

Cost of Tender Document Fee Rs.500/-

**NATIONAL INSTITUTE OF TECHNOLOGY
KURUKSHETRA-136119**

INVITATION OF TENDERS

Uv-Vis-NIR Spectrophotometer

Tender Reference No. : **SCH/19/01**

Last Date and Time for : 15.10.2019 Upto 2:30 P.M
Receipt of Tender

Date and Time of opening : 15.10.2019 at 3:00 P.M
of Tender

Place of opening of : **Office of the Prof.-in-Charge (Stores)**
Tender **NIT, Kurukshetra**

INSTRUCTIONS TO TENDERERS
&
CONDITIONS OF CONTRACT

1. The National Institute of Technology, Kurukshetra, Haryana an Educational Institution invites tender for Supply of Uv-Vis-NIR Spectrophotometer.
2. The Tenders should be submitted in two parts in separate covers (Technical Bid & Financial Bid) in following manner:
 - (i) Bid containing technical specifications and Earnest Money Deposit (as per scheduled).
 - (ii) Bid containing financial offer.
3. The envelopes should be marked as Technical Bid and Financial Bid with reference number and submitted in one cover.
4. The Technical Bid and Financial Bid will be opened in two stages on different dates. The bid containing technical specifications and Earnest Money deposit will be opened at 1st stage. The Financial Bid of technically qualified bidders will be opened at 2nd stage and will be intimated to only the successful bidders accordingly.
5. Tender must be sent in a properly sealed envelope with tender number and due date subscribed on the envelope addressed to the Prof.-in-Charge (Stores), NIT, Kurukshetra.
6. The price should be quoted on prescribed price schedule. All corrections must be attested by the tenderer.
7. All the columns of the tender form shall be duly and properly filled in separately. The rates and units shall not be overwritten in the price schedule. The rates shall be quoted both in figures and words. The Tender should be signed by the authorized signatory of the firm with seal of the firm.
8. The tenderer shall deposit earnest money as specified in Schedule of Requirement alongwith Technical Bid in form of Account paying Bank Draft, Fixed deposit receipt, Bankers Cheque or Bank Guarantee from any Commercial Bank in favour of Director, National Institute of Technology, Kurukshetra. The tender without Earnest Money shall be rejected. The Earnest Money will remain valid for a period of 45 days beyond the final bid validity period.
9. In case the Tender Documents are downloaded from the website of the Institute for submission of the tender, the Tender Document Fee may be deposited through Demand Draft alongwith the Tender otherwise the tender may be rejected.
10. The successful tenderer shall furnish the Performance Security for an amount of 5% of total value of the equipment in form of Account Paying Bank Demand Draft, Fixed Deposit Receipt, Bankers Cheque or Bank Guarantee from any Commercial Bank in favour of Director, National Institute of Technology, Kurukshetra, which shall remain valid for a period of 60 days beyond completion of contractual obligations and warranty period.

11. The required delivery period must be mentioned against each item. After the order has been placed, the goods must be delivered within the stipulated period or by the delivery period extended by the Institute. In case of late delivery of goods, the Institute is entitled to recover as penalty from the tenderer a sum @ 0.5% of the total value of the goods per week and the maximum 10% of the total value of the goods for which the consignment is delayed beyond the due date.
12. The payment will be made after receipt of goods according to specifications, its installation and found good working order. In case the goods are rejected these have to be removed by the supplier at his own cost. The rejected goods must be replaced by the supplier within 15 days of the dispatch of registered notice intimating that the goods have been rejected failing which the order may be cancelled and security forfeited.
13. No payment will be made in advance for any supplies under this tender. No claim for any duty, not stipulated in tender will be admitted at any stage.
14. The valid documentary proof of GST No. & details of Income Tax registration (PAN) should be submitted alongwith tender. The taxes must be quoted clearly and separately. If the taxes are not quoted separately, it will be presumed that the rates quoted are inclusive of taxes. The rates quoted should be firm and include all charges. The material may be dispatched "FREIGHT PAID" where the offer is F.O.R. destination. The Form D is not issued by the Institute.
15. In case of goods controlled by the Government, the tendered rates shall not be higher than the controlled rates.
16. Standard warrantee of the items should be mentioned in the tender. A list of users where similar equipment has been supplied in the past should be furnished with the tender.
17. Director of the Institute reserves the right to accept or reject any tender or to cancel the whole bidding process without assigning any reason.
18. The Institute reserve the right to verify/seek confirmation of all original documentary evidence submitted by the venders in support of the tender specifications for eligible criteria. In case any information furnished by vender is found false/incorrect the tender will be rejected. The descriptive literature with full technical data and drawing/photos must be furnished alongwith the tender.
19. In case of dispute the decision of the Director shall be final. All above conditions will be enforced unless written orders of the Director are obtained relaxing any specific condition in any particular instance.
20. The tender shall remain valid for **90 days** from the date of opening of tender. Fax or conditional tender shall not be accepted.
- 21. Tender received beyond the fixed date and time shall not be accepted.**

