. Should have auto-restart feature in the event of power failure. 14. Capable of storing minimum 350 programs in system's internal memory and should have the connectivity with computer. 15. Should have on board controller of at least 7'' Color Touch screen view for easy programming. 16. Software should have options like Quick start of the last five programs, gradient temperature graph, toggle between User specific quick start of the last five programs, program preview prior to start, toggle between spreadsheet and graphical programming mode, Linear Gradient Tool, generate service info files (SINF), extended self-test, adjustable ramp rates, view gradient temperature graph, PC control via Ethernet, comprehensive user administration tool with individual rights settings 17. Should be imported & fully licensed PCR. 18. Warranty on system should be minimum 3 years from the date of Installation and commissioning. 19. Calibration certificate should be provided if applicable.

Phukan

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.

2	**Real Time PCR system Technical Specifications** **Technical Specifications** 1. Quoted Real Time PCR system should stand-alone device with integrated 10" tablet. The software comes with a broad spectrum of optimized analysis algorithms including absolute and relative quantification, ddCt method, PCR efficiency, allelazic discrimination, endpoint detection as well as melt point and protein analysis. 2. The quoted System should have thermal block 96 x 0.2 ml wellformat , performs both real time and end point analysis with sample size volume capacity 10 – 80 µl. 3. The system Should have an array of 8 high performance optical fibers in a shuttle system to direct LED light bundled by lenses to samples for loss-free excitation scanning for best uniformity and reproducibility. 4. Depending on the application system Filter Module System should be freely configured and upgradable to both intercalating and protein-binding dyes, with 12 different available colors as well as to hybridization (FRET) probes. The system should be future-proof, being easily retrofitted on-site with additional Color, FRET or Protein Modules, and can thus be adapted to other fields of application at any time 5. The system should have an automatic software controlled temperature Ramp Rate 8.0°C/second for heating and 6°C/second for cooling with a temperature Range: 3-99°C & hot top heated lid. 6. Excitation source should be long live 4 robust LEDs No Preheating time with longer life & Detection should be from High sensitive PMT (Photo Multiplier Tube). 7. Temperature control accuracy should be ± 0.1 °C or better for best performance & Temperature uniformity of ± 0.15 °C @ 55 °C after 15 sec. 8. System should be an open platform supporting all fluorescent chemistries and numerous applications & should be open for reagents of any make. 9. System should come with at least 6 color-filters & must be flexible for multiplexing capability and support up to true6 colors multiplexing without any ROX dye needed. 10. System should be readily available with a gradient function of up to 40 °C span over 12 columns. 11. To avoid condensation and the resulting loss of samples, the system is equipped with a motorized heated lid with a temperature range up to 110 °C and guarantees, regardless of the consumables used an optimal contact pressure on the sample vessels during the entire real-time PCR run. 12. System should have allelic discrimination by threshold cycle or by endpoint fluorescence values with auto-call feature. 13. System should come with 3 year warranty on device system &10 years long-term warranty of high performance optics. 14. Calibration certificate should be provided if applicable.

Dr. Chimanjita Phukan
Associate Professor
Deptt. of Microbiology, GMCH.

