

**TENDER DOCUMENT**  
**(Advt. No.: 09 /2017 – 18)**  
**TOTAL ESTIMATED PRICE: 26.06 LAKHS**

**Procurement of Various Equipment and  
Accessories for Civil Engineering Department**



**DEPARTMENT OF CIVIL ENGINEERING**  
**NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH, KOLKATA**  
Block-FC, Sector-III, Salt Lake City,  
Kolkata- 7000 106



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS'  
TRAINING AND RESEARCH, KOLKATA**

(Under Ministry of HRD, Govt. of India)  
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Tel: +91-33-23370479 / 4125; Fax : 91-33-23376331  
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**TENDER NOTICE**

Sealed tenders are invited from manufacturers / bonafide suppliers / authorized dealers of Equipment and Accessories for Environmental Pollution Monitoring Laboratory and High way Engineering Laboratory (Department of Civil Engineering). Tender Document (TD) is obtainable from Accounts Section or website or CPPP from 08/01/2018 to 29/01/2018. The cost of downloaded TD, Rs. 500.00 each and EMD @ 4% on estimated price (under each lab) are payable through separate DD i/f/o “**Director, NITTTR, Kolkata**” payable at Kolkata. The last date of submitting **TD** is 29/01/2018 upto **3 pm**. Tender will be opened at **4 pm** on the same date.

Advt. No.: 09/2017 – 18

Director

To,

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

**Sub: Invitation of quotations for supply of various equipment and Accessories for Environmental Pollution Monitoring Laboratory in Department of Civil Engineering**

Dear Sir,

Sealed tenders are invited from the bonafide suppliers / manufacturers / authorized dealers for supply of various equipment whose specifications are stated below: -

## TECHNICAL SPECIFICATIONS

### EQUIPMENT / ACCESSORIES FOR ENVIRONMENTAL POLLUTION MONITORING LABORATORY, DEPARTMENT OF CIVIL ENGINEERING (ESTIMATED PRICE 20.06 LAKHS)

#### A. List of equipment

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)												
1.	<p>Bench Top DO Meter: DO Meter with electrode for modern laboratory surroundings. The key pads are clearly outlined and easy-to-operate/clean. Backlit graphic display with mini USB-B interface provides fast data transfer to a PC.</p> <p>The internal memory can record up to 5000 GLP complying data including ID, date and time.</p> <p>The meter includes automatic barometric pressure and temperature compensation.</p> <p>An integrated thermal printer (58 mm width) is ready for printout of the measured data.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Dissolved oxygen concentration:</td> <td>0,00 ... 19,99 mg/l +/- 0,5 % Mw. 0 ... 90 mg/L +/- 0,5 %</td> </tr> <tr> <td>Saturation:</td> <td>0,0 ... 199,9 % +/- 0,5 % v. Mw. 0 ... 600 % +/- 0,5 v Mw.</td> </tr> <tr> <td>Partial pressure:</td> <td>0 ... 199,9 hPa, 0 ... 1250 hPa</td> </tr> <tr> <td>Temperature:</td> <td>-5,0 ... 105,0 °C +/- 0,1 °C</td> </tr> <tr> <td>Calibration memory:</td> <td>Up to 10 calibrations recallable</td> </tr> <tr> <td>Power supply</td> <td>Universal power supply, 100 to 240 V, 50/60 Hz, 4 x 1,5 V AA or 4 x 1,2 V NiMH</td> </tr> </table> <p>Make: WTW or Equivalent</p>	Dissolved oxygen concentration:	0,00 ... 19,99 mg/l +/- 0,5 % Mw. 0 ... 90 mg/L +/- 0,5 %	Saturation:	0,0 ... 199,9 % +/- 0,5 % v. Mw. 0 ... 600 % +/- 0,5 v Mw.	Partial pressure:	0 ... 199,9 hPa, 0 ... 1250 hPa	Temperature:	-5,0 ... 105,0 °C +/- 0,1 °C	Calibration memory:	Up to 10 calibrations recallable	Power supply	Universal power supply, 100 to 240 V, 50/60 Hz, 4 x 1,5 V AA or 4 x 1,2 V NiMH	206,500.00	One	206,500.00
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Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
2.	<p>Analytical Electronic Balance(ME 104)</p> <p>Capacity: 120gm</p> <p>Readability: 0.1mg/0.0001gm</p> <p>Repeatability: 0.1mg/0.0001gm</p> <p>Linearity: 0.2mg</p> <p>Pan Size: 80-90m (Dia)</p> <p>Setting Time: 3 Sec. or Better</p> <p>The Balance should be Fully Internal Adjustment/ Calibration Technology.</p> <p>Brilliant Backlit Display with Big Digit.</p> <p>The Balance should have Die Cast Housing with Chemical Resistant.</p> <p>Should have maximum Overload Protection</p> <p>Full Tare facility needed.</p> <p>Other Features like Unit Conversion at a key stroke, Piece counting, % Weighing, Statistics, Formulation,</p> <p>Totaling, Dynamic Weighing, Free Factor etc.</p> <p>Sensitivity Temperature Drift: 2.0ppm/°C</p> <p>Should have RS 232 port for transferring data to PC/Printer</p> <p>Should cover with a glass Draft shield.</p> <p>The Balance should be supply with a Dust Proof Cover.</p> <p>The balance should have GLP/GMP Complied.</p> <p>Power Supply: 220V/50Hz</p> <p>Make: Mettler Toledo or equivalent</p>	128,000.00	One	128,000.00

