



**MADURAI KAMARAJ UNIVERSITY**  
(University With Potential For Excellence)  
Reaccredited by NAAC with 'A++' Grade in 4<sup>th</sup> cycle  
Madurai 625 021, Tamil Nadu. India.  
**SCHOOL OF BIOLOGICAL SCIENCES**



SEALED TENDER NOTIFICATION NO. MKU/SBS/UGC NRCBS/II/003)

For and on behalf of School of Biological Sciences, Madurai Kamaraj University, Sealed Tender is invited by The Coordinator, UGC NRCBS (Phase II) Programme, School of Biological Sciences, Madurai Kamaraj University, Madurai 625 021, under the UGC NRCBS (Phase II) program, for the supply and installation of the following equipment, from the Reputed Suppliers/executors

ITEM No.	EQUIPMENT
<b>A1</b>	FACS Analyzer
<b>A2</b>	Real Time PCR

Last date for Submission: until 17.03.2022,3.00 pm.

Tender announcement date:25.02.2022

Details available at [www.mkuniversity.ac.in](http://www.mkuniversity.ac.in)

**Dr. S. Chandrasekaran**  
**Coordinator, UGC NRCBS (Phase II) Programme,**  
**School of Biological Sciences, MKU**



**MADURAI KAMARAJ UNIVERSITY  
(UNIVERSITY WITH POTENTIAL FOR  
EXCELLENCE)**

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Palkalai Nagar, Madurai 625 021, Tamil Nadu. INDIA.



SEALED TENDER NOTIFICATION NO. MKU/SBS/UGC NRCBS/II/003) Date: 25.02.2022



For and on behalf of School of Biological Sciences, Madurai Kamaraj University, Sealed Tender is invited by The Coordinator, (9UGC NRCBS (Phase II) Programme, School of Biological Sciences, Madurai Kamaraj University, Madurai 625 021, under the UGC NRCBS Phase II program, for the supply and installation of the following equipment, from the Reputed Suppliers/executors

ITEM No.	NAME OF THE EQUIPMENT	EMD Amount (1 % of the estimate cost)	Period of Contract
A1	FACS Analyzer	40,000/-	90 Days
A2	Real Time PCR	12,000/-	90 Days

Sealed Tenders are invited until **03.00 p.m. on 17.03.2022**, which will be opened by next day of receipt of the quotes Infront of tenderers. Technical bid along with EMD and Price bid must be submitted separately in a sealed covers and should not be clubbed together. Quotes without EMD will be considered and summarily rejected. EMD should be furnished in the form of DD drawn favour of “**Coordinator UGC NRCBS Programme, School of Biological Sciences**”

The specifications, terms & conditions are available in the University website [www.mkuniversity.ac.in](http://www.mkuniversity.ac.in) from: 25.02.2022 The tender documents are available for downloading at the website. **Last date for the submission of quotes is 17.03.2022 (before 03.00 PM).**

**Dr. S. Chandrasekaran**  
**Coordinator UGC NRCBS (Phase II) Programme,**  
**School of Biological Sciences,**  
**Madurai Kamaraj university**  
**Madurai 625021**

	<p style="text-align: center;"> <b>School of Biological Sciences</b>  <b>Madurai Kamaraj University</b>  <b>(University with Potential for Excellence)</b>  Reaccredited by NAAC with 'A++' Grade in 4<sup>th</sup> cycle  <b>MADURAI – 625 021</b> </p>	
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## **TENDER DOCUMENT**

Terms and condition for the **Supply & Installation of A1 and A2Tenders** for School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021, as per Guidelines of Government of Tamil Nadu Tender Transparency Act for the purchase of equipments by Government Departments, Undertakings and Autonomous Bodies [April 1998]

### **1. DUE DATE AND TIME**

Sealed Tenders are invited by **The Coordinator, UCG NRCBS (Phase II) Programme**, School of Biological Sciences, Madurai Kamaraj University under **two cover system** from the reputed manufacturing concerns or Original Equipment Manufacturer/ their regional Agents / Authorized dealers and suppliers for the **Supply & Installation A1 and A2 Tenders** as per specifications indicated in the Commercial bid.

