Specifications for Fluorescent Activated Cell Sorter
(Note: New and Amended Specifications)

1. Lasers or Excitation source: None of the lasers supplied should have a maximum specified power in excess of 200 mW. Solid-state lasers, 375 nm (±20 nm) laser with 7-10 mW or better; 488 nm solid state laser with 20-30 mW or better; 561 nm with 50 mW, or better; and 633 nm solid state laser with 20-25 mW or better, should be offered. Should have provision for additional laser lines for future upgradation. System should be capable of simultaneous operation of at least four lasers or better. Fixed alignment of all lasers, excitation and collection optics should be factory fitted by manufacturer. If the quoted model does not have fixed alignment of lasers, and requires constant realignment, the supplier will be obliged to train institute personnel to perform alignment and also give a written undertaking that they will send a service engineer to align the lasers – at no extra cost - for the duration of the life of the instrument, whenever the institute fails to align the lasers. Flow cage (not a mandatory specification, but preferred if available) should be closed and should not come in contact with open air while delfectining the droplets.

2. Emission: Should be capable of measuring at least 12-14 colours or better simultaneously. Upgradable to 17-20 or higher number of colours or better.

3. The cell sorter should be quoted with fitted or integrated Class II Type A2 biosafety cabinet along with aerosol management system according to international standard for sorting the pathogenic cell samples. Give the details of the third party manfacture's if you are quoting it from them, justifying how it will meet international standard of Class II Type A2 biosafety cabinet and aerosol management.

4. Sample Loading: Automated sample loading (sample will be placed manually in the tube holder but its suction should be automated for sorting purposes).

5. Sorter: The system should have built-in sorter capable of two to four-way sorting. Sheath pressure should be in the range of 5-75 psi. Should have auto sampling option and capable of direct sampling in microtubes (1.5 ml), tubes (15 and 50 ml), well plates (6, 24, 48, 96, 384 well) and on slides.

6. Nozzle Sizes: 65 µm (±5), 85 µm (±5), 100 µm and 130 µm (±10) sizes.

7. Speed: Should be able to acquire 80,000 (±10,000) events per second or higher. Sorting rate should be ~70,000 events /second or higher.

8. Optics: (Reflection array of optics) Light paths optical fibre controlled for better sensitivity. Collection optics and flow cell should be regulated by optical array technology for better and faster collection efficiency.

9. Computer: The Computer Workstation should have; Processor: 64 bit Intel Xeon core processor 2.4 Ghz or higher; Memory: 4GB DDR3 RAM or higher; Graphic card: Nvidia Quadro 4000 2GB; hard drive: 4 TB SATA (7200 rpm),

DVD SuperMulti +R/RW; Gigabit ethernet, OS: Windows 7 64 bit OS (upgradable to Windows 8), 8 USB 3.0, Mouse and keyboard; Fire wire port and standard ports and accessories; Monitors-2: 32" standard LCD monitors. A branded Multifunction colour printer with automated duplexing option should be offered along with the system. Colour printer should have colour scanning, photocopying and printing option.

10. Starter kits and reagents: Kits and reagents for running the instrument should be provided free of cost at least in the beginning for three years. Following Accessories should be offered. Cell deposition unit: should be automatic allowing multiwell plate and slide sorting. Aerosol management system, Quote additional third party analysis softwares

11. We will provide a room and wall plugs, all the other installation requirement like table for computer and keeping other accessories of sorter should be taken care by bidder.

12. Bidder should provide after sales service including the after-warranty maintenance support cost. They also specify application support including after-sale service, laboratory training to researchers on regular basis.

13. Bidder should include the supply of appropriate branded online UPS system capable of supporting the entire system including lasers for at least 30 minutes with power surge protection and reverse phase.

14. Bidder should provide all the pre-installation requirements to have the system installed in ideal room conditions.

15. Bidder should have at least 10 high end flow cytometry cell sorter installations in Academic insitution within India with proven track record of maintainance and application support in last three years.

16. Bidder should organize traning of manpower and tehnical staff after installation in side India and where ever required abroad.

17. Three years of unconditional warranty should be offered for consumables and lasers. Annual price for five years of annual maintenance contract (AMC) must be quoted with terms and conditions clearly.

18. We reserve the right to increase or decrease final warranty period, kits and reagents as well as configuration of the instrument. Therefore mention the part numbers for sorter and consumable prices, respectively in optional and standard format.

19. The bidder must guranttee that the spare parts for this machine will be available for next 10 years after installation.

20. The system should be equipped with all accessories for proper & effective functioning (such as power supply cords, dust cover, etc.) Any up gradation of

the system accessories and software within a year from the time of installation should be provided free of cost.

21. Price of individual components should clearly be specified in the standard and optional format in the quote. The bidder should justify each specification point by point in their order of requirement and should provide the evidence for the same in the technical brochures of the instrument with page number. Photocopied catalogues will not be considered for technical specification evaluation. Quotation not done in the proper form may invite technical rejection.

Sd/-
(Dr. Arunika Mukhopadhyay)

Sd/-
(Dr. Kuljeet Sandhu)

Sd/-
(Dr. Rajesh Ramachandran)

Sd/-
(Dr. Ram Yadav)