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
3.	<p>Analytical Electronic Balance(MT 104)  Microprocessor based Electronic analytical balance Fully Microprocessor based full tare facility with the following specifications.  Readability 0.0001gm  Weighing range 0 – 120gm  Tare range full  Repeatability 0.0001gm  Linearity 0.0002gm  Power supply battery /AC  In built interface for Printer / Computer without requirement of any additional software.  The balance should be equipped with overload protection.  The balance should be run itself the diagnostics tests to check its performance.  Touch screen display of 4.5” full colour.  Balance leveling assistance on line  Other built in applications: Piece Counting, Percentage Weighing, Dynamic Weighing, Statistics etc.  HIGH PERFORMANCE MONOBLOC WEIGHING CELL for fast and accurate results.  Fully automatic Internal Calibration System internal weight is inbuilt. (FACT)  The Balance should be calibrated with External Weight at a key stroke.  Make: Mettler Toledo or equivalent</p>	192,000.00	One	192,000.00

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
4.	<p><u>Semi-micro Balance (MS 105DU)</u>  Application: Piece counting, formulation, percent weighing, statistics, differential weighing and free factor, recall, density, pipette check.  Capacity: Maximum capacity: 120 g; Maximum capacity (fine range): 42 g  Readability: Readability: 0.1 mg; Readability (fine range): 0.01 mg  Repeatability: At nominal load: 0.08 mg (100 g); At low load: 0.03 mg (40 g); At fine range and at low load: 0.02 mg (20 g)  Linearity deviation: 0.15mg (0.02 mg)  Sensitivity offset: 0.8 mg (200 g)  Pan size: 80 mm <math>\phi</math>  FACT facility: FACT - Fully automatic time &amp; temperature controlled adjustment and linearization facility  Weighing cell: HRT weighing cell with 2 Nos. built-in weights, for constant accuracy over the entire weighing range  Ergo door: The right door can be opened from the left and vice versa  Smart trac facility: Smart track facility to show how much of the entire weighing range has been used  Smart key: Three programmable keys for shortcut access to preferred applications  Diagnostic test option: Easy to running of balance diagnostic test e.g. key pad test, repeatability test  Easy cleaning option: Fast and convenient dismantling of the draft shield  Connectivity: Built-in RS 232 port and also USB Port  Make: Mettler Toledo or equivalent</p>	268,000.00	One	268,000.00

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
5.	Nitrate electrode for HQ 40d: <u>Specifications:</u> Accuracy: $\pm 0.02\text{mV}$ or 0.05%, whichever is greater Cable Length: 1 m Connector: HQD specific Diameter: 12 mm Dimensions (D x L): 12 mm x 220 mm Electrode Type: Non-refillable / Gel Filling Solution: Non-refillable driTEK gel ISA Required: 2984799 Junction: Porous PTFE Annular Ring Length: 220 mm Material: Sensor Body: Epoxy Parameter: Nitrate Probe Type: Standard Range: 0.1 - 14000 mg/L 0.1 mg/L ( $7 \times 10^{-6}$ M) - 14,000 mg/L (1 M) $\text{NO}_3^-$ -N Reference Type: Ag/AgCl Resolution: 2, 3, 4 significant digits selectable Sensor material: Epoxy Sensor Type: Solid-state PVC membrane Special Feature: Dry storage & fast response time. No replacement membranes. Temperature Range: 0 – 50 °C Make: Hach only	106,200.00	One	106,200.00
6	Magnetic heater cum Stirrer Digital Magnetic Stirrer Hot Plate, Top Plate Size: 26cm x 26cm, Material: Ceramic Make: Tarsons or equivalent	31,500.00	1	31,500.00



Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
7.	<p>Autoclave: Steam sterilizer- Vertical - (Fully Automatic-GMP Model)</p> <p>Double body has single chamber for steam and water, covered externally by outer shell.</p> <p>Inner body heavy gauge SS304</p> <p>Outer shell SS304</p> <p>Lid made up of thick SS304 designed to withstand pressure up to 30PSI, Operating pressure 15 to 22 PSI</p> <p>Size of working chamber (inch) : 12 x ht. 20</p> <p>Size of working chamber (cm) : 30 dia x 50 ht</p> <p>Inner chamber size (inches) : 12 x 24</p> <p>Volume : 35Ltrs</p> <p>Rating (KW) : 2.0</p> <p>Complete unit with automatic initial air purging, digital temperature controller and indicator with 0.10C resolution, with electronic digital timer range 0-99 minutes.</p> <p>Autoclaving time cycle automatically starts when set temperature is achieved. Automatic steam release when autoclaving cycle completes.</p> <p>Low water level cutoff system prevents heater from burning out.</p> <p>Fitted with pressure gauge, safety valve and steam release valve</p> <p>Electrically operated on 230V AC/ 50Hz.</p> <p>Complete with SS Basket</p> <p>Make: Revotek or equivalent</p>	190,700.00	One	190,700.00
8.	Lamp & Standard for Agilent AAS 200:			
	Molybdenum - Mo, Coded HC Lamp, 1/pk P/N-5610103500	40,504.00	One	40,504.00
	Arsenic - As, Coded HC Lamp, 1/pk P/N-5610100300	40,605.00	One	40,605.00
	Molybdenum, 1000 ug/ml, 100ml P/N-5190-8297	1,655.00	One	1,655.00
	Arsenic, 1000 ug/ml, 100ml P/N-5190-8246	3,168.00	One	3,168.00
	1 A wall-mountable unit to locally control one gas line exiting from the Gas Station (1:1x1). Available in 1/8 Connection or 1/4".This comes complete with one each of Pressure Regulator, Toggle Valve, and Pressure Gauge.	5,664.00	Two	11,328.00
	Spare SS-Braided Flexible Pigtails Complete with end fittings for use with SS Gas manifold (1mtr. Length)	5,664.00	Two	11,328.00
	Make: Agilent only or equivalent			

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
9.	<p>Motorized Sieve Shaker with different sieves: Sieve Shaker, Motorised, with Built-in Digital Timer, Sieve Brass Frame: 20cm dia x 600 microns, 20cm dia x 300 microns, 20cm dia x 150 microns, 20cm dia x 125 microns, 20cm dia x 106 microns, 20cm dia x 90 microns, 20cm dia x 75 microns, 20cm dia x 53 microns, 20cm dia x 38 microns, Pan and Cover for 20cm dia sieves Make: Aimil or equivalent</p>	69,909.00	One	69,909.00
10.	<p>Fine dust sampler with consumable for SO<sub>2</sub> and NO<sub>2</sub>: PM 10 Inlet : PM 10<math>\mu</math> size ambient particle inlet assembly with sample tube as per EPA Guidelines. PM 2.5 Inlet : PM 2.5 <math>\mu</math> WINS impactor as per EPA Guidelines. Filter Cassette : Mounted in filter holder assembly to hold 47 mm filter media. Electronic flow control system with mass flow controller : a) Flow : Range 13-20 lpm, preset @ 16.67lpm +/- 0.5% b) Flow Control accuracy : <math>\pm</math>0.5% of the reading c) Flow Controller : Electronic flow control system with mass flow controller d) Accuracy of Control : Better than +/-0.5% over 24Hrs @ 16.67 lpm e) Totalizer : Volume totalizer. f) Temperature sensor : To measure ambient and filter temperature Range : 0°C to 50°C with resolution of 0.1°C g) Barometric Pressure sensor : Range 600 to 800 Hg Resolution 1 mmHg h) Serial Output : USB port to store data in pen drive i) Clock / Timer : Digital display of Date, time and sampling time Programmable RTC with auto start and stop functions. j) Vacuum pump : Diaphragm type pump working on 230V k) Stand : Raise the sampling inlet to 2 mt. from ground level, Total Suspended Particulate Inlet, Data Transfer module with pc software, IGST, consumable for SO<sub>2</sub> and NO<sub>2</sub> Make: Netel (India) Pvt. Ltd. or equivalent</p>	140,000.00	One	140,000.00