The duly filled Tender forms containing the Technical Bid and Commercial Bid should reach **on or before 17.03.2022, 03.00 p.m of the date specified in the tender schedule**. Tenders received after due date and time will be summarily rejected.

*The EMD amount of 1% of the estimated cost (specified in page no. 2) should be enclosed in the Technical bid only.*

### **2. MODE OF DESPATCH**

The Tender should be sealed and superscribed as **“Tender quotes for the supply of \_\_\_\_\_ (Specify the Equipment Name) for School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021, due on the date and time specified in the Tender schedule of this document.**

### **3. SUPERSSCRIPTION**

The Tender should be sealed and superscribed as **““Tender quotes for the supply of \_\_\_\_\_ (Specify the Equipment Name) for School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021, due on the date and time specified in the Tender schedule of this document.**

The Tender document relating to the Technical Bid duly filled in and signed must be put in sealed cover super scribed as **“Technical Bid”**. The Tender document relating to the Commercial Bid must be duly filled in and signed and must be put in a sealed cover separately, super scribed as

**“Commercial Bid”**. The sealed Tender cover containing the Technical Bid (with EMD) and Commercial Bid should be sent to **The Coordinator, UCG NRCBS (Phase II) Programme, School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021.** Covers received without such superscription will be summarily rejected.

#### **4. EARNEST MONEY DEPOSIT**

Each Tender should be accompanied by Earnest Money Deposit of E.M.D. (*1% of the estimated cost*) by Demand Draft drawn in favour of **SB A/C No. 30353861806, State Bank of India, Madurai Kamaraj University Branch** or The Coordinator, UCG NRCBS Programme, **School of Biological Sciences, Madurai Kamaraj University, Madurai.** The Earnest Money Deposit of any unsuccessful tenderers will be returned after the acceptance of the successful tender, at the expenses of the Tenderers within a reasonable time consistent with the rules and regulation on this behalf. The above **EARNEST MONEY DEPOSIT** amount held by the University till it is returned to the Tenderers would not earn any interest there for. Earnest Money Deposit of the successful Tenderer may be adjusted towards security deposit for the successful tenderer.

#### **5. ELIGIBILITY CRITERIA**

The bidders must fulfil the following Eligibility conditions and also submit documentary evidence in support of fulfilling these conditions while submitting the Technical Bid. The University will consider the Commercial Bid of the vendors who qualify in the Technical bid. For those vendors who are not qualified in the Technical Bid, the Commercial bid will not be considered. The bidder should have the record of

- i) Installations at reputed institutions / organizations,
- ii) Sufficient service back-up in Tamil Nadu / South India for all types of related works.
- iii) The Tenderer should submit the latest **Income Tax and Commercial Tax Clearance certificates**
- iv) The Tenderer should submit the GST No.
- v) The bidder should have at least three years’ experience and focus on related business, as on 31-12-2021
- vi) A minimum average annual turnover 10 times the approximate cost of the quote value of the items to be purchased in the last three years.

#### **6.DETAILS TO BE FURNISHED AND MODE OF PRESENTATION**

The Tender should contain particulars like name and addresses of the Tenderers, net rate including GST/excise duty, custom duty\* (for imported item, clearing and forwarding charges, surcharge, GST, freight, octroi, insurance for delivery, delivering up to the point, installation and commissioning of the equipment and such other levies that may be applicable.

- a. The rates should be kept firm for **Ninety days** from the date of the opening of the Tenders for acceptance.
- b. The rate should be quoted for each item with specification and model if applicable and should be indicated clearly both in words and figures. Any **scoring or overwriting** should be

attested by the Tenderer with full signature. The rate quoted should be firm and **should not be subject** to any variation clauses.

