ANNEXURE-'A'

Real Time PCR System

Specifications:-

1. Compact, high throughput and fast on line Real-Time PCR system for qualitative and quantitative detection of nucleic acids, mutation screening and SNP analysis.

2. System to provide on line Cycle by Cycle monitoring with continuous display of readings for Fluorescence, Temperature changes and progression of amplification

3. The system should be supplied with interchangeable 96/390 well plates based Heating Block with peltier elements and Therma-Base layer to ensure uniform temperature measurement across the plate with no edge effect.

4. The System should be modular, must have the built in facility to use optional 384 well plates with a provision to change the 384 well thermal block within few minutes by the user without the need of any calibration.

5. System should have Fast ramping rates with heating at 4.8°C / sec and cooling at 2.5°C / sec for ultra-rapid cycling

6. System should have single broad spectrum LEDS with minimum of five Excitation filters (440, 465, 498, 533 and 618 nm) and Six Emission filters (488, 510, 580,610, 640 and 660 nm) to cover majority of the dyes with cooled monochrome CCD camera for signal detection.

7. Detection dyes – SYBR Green I, ResoLight high-resolution melting dye, FAM, HEX, Cy5, LC Red 610, LC Red 640 and LC CYAN 500 etc.

8. Total reaction volumes should be with in 10 – 100 µl range for 96 well plates and 5 – 20 µl for 384 well plates.

9. Typical run time should be less than 60 minutes for 45 cycles.

10. Temperature range should be from 37 - 95°C with heating lid to avoid any overlay ofoil / wax.

11. Should have a linear dynamic range up to @8x

12. System should have the capability to perform six multiplexing without any requirement of passive reference dye.

13. Flexible system for developing chemistries with SYBR Green I, ResoLight Dye for high-resolution melting, Taqman / Hydrolysis probes, Hybprobe probes, SimpleProbeprobes etc.

14. System software should have the provision to use Fit point method or second derivative maximum method for calculating the concentrations. Software should have the provision to correct PCR efficiency factor (2.0) by the user.

15. System should be supplied with software for absolute and relative quantification, Tm calling, melting curve based genotyping and endpoint genotyping, HRM Analysis software.

16. System should be capable of using Gene Scanning software, Multiple Plate Analysis software, Probe Design Software for designing primers and / or probes for simple qualitative analysis, gene expression analysis or mutation detection in monoplex or multiplex assays.

17. System should be calibration free / calibration charges should be included in quote for entire warranty, CMC & AMC period.

18. The system should be 21 CFR Part 11 compatible.

19. Analysis workstation should be of branded Pentium PC with licensed windows operating system.

20. System to operate at 220V / 50 Hz.

21. The system should be supplied with 2 years of comprehensive warranty and 5 years CMC (3^{rd} to 7^{th} years)

22. Compatible Online 3 KVA UPS with 1 Hr Backup.