

# Indian Institute of Technology Delhi

## Department of Chemical Engineering

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Date: 25-10-2011

Ref: SG/IITD/2011/Plan02

The Department of Chemical Engineering invites quotation for a Scientific Monochrome/Color CCD Camera with C mount with the following specifications.

1. Resolution: Better than 1390 X 1000 pixels
2. Pixel Size: 6.45 micron
3. Sensor format/Diagonal: (2/3) inch
4. Full well capacity: 16000 e @ full frame or better
5. Quantum efficiency: 65 % or more@ peak
6. Dark current:  $\leq 1$  e/pixel/s @ 23 deg C
7. Spectral range: 290-1100 nm
8. Dynamic Range A/D: 14 bit
9. A/D conversion factor: 1.0 e/count
10. Exposure time: 5 $\mu$ s-60s variable
11. Data interface: USB 2.0
12. Digital temperature compensation for noise réduction:
13. Readout Noise : 5....7 e- @12 MHz or lesser
14. Dual pixel scan rate
15. Non Linearity: < 1 %
16. Smear: < 0.002 %
17. Frame Rate@ full frame : 13 fps or better
18. Trigger input Signal: Software/TTL level.
19. Optical Interface: C Mount
20. Binning (Hor X Vert): 2 X 2 Pixel should be possible
21. Operating temperature: + 10 Deg C to 45 Deg C or more
22. Power consumption: < 4W
23. The camera must be CE Certified
24. Necessary cable and Software must be provided with the camera

Note :

1. **Point by point compliance should be provided in the quotation.**
2. **Software feature should include an image recorder, b/w and color display, pseudo-look-up-tables; hot pixel correction, direct-record-to-file, image browser, histogram, preview, and many other helpful images acquire features.**
3. **The user list should be provided along with the quotation.**
4. **Camera should be compatible with the microscope with C-Mount thread**
5. **All system hardware and software should be from one manufacturer and should have total integral supply.**

### Terms and conditions

- The technical and commercial bids must be submitted in separate sealed envelopes subscribed with "**Technical Bid**" or "**Commercial Bid**" as appropriate. Both the technical and the commercial bids should be enclosed in an envelope subscribed "**Quotation for CCD Camera with C mount**" and should be submitted to the undersigned.

- The supplier must be an authorized dealer/distributor of the principal/manufacture and should furnish an authorization certificate from the principal/manufacture. Quotations without authorization certificate will be rejected.
- CIF New Delhi prices should be quoted with all the terms and conditions i.e. applicable taxes, installation, warranty and delivery schedule.
- Warranty of at least one year is a must.
- Quotations must be valid for at least three months from the date of the NIQ.
- The supplier should provide a list of institutions in India with the details of the optical microscopes supplied and with the contact details of the institution/department.
- A special discount/rebate wherever admissible keeping in view that supplies are being made for educational purpose in respect of public institution of national importance may please be indicated.
- The institute reserves right to accept or reject any or all quotations without stating the reasons thereof.
- The quotations should reach **Dr. Shalini Gupta**, latest by 5.00 pm on 15 Nov 2011. Your quotations should be superscripted by our reference number given on the first page.

Dr. Shalini Gupta

Department of Chemical Engineering

Block-I, Room-315

Indian Institute of Technology

Hauz Khas, New Delhi 110016

Tel no.: 011 2659 1070