



**Dept. of Applied Mechanics,
Indian Institute of Technology Madras
Chennai - 36**

Prof. Sayan Gupta
Professor
Department of Applied Mechanics.

Phone: +91(0) 44 2257 4055
Fax : +91(0) 44 2257 4052

Date: 31.01.19

Tender No.: APM/SAYA/2019/ENQ1

DUE DATE: 21.02.2019

Technical Bid Opening Meeting on 22.02.2019

Dear Sirs,

HIGH SPEED CAMERA

1. Quotations are invited in duplicate for the various items shown in Enclosed list (Annexure - I).
2. Tenders should be submitted under two-bid system, i.e., Technical Bid and Financial Bid. Both the bids should be submitted into two separately sealed envelopes with clear markings. Both these envelopes should be enclosed together in another sealed envelope.
3. The Quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach on or before the due date stipulated above. The address for the delivery of the tender is as follows:
Prof Sayan Gupta
MSB 229, Department of Applied Mechanics,
Indian Institute of Technology Madras
Chennai 600036 India
4. The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability of the bid as per our specifications and requirements. The bidders will NOT be invited for opening of Technical bids. In respect of opening of financial bid, only those technically qualified will be opened.
5. The Quotations should be valid for sixty days from the due date and the period of delivery required, warranty terms etc. should also be clearly indicated. A minimum of one year warranty is required.
6. Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
7. Compliancy certificate is to be provided indicating conformity to the technical specifications.
8. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
9. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses.
10. Packing and delivery charges must be clearly indicated.
11. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificate will be issued at the time of final settlement of the bill.
12. Goods should be supplied carriage paid and insured.
13. Goods shall not be supplied without an official supply order.

14. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
15. In case of LC. payment, 90% of the payment will be made after completion of the supply. The balance 10% of the payment will be made after satisfactory installation of the software.
16. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
17. **Acceptance and Rejection:-** I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully



Prof. Sayan Gupta
Department of Applied Mechanics.

ANNEXURE – I

Ref.. No.: APM/SAYA/2019/ENQ1 Date: **31.01.19** DUE DATE: **21.02.19**

DESCRIPTION		QUANTITY
HIGH SPEED CAMERA		1
Sensor Type	CMOS or sCMOS, monochrome	
Full Resolution	1280 (H) x 1024 (V) pixels or higher	
Pixel pitch	10 micron or smaller	
Sensor size (diagonal)	Greater than 12 mm along diagonal	
Frame rate	At least 1600 fps <i>at full resolution</i> At least 150K fps at reduced resolution	
Dynamic Range (ADC)	12 bit monochrome or higher	
Memory:	8 GB or higher	
Memory partitions:	Upto 64 memory segments	
Light Sensitivity	ISO 10,000 or higher (monochrome) <i>measured as per ISO 12232 Ssat Standard</i>	
Global electronic shutter	Lower than 4 μ s	
Quantum efficiency @630 nm	At least 60%	
Phase lock	Capability to synchronize the camera together with a master camera or external sources	
Trigger delay	Should be programmable at least 100 ns resolution	
Provision for user entered event markers	Should be available	
Lens mount	C mount	
Camera control interface	High speed Gigabit Ethernet	
Software	Should come with appropriate software for controlling camera parameters such as resolution, trigger delay, synchronization, exposure time, live viewing the region of interest, data transfer from camera to computer, basic image operations	
Image formats	TIFF, JPEG, RAW, MRAW, AVI, MOV	
Operating system	Should be supported in standard OS (Windows/Linux)	
Accessories	All necessary cables to connect to computer and transit case should be provided	
Power requirement	Should be able to work with 220 V AC single phase power supply	
Warranty	At least 1 year	
<i>Prices should include all installation costs.</i>		