22. The tenderers are required to quote their lowest rates in the very first instance and there shall be no negotiation in purchases. In case only one tender is received or only one tender remains according to specifications of the required goods, negotiation will be carried out.
23. As per specifications list attached, the tenderer must quote all items otherwise tender will be rejected.
24. **Tender Evaluation:** - All bids received in time will be technically evaluated by a committee who meets our tender specifications and other terms & conditions. The financial bids of those bid who are accepted by the committee will be opened.
25. **Lowest Offer:** - Lowest offer will be calculated on the basis of total price of all items quoted who qualifies our specifications and terms & conditions of our tender. No individual item price will be considered for comparison of prices.

PRICE SCHEDULE

Having examined the tender documents, the receipt of which is hereby duly acknowledged, we offer to supply the goods and services in conformity with the said tender documents at the rates shown below:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------|--------------------------|------|-------|---|-----------------------------------|-----|------------------------------|-----------------|------------------------------|---------|
| Sr. No | Particulars of the items | Unit | F.O.R | Duties inclusive, if exclusive rates be given | Packing forwarding charges if any | GST | Total Cost F.O.R Kurukshetra | Delivery Period | Particulars of Manufacturers | Remarks |
| | | | | | | | | | | |

N.B.: The price column should be properly filled. In case nothing is mentioned in the columns the price will be considered inclusive of Tax Duties, Packing and Forwarding charges etc.

Signature

Dated:

Address with seal

SCHEDULE OF REQUIREMENTS

| Sr. No. | Name of the Items | Qty. | Earnest Money (in Rs.) |
|----------------|------------------------------|-------------|-----------------------------------|
| 1. | Uv-Vis-NIR Spectrophotometer | 01 No. | 80,000/- |