- c. The **University shall not pay any increase in duties, taxes and** surcharges on account of any revision by the Government at the time of supply and installation.
- d. Supply of the equipment and other accessories shall be as per the specifications mentioned in the corresponding Appendixes and according to the delivery and installation schedule indicated.

## **7. OPENING OF TENDERS:-**

The tenders received upto 03.00 p.m. **on the date specified in the Tender Schedule** will be opened by the Technical/Purchase committee at 11.30 a.m on the next day in the presence of those Tenderers or their representatives who may be present at the time of opening. The representatives of the Tendering firm who are attending the opening of the Tenders should bring a letter of authority from the Tendering firms which they represent to identify their bonafide.

## **8. AGREEMENT:**

- a. The successful tenderer should execute an agreement for the fulfillment of the contract in the stamp paper in the model form enclosed in Appendix, within fifteen days from the date of acceptance of the tender.
- b. The expenses incidental to the executing of agreement shall be borne by the successful Tenderer.
- c. The conditions stipulated in the agreement form should be strictly adhered to and violation of any of the conditions will entail termination of the contract without prejudice to the rights of the University and recovery of any consequential loss from the successful Tenderer.

## **9. SECURITY DEPOSIT:**

- a. The successful Tenderer will be required to remit the **Security Deposit** equivalent to **Five percent** of the value of the Purchase order within **fifteen days** from the date of receipt of communication/intimating them of the acceptance of the Tenders. If the accepted Tenderer fails to remit the Security Deposit within the above said period, the Earnest Money Deposit remitted by him will be forfeited to the Madurai Kamaraj University and his Tender will be held void. Purchase order will be released after execution of the above contract by the successful Tenderer and after remitting the Security Deposit by way of Demand Draft / Bankers' cheque / irrevocable bank guarantee drawn in favour of **SB A/C No. 30353861806, State Bank of India, Madurai Kamaraj University Branch or The Coordinator, UGC NRCBS Programme, School of Biological Sciences, Madurai Kamaraj University, Madurai.**
- b. The Security Deposit furnished by the Tenderer in respect of his Tender will be returned to him at the **end of the warranty period** (three years) subject to the satisfaction of the University.
- c. In case of successful Tenderer, The Earnest Money Deposit, if paid, may be adjusted towards Security Deposit the Tenderer remitted, if opted by the Tenderer.

- d. If the Tenderer fails to act according to the Tender or backs out when his Tender is accepted, his Security Deposit mentioned above will be forfeited to the University.

## **10. SUPPLY AND INSTALLATION OF EQUIPMENTS**

- a. The supply and installation of equipments/items and other accessories should be made strictly in accordance with the specifications given in the Commercial Bid and should successfully fulfill the tests carried out by the University. The supply and installation should be as per the delivery schedule to be sent by the University along with the placement of firm orders. The successful Tenderer should give guarantee for a period of **three-years** for the equipment and other accessories installed, against breakage or breakdowns due to manufacturing defects. The guarantee period takes effect from the date of satisfactory trial run. The Tenderer shall be liable to make good the loss by replacing the equipment or other accessories found defective during the guarantee period. The equipment hardware should be installed in the premises of the University at the cost and risk of the Tenderer.
- b. The material or goods are to be guaranteed for a period of at least three-years after installation and commissioning against manufacturing defect and bad workmanship. The warranty period specified, will commence from the date of handing over the equipment after running and carrying out successfully the tests prescribed by the University to its satisfaction.
- c. Documents such as operation manuals, software, user manuals and circuit diagrams and other relevant materials shall be provided by the Tenderer along with equipment, free of cost.
- d. If the supply, installation and commissioning of the systems are not effected before the specified period from the date of purchase order, the University shall have the authority to cancel the order and to take any such action which will be deemed fit in the circumstances.
- e. If any manufacturing or other technical defects are found within the specified months from the date of installation, commissioning and handing over the system to the University Authorities, the same will have to be rectified or replaced free of cost by the supplier.
- f. During the warranty period, if due to manufacturing and other technical defects of the equipment supplied, the system is down and if it is not restored in working condition within 48 hours, the supplier shall be liable for a penalty of one percent per week during breakdown period on the total contract price.
- g. The warranty will cover all the materials and goods supplied by the supplier under this contract irrespective of the fact whether these have been manufactured by the supplier or not.
- h. In case of failure by the Tenderer to deliver goods or materials demanded from them within the period specified for delivery or in case of goods or materials being delivered without a correct invoice in duplicate, the Registrar or anyone duly authorized by him shall have power to reject any such goods or materials so rejected or not delivered unless the supplier shall themselves forthwith supply others that shall be sufficient and satisfactory and any excess of cost so incurred by the Tenderer over the contract price together with all charges and expenses attending the purchase shall be recoverable by the University from the supplier.