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11.	<p>Portable multiparameter Analyzer(3260): Submersible (IP 67) waterproof handheld multiparameter instrument (Dissolved Oxygen, pH/ORP, Conductivity/ Salinity, Temp with inbuilt data logger (10000 datas) with large multi-function display and come with Professional case, automatic calibration of all sensors, ABS plastic housing, Calibration and measurement in GLP mode with calibration protocol, calibration timer.</p> <table border="1"> <tr> <td>Auto Read</td> <td>for pH, Dissolved Oxygen &amp; Conductivity/TDS</td> </tr> <tr> <td>Data output</td> <td>Directly to USB stick or PC through mini – USB port &amp; selected Printer.</td> </tr> <tr> <td>Protection Type</td> <td>IP 67</td> </tr> <tr> <td>System Protocol</td> <td>GLP Confirmed</td> </tr> <tr> <td>Data Memory</td> <td>manual 500/ 10000 automatic</td> </tr> <tr> <td>Electrode</td> <td>Intelligent Digital Sensor (IDS) with inbuilt memory</td> </tr> <tr> <td>Operating Time</td> <td>100 hrs of operation with battery operation</td> </tr> <tr> <td>Power Supply</td> <td>Battery charger or 4 x 1.2 V NiMH rechargeable batteries</td> </tr> <tr> <td>Test Certificate</td> <td>ISO 9001, CE, and TUV,</td> </tr> </table> <p>I. pH/mV measurement</p> <table border="1"> <tr> <td>Measuring Range</td> <td>pH: - 2.00 to + 20.00, mV: ± 2000</td> </tr> <tr> <td>Accuracy (± 1 digit)</td> <td>± 0.01 pH , ±1 mV</td> </tr> <tr> <td>Temp. Compensation</td> <td>Automatic between –5°C to + 105.0°C</td> </tr> <tr> <td>Calibration</td> <td>1-, 2-, 3-, 4-, 5-point; WTW Technical, DIN/NIST, additionally 20 buffer sets</td> </tr> <tr> <td>Calibration memory</td> <td>up to 10 calibrations</td> </tr> </table> <p>II. Dissolved Oxygen (DO)</p> <table border="1"> <tr> <td>Technology</td> <td>Optical Dissolved Oxygen Sensor</td> </tr> <tr> <td>Measuring Range</td> <td>Concentration: 0.00 to 20.0 mg/l,</td> </tr> <tr> <td>Saturation</td> <td>0.0 to 200%,</td> </tr> <tr> <td>Partial pressure</td> <td>0 ... 400.0 hPa</td> </tr> <tr> <td>Accuracy (± 1 digit)</td> <td>± 0.5%</td> </tr> </table> <p>III. Conductivity, Salinity &amp; TDS</p> <table border="1"> <tr> <td>Conductivity</td> <td>0.0 ... 2000 mS/cm</td> </tr> <tr> <td>Additionally</td> <td>0.00 ... 19.99 µS/cm, K = 0.1 cm–1 (Optional)</td> </tr> <tr> <td>Spec. Resistivity</td> <td>0.00 ... 20 MΩ·cm</td> </tr> <tr> <td>Cell constants</td> <td>Automatic (0.475 cm–1)</td> </tr> <tr> <td>Salinity</td> <td>0.0 ... 70.0 (acc. IOT)</td> </tr> <tr> <td>TDS</td> <td>0 ... 1999 mg/l, 0 ... 199.9 g/l</td> </tr> <tr> <td>Temperature</td> <td>– 5.0 ... 105.0 °C</td> </tr> </table> <p>Make: WTW or equivalent</p>	Auto Read	for pH, Dissolved Oxygen & Conductivity/TDS	Data output	Directly to USB stick or PC through mini – USB port & selected Printer.	Protection Type	IP 67	System Protocol	GLP Confirmed	Data Memory	manual 500/ 10000 automatic	Electrode	Intelligent Digital Sensor (IDS) with inbuilt memory	Operating Time	100 hrs of operation with battery operation	Power Supply	Battery charger or 4 x 1.2 V NiMH rechargeable batteries	Test Certificate	ISO 9001, CE, and TUV,	Measuring Range	pH: - 2.00 to + 20.00, mV: ± 2000	Accuracy (± 1 digit)	± 0.01 pH , ±1 mV	Temp. Compensation	Automatic between –5°C to + 105.0°C	Calibration	1-, 2-, 3-, 4-, 5-point; WTW Technical, DIN/NIST, additionally 20 buffer sets	Calibration memory	up to 10 calibrations	Technology	Optical Dissolved Oxygen Sensor	Measuring Range	Concentration: 0.00 to 20.0 mg/l,	Saturation	0.0 to 200%,	Partial pressure	0 ... 400.0 hPa	Accuracy (± 1 digit)	± 0.5%	Conductivity	0.0 ... 2000 mS/cm	Additionally	0.00 ... 19.99 µS/cm, K = 0.1 cm–1 (Optional)	Spec. Resistivity	0.00 ... 20 MΩ·cm	Cell constants	Automatic (0.475 cm–1)	Salinity	0.0 ... 70.0 (acc. IOT)	TDS	0 ... 1999 mg/l, 0 ... 199.9 g/l	Temperature	– 5.0 ... 105.0 °C	312,700.00	One	312,700.00
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13.	<p>Portable Colorimeter            USB cable with mini-USB connector, 4-AA alkaline batteries, 2 glass sample cells 1-inch (25 mm) round with 10, 20, 25-mL marks, 2 sample cells 1 cm/10 mL, sample cell adapter, instrument procedures CD, and multilingual user manual</p> <p><u>Specifications:</u>            Battery Life: 6 months (typical) @ 5 readings a day without backlight            Data Logger: 500 measured values (Result, Date, Time, Sample ID, User ID)            Detector: Silicon photodiode            Dimensions (H x W x D): 231 mm x 96 mm x 48 mm            Display: Graphical display 240 x 160 pixels (Backlit)            Enclosure Rating: IP67 (vial cover closed)            Interface: USB type Mini IP67            Manual Languages: English, French, German, Italian, Spanish, Portuguese, Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Swedish, Turkish            Operating Conditions: 10 - 40 °C (50 - 104 °F), max. 80 % relative humidity (non- condensing)            Operating Humidity: max 90 % relative humidity (non-condensing)            Operating Mode: Transmittance (%), Absorbance and Concentration            Operating Temperature: 10 - 40 °C            Optical System: 0 / 180 deg transmittance            Photometric Accuracy: ± 0.005 Abs @1.0 ABS Nominal            Photometric Linearity: ± 0.002 Abs (0 - 1 Abs)            Photometric Measuring Range: 0 - 2 Abs            Power Supply: 4 x AA size alkaline cells            4x NiMH rechargeable Battery            Reproducibility: ± 0.005 Abs (0 - 1 A)            Sample Cell Compatibility: 1 inch round or 16 mm round (with adapter)            Spectral Bandwidth: 15 nm filter bandwidth            Temperature Range: 0 - 50 °C (32 - 122 °F)            User Programs: Custom programming 10            Wavelength Accuracy: ± 1 nm            Wavelength Range: 420 nm, 520 nm, 560 nm, 610 nm            Wavelength Selection: Automatic            Shall Equipped with USEPA compliant SPADNS 2 (Arsenic-free) Fluoride Reagent, PK of 25, Range: 0.02 - 2.00 mg/L F- and USEPA compliant FerroVer® Iron Reagent Powder Pillows, 10 mL, PK of 100, Range: 0.02 to 3.00 mg/L            Make: Hach or equivalent</p>	153,400.00	One	153,400.00
14.	<p>Portable dB Meter : Digi-Sense Data Logging            Sound Meter with NIST-Traceable Calibration            Make: Cole-parmer or equivalent</p>	58,410.00	One	58,410.00
15.	<p>Digi-Sense Wireless Digital Thermometer &amp;            Humidity Set            Make: Cole-parmer or equivalent</p>	19,706.00	One	19,706.00

