



National Centre of Excellence in Analytical  
Chemistry,

University of Sindh, Jamshoro.

## Tender Document

### Double Beam UV-Vis Spectrophotometer

#### ISSUED TO

M/s. ....

Purchase Date: .....

D.D No. ....

D.D Date. ....

D.D Amount. ....

#### ISSUED BY:

Principal Investigator

National Centre of Excellence Analytical  
Chemistry, University of Sindh, Jamshoro.

Tel: 022- 9213429, Fax. 022- 9213431

[www.ceacsu.edu.pk](http://www.ceacsu.edu.pk)

## Terms and Conditions

1. Bidding process shall be single stage two envelope procedure.
2. Incomplete or Conditional Tender will not be accepted.
3. The sealed envelope should clearly be marked with the name of work, technical and financial Proposal.
4. Vender/ bidder sign & stamp on each page of the tender documents is required.
5. Bid security 3% of the total quoted bid in the form of CDR/ DD/ Pay order in favor of Principal Investigator, Sindh, HEC Project, National Centre of Excellence in Analytical Chemistry, University of Sindh, Jamshoro in shape of Demand Draft.
6. N.T. N and G.S.T certificates are mandatory to be submitted.
7. Complete set of financial bit/ Documents including brochure, literature and manufacturer of branded of items should be provided.
8. The items should be best quality and you will have to give guarantee of the desired articles. The goods found up to the standard will only be accepted by this office and no payment for the rejected / inferior items will be made to you, in the interest of Government.
9. Offer must be quoted F.O.R basis, which shall include (installation, commissioning, transportations labor charges upto final designation NCEAC, University of Sindh, Jamshoro.
10. The bidder can not quote alternate offer and it will not be considered without submission of 3% bid security.

### Detail of Bit Security Submitted

D.D No. \_\_\_\_\_

Value: \_\_\_\_\_

Dated: \_\_\_\_\_

Bank: \_\_\_\_\_

11. Item may be supplied within 90 days of Purchase Order.
12. Installation should be done within 15 days of equipment arrival.
13. One Year Service Warranty with Parts and Two Years after Sales Service free of Cost without Parts should be given.

14. The goods may please be dispatched, securely packed and the bill of charges may please be sent to this office in quad replicate for arranging the payment.
15. The breakage if any occurs will be borne by supplier.
16. Country of origin & manufacturer (separately), completion time, after sale service, warranty condition may be clearly specified under respective caption; where completion time shall mean time consumed in delivery till final destination. Time required for fixation, installation, training and commissioning of the delivery items.
17. The Part/Portion of the supply order will not be accepted by this office.
18. If the material is not supplied within the scheduled time, the order will be treated as cancelled.
19. Successful bidders shall be required to provide performance security in the shape of CDR/ Demand Draft/ Pay order in favor of Principal Investigator, Sindh HEC Project NCEAC, University of Sindh, Jamshoro. Amount 5% of the final order value at the time of acceptance of letter/ Purchase Order can be Refundable after One Year and you may refund 3% earnest money submitted with tender.
20. The tender document will be issued against non-refundable Rs. 2,000/= (rupees two thousand) in favor of Principal Investigator, Sindh HEC Project, NCEAC, University of Sindh, Jamshoro in shape of demand draft/ pay order from upload to 26/07/2023 on working days only and received back up to 16/08/2023 at 12:00 noon. and will be opened at 2:00 P.M on the same day in the Video Conference Room, NCEAC, University of Sindh, Jamshoro at in presence of bidders/ representatives who wish to attend.
21. The undersigned reserves the rights to accept or reject any item and the decision of the Principal Investigator, National Centre of Excellence in Analytical Chemistry, University of Sindh, and Jamshoro will be final.

I abide myself of the above terms and conditions.

\_\_\_\_\_  
Signature & Seal of the Institute

**Prof. Dr. Syed Tufail Hussain Shah**

Principal Investigator  
Sindh HEC Project,  
NCEAC, University of Sindh, Jamshoro.