- i. The successful Tenderer shall supply licensed versions of the equipment systems. The University will not be held responsible for any consequences arising of patent right problems.
- j. The equipment should be demonstrated to the representatives of the Specifications Committee before shipment is effected.

#### **11. PAYMENT OF COSTS:**

The terms of payments for purchase of equipments: The total cost of equipments will be paid on installation, commissioning and handing over of the Equipments after testing all the software and fulfilling the technical specifications and also after the submission /payment of security Deposit (5% of the equipment cost. Also could be submitted in the form of Bank Guarantee). The testing that should be carried out for commissioning the material supplied and the satisfactory working of the systems are to be certified by the University.

In case of payment to OMs outside the country, LC/ wire transfer mode payment would be made upon the submission /payment of security Deposit (5% of the equipment cost; also could be submitted in the form of Bank Guarantee).

#### **12. FORFEITURE OF EARNEST MONEY DEPOSIT:**

If the accepted Tenderer fails to act according to the tender conditions or backs out after his tender has been accepted, his Earnest Money Deposit will be forfeited to the University.

The successful Tenderer shall not assign or make over the contract, the benefit of burden thereof to any other person or persons or body corporate. He shall not underlet or sublet to any person/s or body corporate for executing the contract or any part thereof.

#### **13. PENALTY FOR NON-FULFILMENT OF TENDER:**

Penalty will be levied at the rate of 1% per week on the total contract price if the installation and commissioning has not been completed in full within the stipulated period subject to force majeure conditions. Besides, such performance may entail black listing of the supplier.

#### **14. ACCEPTANCE AND WITHDRAWALS:**

The final acceptance of the tender is entirely vested with **University which reserves the right to accept or reject** any or all the tender without assigning any reason whatsoever. There is no obligation on the part of the University to communicate with rejected Tenderers. After acceptance of the tender by the University, the Tenderer shall have no right to withdraw his Tender or claim higher price. Tenders with incomplete information will be summarily rejected.

#### **15. POST WARRANTY:**

The post warranty annual maintenance charges (AMC) is applicable for the remaining period after the satisfactory completion of the warranty period offered by the vendor. The annual maintenance charges should be indicated.

The AMC payable from the date of completion of warranty in advance against invoices/bill to be preferred by the vendor. The vendor agrees to provide comprehensive maintenance of the equipment, which shall include preventive maintenance and corrective maintenance at the location specified by the University. The maintenance shall also include replacement of all parts of equipments. The equipment which is down should be restored in good working condition within 48 hours. Otherwise the supplier shall be liable for a penalty of 1% per week of the breakdown period on the total price of the system. The University reserves the right to terminate the maintenance contract in the event of unsatisfactory maintenance and claim damages for non-fulfillment of contract.

#### **16. PENALTY FOR FULFILLMENT OF CONDITIONS**

The supplier agrees that in the event of non-fulfillment or non-observance of any of the conditions stipulated in the conditions, the Supplier shall pay as penalty an amount equivalent to 10% (ten) percent of total value of equipment or an amount equal to the actual loss incurred by the purchaser whichever is greater. This provision applies up to the end of the life cycle of the equipments (i.e.) even during the post warranty period.