Sl. No	Item	Unit Price (Rs.)	Quantity	Total Estimated Price (Rs)
16.	Portable Solution Temperature Meter	20000/-	One	20000/-
	Range	Temp 10 J meter: -210 °C to 1200 °C (-346 °F to 2192 °F) Temp 10 K meter: -250 °C to 1372 °C (-418 °F to 2501 °F) Temp 10 T meter: -250 °C to 400 °C (-418 °F to 752 °F)		
	Resolution	Below 1000 °: 0.1 °C/°F ; above 1000 °: 1 °C/°F		
	Accuracy	Above -150 °C: ±0.1 % of reading ±0.4 °C ; Below -150 °C: ±0.25 % of reading ±1 °C		
	LCD	58 x 40 mm with backlight		
	Min/Max Reading	Yes		
	Auto Shut-Off	17.5 min (selectable)		
	Hold Function	Yes		
	Stability Indicator	Yes		
	Input	Single		
	Power Requirements	3 'AA' 1.5 V alkaline; >750 hours (without backlight)		
	Storage	-40 °C to 65 °C (-40 °F to 149 °F); 10 % to 90 % (non-condensing)		
	Dimensions & Weight	& 175 x 97 x 42 mm (LxWxT), 267 g (without armor) ; 180 x 102 x 52 mm (LxWxT), 362 g (with armor)		
	Ingress Protection	IEC-529 IP54 for dust and water-resistant enclosures		
	Make:	Eutech or equivalent		