\_\_\_\_\_  
Signature & Seal of the supplier

M/s. \_\_\_\_\_

**Technical Specification**  
**Double Beam UV-Vis Spectrophotometer**

S. No	Item Description	Qty	Price EXCLUDE TAX	Price INCLUDE TAX
01	<b>Optical Design:</b> Double beam with sample and reference cuvette/accessory positions			
02	<b>Spectral Bandwidths:</b> 1 nm Fixed			
03	<b>Light Source:</b> Xenon Flash Lamp			
04	<b>Grating:</b> Holographic, 1200 lines/mm, blazed at 240 nm			
05	<b>Beam Separation:</b> 210 mm (8.27 in)			
06	<b>Scan Ordinate Modes:</b> Absorbance, % Transmittance, % Reflectance, Concentration, 1st – 4th Derivative			
07	<b>Maximum Resolution:</b> 0.5 nm			
08	<b>Resolution:</b> (Toluene in Hexane) Peak/Trough Ratio > 2.0:			
09	<b>Maximum Data Resolution:</b> 0.05 nm			
10	<b>Wavelength range:</b> 190 – 1100 nm			
11	<b>Spectral Bandwidth:</b> 1.0 nm			
12	<b>Optical Design:</b> Double Beam with sample and reference cuvette positions; Czerny-Turner Monochromator			
13	<b>Absorbance range</b> ± 4 A			
14	<b>Stray Light:</b> ≤1%T at 198 nm KCl; ≤0.05%AT at 220 nm: NaI, KI			
15	<b>Wavelength accuracy</b> ± 0.20 nm (546.11 nm Hg emission line), ± 0.15 nm (656.10 nm Deuterium line)			

16	<b>Wavelength Repeatability:</b> Peak separation of repetitive scanning of Hg line source < 0.10 nm Standard deviation of 10 measurements < 0.05 nm			
17	<b>Data Interval:</b> 10, 5, 2, 1, 0.5, 0.2, 0.1, 0.05 nm			
18	<b>Photometric accuracy At 1A</b> ± 0.004 A, 2A: ± 0.004 A, 3A: ± 0.006 A			
19	<b>Photometric Display</b> ± 6 A			
20	<b>Photometric Range</b> >3.5A			
21	<b>Photometric Noise:</b> 0A: < 0.00018 A, 1A: < 0.00022 A, 2A: < 0.00050 A, 500 nm, 2.0 nm SBW, RMS			
22	<b>Photometric Repeatability</b> 1A: ± 0.0025 A			
23	<b>Baseline flatness</b> Slit ±0.0010 A, 200 to 800 nm, 1.0 nm SBW, smoothing			
24	<b>Photometric Drift</b> < 0.0005 Abs/hour 500 nm, 2.0 nm SBW, 2 hr warm-up			
25	<b>Scan speed</b> 3800, 2400, 1200, 600, 240, 120, 60, 30, 10, 5, 1 nm/min			
26	<b>Source</b> Deuterium & Tungsten			
27	<b>Stray Light</b> 198 nm: > 2.0 A KCl, EP June 2005, 220 nm: > 3.7 A, 340 nm: > 3.9 A NaNO <sub>2</sub>			
28	<b>Baseline Flatness</b> ± 0.0015 A (200 – 800 nm) 2.0 nm SBW, smoothed			
29	<b>Detector Type</b> Dual Silicon Photodiodes			
30	<b>USB Communications Interface</b>			
31	<b>QUARTZ CELLS:</b> 10mm Quartz Cell pair			
32	Compatible PC + 18.5" LCD/LED Processor Intel i7 3GHZ Ram 8 GB Hard Disk 500GB			

Principal Investigator  
HEC, Project

	Windows 10 Original Software CD, Manuals (User Manual, Technical Manual)			
33	<b>Electrical Requirement:</b> 100/240 V, 50/60 Hz selected automatically, 150 W maximum			
34	<b>Warranty:</b> 1 Year with Parts and 2 Years without parts			
	<b>Printer:</b> Mono Laserjet			
	<b>UPS:</b> 1 KVA UPS			



**Prof. Dr. Syed Tufail Hussain Shah**  
**Principal Investigator**  
**Sindh, HEC Project.**  
**NCEAC, University of Sindh, Jamshoro**

**Principal Investigator**  
**HEC, Project**