3	**Specification of microvolume Spectrophotometer:** **Technical Specification:** 1. Drop-and-start analysis: To analyze a sample user has just drop it onto the target and click the button. The instrument should perform the measurement and wiping automatically. 2. Quick & amp; Simple operation: Blank measurement, sample measurement, output of reports and other basic operations must be performed quickly & simply just by a click of button. 3. Basic operations should be performed by clicking icons in the software or function keys on the instrument itself. 4. Wide wavelength range of 800 nm to 220 nm. 5. 3 nm spectral bandwidth over entire wavelength range. 6. Wavelength accuracy: ± 1nm. 7. Path length 0.2 mm, 0.7 mm. 8. Photometric range 0 to 1.5 Abs or better. 9. Minimum Sample volume: 1µL (path length: 0.2 mm). 10. Light source: Xenon flash lamp. 11. Detector: Photo diode array. 12. Monochromator based holographic grating for high energy throughput and high quality monochromatic light. 13. Auto wiping function must be Provided. 14. Sample mount function must be Automatic. 15. Spectrum measuring time: 3 Sec or less. 16. Quantitation range (OD, dsDNA concentration) : Path length 0.2 mm, 1 to 75 OD 50 to 3,700 ng/µL, Path length 0.7 mm, 0.3 to 21 OD 15 to 1,000 ng/µL or better. 17. Analysis mode must be Simple nucleic acid quantitation, labelled nucleic acid quantitation. 18. Simple nucleic acid quantitation must be Nucleic acid concentration (RNA, dsDNA, ssDNA, OligoDNA) calculation, OD ratio (OD260 / 280, OD260 / 230) calculation 19. Labelled nucleic acid quantitation must be Nucleic acid concentration (RNA, dsDNA, ssDNA, OligoDNA), nucleotide concentration calculation, Label concentration, labelling ratio calculation, OD ratio (OD260 / 280) calculation. 20. Protein Quantitation must include Protein concentration (M, µg/mL), label concentration, labelling ratio. 21. Photometric measurement must have OD display for 8 wavelength maximum. 22. Label management: Label registration (up to 8 new labels), edit, deletion, Default labels (Cy 3, Cy 5, Alexa Fluor 546, Alexa Fluor 647). 23. Wiping paper must be supplied 100 sheets. 24. Branded i3 PC with Original Windows 7 pro 32 bit or 64 bit must be supplied. 25. Warranty should be minimum 3 years from the date of Installation and commissioning. 26. Calibration certificate should be provided if applicable.

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.

4	**Trinocular Research Microscope with Imaging System:** **Technical Specifications:** 1. **Viewing Head :** 45° inclined 360° rotatable, IPD 54 – 74 mm 2. **Objectives:** DIN **Plan** Achromatic 4X, 10X 40X (spring) 100X Oil (spring) and anti fungus treated. 3. **Eyepiece:** WF10X, FN 18 mm, Foldable Eye guard 4. **Illumination: 6V/20W Halogen Illumination** 5. **Mechanical Stage:** 135 (W) X 124 (D) mm with low drive control Stage movements (XY direction) 6. **Nose piece:** Quadruple revolving 7. **Condenser:** Abbe condenser with N.A. 1.25, with built-in daylight filter and Aperture iris diaphragm. 8. **Focusing:** Coaxial Coarse and fine focusing 9. **USB Camera** 10. **Sensor:** CMOS Sensor 11. **Pixel Size:** 5.6 µm X 5.6 µm 12. **Frame Rate:** 30 fps, 640px X 480px 13. **out port** USB2.0 14. **Sensor type**: UCMOS 15. **Sensor format**: 1/4" 16. 23mm Photo Eyepiece 17. Image VIEW Capture & Linear Measurement Software 18. Warranty should be minimum 3 years from the date of Installation and commissioning.

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.