## **B. Terms & Conditions:**

- 1** The tenderer(s) should be either manufacturer of base machine / equipment / tool or an authorized business partner / marketing agent / service agent / reseller etc. of the OEM. In case of authorized business partner / marketing agent / service agent / reseller etc authorization certificate should be attached along with the tender. *It is expected that the tenderer(s) should quote product of renowned company with global presence and acceptance, however upcoming companies may quote with documentary evidence (including product quality & certification, customer base & order copy, business volume in last years, period of operation in India /Eastern region etc.) to establish their credentials.*
- 2** A few add-on items are mentioned in the specifications. These needs to be integrated with the system and comprehensive warranty for three (3) years is to be provided by the manufacturers of different add-on items along with the base machine. The tenderer(s) (integrator) should provide necessary supporting documents to authenticate their claim. Warranty will start from the date of installation and commissioning.
- 3** The brands / models / specifications mentioned are indicative. Equivalent higher configuration products may also be quoted whenever suitable, Additional models may also be quoted separately. Tenderer(s) from authorized agents of reputed manufacturer of equipment along with add-on items will be preferred.
- 4** The quoted system should be as per the specification and should be 100% compatible with the exiting system available in the institute. Prospective tenderer(s) may visit National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata with prior appointment for this purpose. The Institute at its discretion may upgrade / modify the specification if required.
- 5** The rate quoted must be F.O.R. NITTTR, KOLKATA inclusive of packing, forwarding etc. GST and insurance, if any must be indicated separately. Discount for educational institute is to be indicated clearly. For imported items, Custom duty shall be indicated separately. The institute will provide the necessary documents for Excise and Custom duty exemption on selected items while placing the purchase order.
  - 5.1** GST must be quoted as extra in the quotation as applicable.
  - 5.2** All legal disputes shall be under the jurisdiction of the Kolkata Courts in the state of West Bengal.

- 6 Earnest Money Deposit (EMD):
- 6.1 “EMD at the rate of 4% of the Estimated price” in the form of Crossed Account payee demand draft, fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank drawn in favour of **Director, NATIONAL INSTITUTE OF TECHNICAL TEACHERS’ TRAINING AND RESEARCH, KOLKATA** on any scheduled bank at Kolkata shall be submitted along with the Tender in a separate envelope marked as EMD. Tender without earnest money deposit shall be **OUTRIGHTLY REJECTED**. A model format of bank guarantee for furnishing EMD is enclosed in **Annexure – A**.
- 6.2 **Forfeiture of EMD:** EMD of a tenderer will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. Further, if the successful tenderer fails to furnish the required performance security within the specified period, its EMD will be forfeited.
- 6.3 **Refund of EMD:** EMD furnished by all unsuccessful tenderers should be returned to them without any interest, at the earliest after expiry of the final tender validity period but not later than 30 days after conclusion of the contract. EMD of the successful tenderer should be returned, without any interest, after receipt of performance security from it as called for in the contract.
- 7 Each bidder shall submit only one tender.
- 8 **Validity of Tender:** Tender shall remain valid for a period not less than 6 months after the deadline date specified for submission.
- 9 **Delivery Period:** Early period of delivery shall be mentioned in the tender.
- 10 **Evaluation of Tender:**  
NITTTR, KOLKATA will evaluate and compare the tenders determined to be substantially responsive i.e., which are
- 10.1 properly signed; and
- 10.2 conform to the technical specifications and terms and conditions
- 10.3 The tender would be evaluated separately for each item.
- 11 **Submission of Documents:** The tender should inter alia include the following (as applicable):
- 11.1 Printed copy of the broucher/leaflet containing, Make, Model No. and specifications.
- 11.2 Copy of current GST Return along with acknowledgement thereof.
- 11.3 Copy of last Income Tax Assessment order and acknowledgement of Income Tax Return for current year.
- 11.4 Copy of Valid Trade License.
- 11.5 Copy of valid registration certificate from State/Central Government.
- 11.6 Copy of valid registration certificate of SSI Unit if any.
- 11.7 The Tenderer(s) should be required to furnish a list of clients serviced during the last three (3) years and a list of such projects/supply handled in the last three years, and also furnish the details of the annual turnover during last three years.
- 11.8 Copy of audited financial statement of accounts for last three years.