#### **17. EXEMPTION OF CUSTOMS DUTY AND EXISE DUTY**

The Madurai Kamaraj University, being a Research oriented higher education institution, is exempted from paying Excise duty and Customs duty / Concessional Customs Duty. The supplier shall therefore obtain Exemption Certificate from the University, issued by the Government of India, before clearing the consignment.

#### **18. TIME-SCHEDULE**

Time-schedule is mandatory. Supply should be made within 45 days for any purchase. If not supplied or part only is supplied, then concurrence for purchase from L2 to be got from L1. If no concurrence is given by L1, then notice to be issued and after 15 days L2 is called and negotiated for the supply at L1 rate, or at a lesser price originally quoted by L2. University is vested with the power of modifying the quantity, time and alteration in the specification without hindering the requirements. Those who are agreeable for the above terms should only apply for the tender.

#### **18. GENERAL**

The tenderers while sending their tender should enclose a copy of the conditions stipulated duly certified and attested by them in token of accepting the tender conditions that they understood and



accepted them in full. Tenders received without the certified copy of the conditions shall be rejected summarily.

I/We \_\_\_\_\_ have gone through the terms and conditions and will abide by them as laid down above.

**SIGNATURE OF THE TENDERER WITH OFFICE SEAL**

## **OTHER APPLICABLE GENERAL CONDITIONS :**

1. The quotation must specify the period within which the supply could be effected from the date of receipt firm orders.
2. The prices quoted should clearly specify charges for delivery of the goods to destination indicated overleaf.
3. Sales tax or any other taxes/GST if applicable should be shown separately giving the full rate of taxes for each items giving ex-incidence of such levies.
4. If the rates are under D.G.S. & D. please specify the same clearly enclosing necessary documents.
5. **The leaflets/ catalogue, etc of the technical features of the offered equipment must be submitted for proper evaluation and would be considered for technical evaluation.**
6. Dealership certificate on the offered products must be included in case the vendor is a dealer.
7. The vendor must have credential in supplying such system in any institute of national importance and similar organizations
8. Bidder should have valid Service Tax registration number, GST number and meet all legal requirements.
9. Any amendment / corrigendum to the RFP (Request for proposed) document shall be posted on the University Website
10. University reserves the right to call for any other details or information from any of the Bidders. Moreover, the University reserves all rights to reject any bid at any time, at any stage, fully or partly for whole process and / or for particular bidder and also reserves all rights at any time to add, alter, modify, change, edit & delete any condition at any stage. MKU also reserves the right to cancel the entire tender process without assigning any reason. In this regard, the decision of University shall be final and binding on all the participant.
11. Every page of the RFP document shall be signed by the bidder or by a person duly authorized by the bidder.
12. Bidder shall submit letter of authorization, authorizing the person signing the RFP document on behalf of the bidder.
13. All changes, alterations, corrections in the RFP document shall be signed in full by the person(s) signing the RFP document, with date. No eraser and/or over writing without authentications is/are permissible.
14. The complete RFP document along with the documentary evidence should be numbered.
15. The bidder shall carefully examine and understand the scope of work, specifications/conditions of RFP and seek written clarifications, if required, to ensure that they have understood all scope of work, specifications/conditions of RFP.
16. If the bidder have NSIC certification they will get the NSIC benefits.

17. If the bidder, after submission, revokes his bid or modifies the terms and conditions thereof during the validity of his bid except where the University has given opportunity to do so, the earnest money deposit submitted by Bidder shall, in such case, be forfeited.
18. The successful bidder i.e. Service Provider, within 15 days of receipt of Letter of Intent or within such extended time as may be allowed by University in its discretion, shall submit a Performance Bank Guarantee for an amount equal to 5% of the contract value having validity of 36 months. In case of extension of maintenance contract, the Service Provider shall submit a fresh Bank Guarantee for the Contract value covering the extended period of AMC.