5	**BIOLOGICAL SAFETY CABINET:** **Technical Specifications:** 1. **Working table**: Should be manufactured of SU304 H.L. in order to be doing well sterilization and cleaning, but also stopper installed at bottom helps work station keep level and fixed during working. 2. **Filter:** Filter built in work station is used by two sort of it. PRE Filter is located for air intake to remove dust. The other filter, HEPA is high profile to remove over 99.99% particle (0.3micron) over 99.99% 3. **U.V, Lamp** : Two U.V. lamp are installed in clean Bench, which sterilize a germ in the air and protect against contamination inside work station 1 set of lamp is located at above filter to sterilize a germ in air and the other set of Lamp is located at upper side in chamber to sterilize whole chamber. 4. **Air Flow** : BioHazard Safety Flow , Class II, A2 - Meeting all regulatory requirements 5. **Pressure Gauge :** By checking the pressure gauge which indicates internal air pressure, it allows you to notice the filter defects as well as the timing of replacing the filter. 6. **Pre Filter** : Nylon Filter 7. Filter in Exhaust Hole 8. **HEPA Purity** : Class 100 9. **Dimension(in)** : 1200(W) x 600(D) x 710(H)mm 10. **Dimension(out)** : 91320(W) x 790(D) x 1920(H)mm 11. **llumination** : F.L 30W× 2ea 12. **Sterilization** : U.V 30W × 1ea, U.V 40W × 1ea 13. **Blower** : 1/3 HP 14. **Main Filter**: HEPA Filter (0.3 ㎛ 99.99%) 15. **Pre Filter** : Nylon Filter 16. **Filter in Exhaust Hole in Exhaust Hole** : HEPA 17. **Wind Velocity** : 0.3~0.45m/s 18. **Flow Rate** : Exhaust 30%, Recirculation 70% 19. **Chamber material** : Stainless steel (SUS304) 20. Calibration certificate should be provided if applicable.

Phukan

Dr. Chimanjita Phukan
Associate Professor
Deptt. of Microbiology, GMCH.

	21. **Outer material** : SCP-1 with powder coating 22. **Door Material** : Sliding door tempered glass 23. Gas Cock, Vacuum Cock 24. **Door type** : Balance weight type 25. **Noise** : Less than 65db 26. **Utility** : Electric outlet, Gas cock, Vacuum cock 27. Power: 220V, 60Hz, 400W 28. Warranty should be minimum 3 years from the date of Installation and commissioning.
6	**Ultrapure Water Purification System:** **Technical Specifications:** 1. UV/UF direct system, 6 l/h, pre-treatment with integrated reverse osmosis, ultra pure water set, sterilizing filter, ultra filter, tank 6 litres with pressure/recirculation pump 2. Permeate performance at 15°C 6L/hr 3. Operating pressure in bar, min/max 1 to 6 bar 4. Type 1 - Conductivity 0.055µS/cm 5. Type 1 - Resistance at 25°C 18.2MWxcm 6. Bacterial content (CFU/mL) <1 7. Particles >0.2µM/mL <1 8. pH value range 6.8-7.2 9. Type 2 - Conductivity 0.067 to 0.1µS/cm 10. Type 2 - Resistance at 25°C 15 to 10MWxcm 11. Type 2 - Bacterial Retention 99% 12. Electrical Requirements 100-240V, 50/60 Hz 13. Power Consumption 0.06kW 14. Feed water Connector 3/4 in. NPT 15. Dimensions (D x W x H) 400 x 305 x 545mm 16. Weight 22kg 17. Flow rate, max. 0.6L/min 18. Type 1 - TOC 1 to 5ppb 19. Type 1 - Endotoxins (EU/mL) 0.005 20. Powerful performance Based on your requirements, choose from capacities of 6 L/hr lasting economy. 21. Water purification progresses through independent cartridges with Aquastop quick connects for fast replacement. 22. Module 1 - Combination of pretreatment and the reverse osmosis membrane. 23. Module 2 - Polishing cartridge contains high-quality ultrapure resin for consistent purity and long cartridge life Easy-to-operate. 24. Dispensing is easy and features variable speed to control flow. 25. The display can be tilted for optimal reading. 26. Optional UV bulb and UF ultra filter to customize ultrapure Water Placement options. 27. Position on laboratory bench 28. Mount it on the wall Smart integrated 6L reservoir for the Smart2Pure 6 29. Constructed with pigment-free materials.

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.

	30. Conical bottom outlet allows for complete draining and efficient cleaning and disinfection. 31. Warranty on system should be minimum 3 years from the date of Installation and commissioning. 32. Calibration certificate should be provided if applicable.

Dr. Chimanjita Phukan
Associate Professor
Deptt.of Microbiology, GMCH.