- 12 Bid Price:** While furnishing the quoted price, the tenderer(s) may note the following:
- 12.1** The contract shall be for each item of equipment / instrument / software as mentioned in the schedule of goods/services. Corrections, if any in quoted price, shall be made by crossing out, initialing, dating and rewriting.
  - 12.2 All duties, taxes and other levies payable by** the contractor under the contract shall be included in the total price and Taxes should be quoted separately.
  - 12.3** The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
  - 12.4** The prices should be quoted in Indian Rupees only.
  - 12.5** The rate quoted must be both in words and figures.
  - 12.6** The quantity against each item mentioned in the tender may vary according to the actual requirement at the time of placing Purchase Order.
- 13 Award of Contract:** The NITTTR, KOLKATA will award the contract to the bidder whose tender has been determined to be substantially responsive in terms of technical specifications, terms & conditions and price quoted.
- 11.1** Notwithstanding the above, NITTTR, KOLKATA reserves the right to accept or reject any tenderer(s) and to cancel the bidding process and reject all tenderer(s) at any time prior to the award of contract.
  - 11.2** The bidder whose bid is accepted will be notified of the award of contract by the NITTTR, KOLKATA prior to expiration of the tenderer(s) validity period. The accepted terms of the offer shall be incorporated in the purchase order
- 14 Performance Security:**
- 14.1** Performance security at the rate of 8% of the contract value in the form of account payee demand draft, fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank in favour of Director, NITTTR, Kolkata shall be submitted within 21 days after the notification of the award of contract. Performance security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations. A model format of Bank guarantee for providing performance security is enclosed at **Annexure – B**
  - 14.2** Forfeiture of Performance Security: Performance security is to be forfeited and credited to the Institute Account in the event of a breach of contract by the supplier, in terms of the relevant contract.
  - 14.3** Refund of Performance security: Performance security should be refunded to the supplier without any interest, whatsoever, after it duly performs and completes the contract in all respects but not later than 60 days of completion of all such obligations under the contract.
  - 14.4** Liquidated Damages will become payable in case of delay in delivery.
  - 14.5** In case of delay in supply on part of supplier, a penalty @ 0.5% per week of order value will be charged for delayed period subject to a maximum of 10% of the order value.
  - 14.6** The same rate of penalty shall be applicable for late installation of the equipment also.
- 15 Payment:** Payment will be made after delivery & satisfactory commissioning of the goods / services and training of personnel.



- 16 Normal Commercial Warranty/ Guarantee:** Normal commercial warranty/ guarantee of three years shall be applicable to the supplied goods/ services and this should be specified clearly by the bidder.
- 17 Live Demonstration:** Live demonstration of the item(s) should be arranged by the vendors at their cost, if asked by the Institute
- 18** Points which are not explicitly covered under “**terms and conditions**” above shall be covered by Manual on Policies and Procedures for Purchase of Goods circulated by Ministry of MHRD, Govt. of India. A copy of the same is available in the office for perusal of the tenderers. Tenderers are advised to go through the manual before submission of their tenderers. A soft copy of the manual can also be downloaded from <http://finmin.nic.in/>.
- 19 Demonstration / Service / Repair** will be given by the trained engineer from manufacture only.