TECHNICAL SPECIFICATIONS FOR UV-Vis-NIR SPECTROPHOTOMETER

| Sr No. | Components | Specifications |
|--------|--|---|
| 1. | Wavelength Range (Far UV to NIR) | 175-1800 nm or better |
| 2. | Monochromator | True Double beam/double out of plane monochromator with suitable gratings to provide best resolution of system with Below specifications for main frame spectrophotometer |
| 3. | Spectral Bandpass/bandwidth | 0.1 to 5 nm with 0.01 nm step (UV-VIS) & 0.5 to 20 nm NIR with 0.05 nm step or better |
| 4. | Photometric Range | ≥ 6 Abs or better |
| 5 | Photometric Accuracy: DA method 0.5A @UVS | ≤ 0.0003 Abs or better |
| 6 | Resolution | ≤ 0.05 nm (UV-Vis) and ≤ 0.2 nm or better with user selectable band width |
| 7 | Wavelength Accuracy | +/- 0.08 nm or better for (UV-Vis range) +/- 0.4 nm or better for (NIR) |
| 8 | Wavelength Reproducibility (nm) Standard Deviation of 10 measurements | < 0.005 nm (UV-Vis) & <0.02 nm (NIR) or better |
| 9 | Photometric Linearity (Abs) : UV-Vis @ 3Abs & NIR @ 2Abs | <0.005 Abs (UV-Vis @ 3Abs) & 0.0018Abs (NIR) or better |
| 10 | Photometric Reproducibility (Abs) : 0.5 Abs, Standard deviation of 10 measurements | <0.00008 Abs (NIST 930D @at 546.1nm, 2 s SAT, 2nm (SBW) or better |
| 11 | Photometric Stability (Abs/hr) After 2 hr warm up ,500nm,1s.SAT,2nmSBW | <0.0002 Abs or better |
| 12 | Stray Light | ≤ 0.00007 % or better (at 220 and 370nm) |
| 13 | Source | Pre-aligned tungsten Halogen source (Vis) and Deuterium source (UV) and must be user replaceable with other source like LED |
| 14 | Detectors | To cover Full Range (UV-Vis-NIR) 175-1800nm or better with Proven PMT and InGaAs detector, detector module must be upgradable with PbS detector for extended NIR upto 3300nm |
| 15 | Baseline flatness | Better than or equal to +/- 0.0008Abs (190-1800nm or better) ,0.2 sec SAT, no smoothing applied (2 nm slit) for UV-Vis |
| 16 | Noise Level UV/Vis/NIR (Abs/RMS) | Better than or equal to 0.00005, 0A and 500nm (2nm slit/sBW) and |
| 17 | Noise Level NIR (Abs/RMS) | Better than or equal to 0.00002 A or better , 0A at 1500nm |
| 18 | Software | Compatible user-friendly software for operating the basic equipment. Should have data processing viewer module for control, operation, data collection, color analysis and data processing and processing and reviewing feature on remote PC should also be possible ; AND Quantitative calibrations, PLS, PCR, Band Gap (Kubelkaa Munc / Tauc Plot Analysis, should have the option to export the data in .txt/.asc format. Software |

| | | |
|----|---------------------|---|
| | | <p>must have upgradation of Glass calculation, Filter calculation and standard Color complying software as per ASTM, ISO, EN etc. All accessories should be auto-recognized through software.</p> <p>Software must be able to control beam height for small sample analysis. Software must be able to handle high absorbing sample with inbuilt/external attenuators.</p> |
| 19 | Sample Compartment | <p>Suitable Large sample compartment for utilizing all necessary for analyzing liquid, solid and thin film , and must have dual sample compartment (transmittance analysis with standard compartment & second compartment for advance accessories)</p> |
| 20 | Accessory Required | <p>A. Diffuse Reflectance Accessories: minimum 100mm integrating sphere (PMT/InGaAs or three detector PMT/InGaAs/PbS) to measure 190-2500 nm or better. 100 mm DRA with powder sample holder, transmission holder for thin film and cuvette holder.</p> <p>B. Solid sample transmission holder: 1 Nos. solid sample transmission holder for thin film/solid samples.</p> <p>C. Solid powder sample holder: - 1 Nos.</p> <p>D. Quartz Cuvette: pair of quartz cell of 3 mL capacity and 10mm pathlength for liquid sample</p> <p>E. Attenuator: must offer with system, Inbuilt /external attenuators for analysis of high absorbing samples and software controllable</p> <p>F. Beam size/aperture holder: Variable Beam height/width holder must be offer with main system to analysis small sample analysis and Beam size (height and width; 1mm to 11 mm) should be fully software controllable.</p> <p>G. Desktop: suitable branded PC with i7 processor with 16 GB RAM, Hard Disk 1 TB, 17-inch monitor</p> <p>H. UPS: Suitable UPS with 30 min backup</p> |
| | Optional items | <p>Software controlled variable angle reflectance accessory with provision to automatically set angles between 20 – 70 degree or better and should be software controllable.</p> |
| | Upgradation | <p>System must be upgradable to 250 mm Integrating Sphere to mount large and highly sensitive samples with temp module upto 250 °C. Also system must be upgradable to advance accessory to measure transmittance and reflectance simultaneously for full range 190-3300 nm with variable angle +/- 180° for sample size 200mm.</p> |
| | Standard warranty | <p>One year for complete system along with accessories</p> |
| | Offer and documents | <p>Vendor must provide supporting technical literature, proprietary/patent certificates in case applicable.</p> |