**TECHNICAL BID****SCHOOL OF BIOLOGICAL SCIENCES, MADURAI KAMARAJ UNIVERSITY,  
MADURAI – 625 021**

Tender Schedule for the Supply & Installation of Tender A1 and A2 to School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021.

**Profile of the Company:**

**The Company should provide the following details**

1. Name of the Organization	
2. Nature of the Organization (Govt. / Public / Private / Partnership  /Proprietorship)	
3. (a) Address of the Registered Office of the firm with Phone Number, Cell No, Fax and E-mail. (b) Year of Establishment (related to Printers business)  (c) TNGST & CST Reg No./GST No. (d) If approved small scale	
4. Annual turnover for the previous three years as on 31-12-2021 I. General : II. Equipments listed in tender Document	
5. Location of the factory with address	
6. Maintenance and service centre facilities in Southern states / other areas and total number of Service Engineers available:	
7. Names of the Government Agencies / Educational Institutions to whom similar	

Machines have been supplied in the preceding Three year			
8. Total experience in the related areas			
9. Is your Company an original manufacturer of the equipments and related items?  If yes, state the specific items you Manufacture			
10. What type of maintenance support does your company provide for the spares			
11. What are your conditions for up gradation of Equipments system after the warranty period?			
12. In case of breakdown of the equipment, what will be the mean Downtime? And state whether standby systems will be provided			
13. State the minimum amount of time required to supply the items if your company/ Organization gets the order			
14. State whether you will agree to supply the manuals Drivers for items supplied.			
<b>15. EMD PAYMENT PARTICULARS</b>			
<b>[The DD should be enclosed in the Technical Bid only]</b>			
(1) Demand draft particulars			
Sl.No	Name of the bank and Branch	DD No. and Date	Amount Rs.

Signature:

Name of the Firm

Phone/Mobile No.

**APPENDIX II****COMMERCIAL BID****School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021**

Tender Schedule for the Supply & Installation of Tender A1 and A2 to School of Biological Sciences.  
as per

Specifications below for the use in School of Biological Sciences, Madurai Kamaraj University,  
Madurai – 625 021

Sl.	Description/Specification	Qty.	Rate Rs.	Total (Inclusive of all Taxes) Rs.
1.				

Warranty Period should be clearly mentioned: ..... Years

A]

1. Please indicate the Annual Maintenance Charges per annum on the basic price of Equipments, excise duty, sales tax, etc., year wise for the remaining period of 5 years life cycle after warranty period.
2. Indicate the location of service centre, address with phone / fax numbers.
3. Indicate No. of Service Engineers available.
4. Minimum Time required for contact and Service

## **A1 Specification for FACS Analyzer**

- Bench top flow cytometer with at least 3 lasers i.e., 488 nm blue laser, 405 nm Violet, and a 633-642 nm red laser.
- The system should have minimum of 12 parameters, including 10 for fluorescence detection. or more colour analysis capabilities simultaneously along with FSC & SSC.
- The system should have highly sensitive detectors for fluorescent detection.
- System should have alignment free optical cuvette flow cell design to avoid any user level alignment while day to day run of the instrument.
- System should have a capability to analyze at least 30,000 events per second or more.
- The resolution <3% CV preferably at all flow rates.
- Should have an option to future upgradable with a plate loader for automation of multiple sample acquisition.
- On upgrading with a plate loader, the system should have high throughput sampling provision for running 96 well plate with sample mixing through aspiration to ensure sample homogeneity and cell viability.
- The flow cytometer should be able to give absolute counts without use of reference counting beads.
- The software should allow automated start up, performance tracking and shut down capability.
- The system provides superior sensitivity: <80 MESF-FITC, <30 MESF PE to measure of events with low antigen expression and application with dim fluorescence staining which is achievable by high efficiency, low-noise ratio.
- The system must use Semi-automatic non pressurized Single Tube Loading with 12 x 75 mm or 1.2 mL tubes and the Fluidics provide continuous flow and volumetric measurements integrated into compact footprint.
- The system should have a carryover of less than 0.5 - 1% in single tube format and less than 0.5% in 96 well plate format.
- The system software should support offline and online compensation.
- The system must be capable of storing repository of compensation spillover values of dyes in a library to easily determine the correct compensation matrix with virtual multicolor panel and/or with new gain/Voltage settings
- System must be to process samples at sample flow rates between 10  $\mu$ L and 200  $\mu$ L or more per minute providing high sensitivity and adjustable flow rates (high, medium, low).
- The Software license should be inclusive. options for use in by multiple users for data analysis should be specified.
- Power management system: Should have suitable Online UPS with minimum of 1 hour back up
- Data management system: Should be supplied with suitable PC workstation with latest configuration,

- Total number and the detailed list of installation in South India region (the quoted model & Year-wise) must be provided.
- Details of the service engineers available in Southern States of India should be provided
- Complete and Detailed List of assays and applications possible with the model should be included.
- The list of Vendors with whom the compatible assays / reagents are available must be indicated and included
- 3 years warranty must be inclusive.



## A2 Specification for Real time PCR

- A dedicated multicolor Real Time PCR system (excitation and emission) with latest generation Peltier-based 96-well plate/tube in-built PCR to support:
  - Gene-Expression analysis,
  - b. Pathogen Quantitation,
  - c. SNP Genotyping,
  - d. Plus/Minus Assays that utilize internal positive control,
  - e. Dissociation Curve Analysis,
  - f. Multiplexing and complete End-Point Assays.
- Bright White LED for better excitation
- Six decoupled filters with minimum 6plex multiplexing (six targets in one tube).
- System should enable to retrieve standard data from cloud as to avoid running standards every time.
- System should be capable of running Up to 6 independently controlled peltier blocks for precise temperature control and enhanced PCR functionality
- Max block ramp rate should be 6.5°C/sec with temp uniformity of 0.4°C.
- CMOS Camera for detection. The data collection and instrument control software should provide multicomponenting algorithm for deconvolution of multiple dyes, enabling addition of future dyes without changing the hardware.
- The built-in emission filters to readily support broader range of fluorophores with a greater sensitivity for longer wavelength (red) dyes. The system should be readily configured and optimized for use of any of the following dyes or a combination thereof at any time, without any change in the hardware:
- **FAM™/SYBR® Green, VIC®/JOE™/HEX/TET, BY®/NED™/TAMRA™/Cy®3, JUN®, ROX™/Texas, Red®, Mustang Purple®, Cy®5/LIZ®, Cy®5.5**
- Total reaction volume of minimum 10 uL to 30 uL, although lower would be preferred to economies the reagent consumption.
- Dedicated filter for ROX for reaction normalization.
- System should run in FAST and standard mode.
- System Should have touch screen interface with easy access of programs setup.
- Temperature range should be 4°C -100°C
- Application software like dedicated primer and probe design software as well as relative quantitation analysis software to analyze multiple 96-well-plates of data simultaneously must be included as standard supply in the quoted price.
- A complete line of reagents including TaqMan® universal PCR Master Mixes and SYBR® Green I Master Mixes, and disposables including tubes and 96-well plates for use with the system must be quoted. The manufacturer should quote a choice of ready-made assay kits or ready-to-make assay kits for Gene Expression as well as SNP analysis.
- The installation specifications must demonstrate the ability of the system to distinguish between samples containing 5,000 and 10,000 template copies with a confidence level of 99.7% using an RNaseP instrument verification plate or alike. The system must be calibrated optically for the pure dyes during installation at sight.
- Computer: A business line computer (either notebook or tower) should be provided with the system.