You are requested to provide your offer as per schedule provided in Notice Inviting Tender in the sealed envelope super-scribing “**Tender Advt. No.: 09/2017 – 18**”

To

The Director,  
National Institute of Technical Teachers' Training and Research,  
Block – FC, Sector – III,  
Salt Lake City, Kolkata – 700 106  
PIN: 700 106 Tel. No. +91(033) 2337-0497/4125

**MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD**

Whereas .....  
.....(hereinafter called the "tenderer")..... has  
submitted their offer dated. .... for the  
supply of.....  
.....(hereinafter called the "tender").....  
against the purchaser's tender enquiry No. ....  
KNOW ALL MEN by these presents that WE .....  
of ..... having our registered office at  
..... are bound unto .....  
having at office at..... are  
(hereafter called the "Purchaser") ..... in  
the sum of .....  
for which payment will and truly to be made to the said Purchaser, the Bank binds  
itself, its successors and assigns by these presents. Sealed with the Common Seal of  
the said Bank this.....day of .....2017/18.

**THE CONDITIONS OF THIS OBLIGATION ARE:**

- 1 If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2 If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity: -
  - (a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.
  - (b) Fails or refuses to accept / execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of tender validity or after receipt of performance security from the successful tenderer and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)  
Name and designation of the officer  
Seal, name & address of the Bank and address of the Branch

**ANNEXURE - B**

**MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY**

To

The Director,  
NITTTR, Kolkata

WHEREAS.....  
(Name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no. .... dated ..... to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby, affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of ..... (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the..... day of, ..... 2018/19/20

(Signature of the authorized officer of the Bank)  
Name and designation of the officer  
Seal, name & address of the Bank and address of the Branch

**TENDER NOTICE FOR SUPPLY OF CANNON MANNING CUM CANNON FENSKE  
VISCOMETER BATH WITH VACUUM PUMP (HIGHWAY ENGINEERING  
LABORATORY) FOR CIVIL ENGINEERING DEPARTMENT**

Sealed tenders are invited in Two Bid Format from the Manufacturers / Bonafide Suppliers / Authorized Dealers for supply of the items as per specification given below.

Both the Part one – Technical Bid (Envelop - I) and Part two – Financial Bid (Envelop - II) should be sealed separately and then put into another sealed main envelope mentioning ‘Advertisement No.../2017-2018’ and should mention ‘Tender for supply of **Cannon Manning cum Cannon Fenske Viscometer Bath with Vacuum Pump (Highway Engg Laboratory) for Civil Engineering Department**’.

The Tender should be accompanied by DD / Bank Guarantee of 4% of Estimated price as Earnest Money Deposit (EMD) in a separate sealed envelope marked EMD. This should be the part of Technical Bid. The tender paper cost (if downloaded) should be included in a separate envelope in the tender document in the form of DD drawn in favour of the Director, NITTTR, Kolkata.

The Tender Documents with detailed requirement and other terms and conditions can be submitted as per the dates mentioned below:

<b>Sale of Tender Document</b>	<b>Last Date &amp; Time of submission of Tenders</b>	<b>Tender opening (only Technical Bid) at NITTTR, Kolkata</b>
Will commence from 08/01/2018 at 11:00 am	29/01/2018 up to 3:00 pm	29/01/2018 at 4:00 pm

## TECHNICAL SPECIFICATION

### **Cannon Manning cum Cannon Fenske Viscometer Bath with Vacuum Pump with following specification (Estimated price - 6.00 Lakhs)**

Cannon Manning cum Cannon Fenske Viscometer bath with vacuum pump designed for determining viscosity of all types of bitumen and emulsion at specified temperatures. This instrument shall conform to IS: 1206 (Part II) & IS: 1206 (Part III) along with the following essential specifications –

- **Constant Temperature Bath** – A suitable bath for immersion of at least 4 vacuum capillary viscometer tubes with a digital temperature controller. The accuracy of the temperature in the bath should be +/- 0.1 C throughout the bath. It shall be cylindrical clear glass vessel 305mm in diameter and 305mm high. A stainless steel baffle located in the centre of the bath provides a plain reflective background to aid in viewing instruments. The Top cover contains 4 holes 51mm diameter for insertion of viscometer holders, allowing up to 4 nos viscosity measurements to be made simultaneously. Covers are supplied for capping unused holes. Two additional holes 10mm diameter are provided for thermometers. Glass vessel is guarded by 8mm thickness transparent perspex cover. All wetted parts of the constant temp baths are made of SS, Glass. One stirrer provided within temp bath. Inbuilt temp controller and digital Stop watch must be there. Spirit level and levelling screw provided for proper levelling of instrument. Vertical alignment also provided.
- Silicone Bath Oil suitable up to 150° C
- Vacuum System – Capable of maintaining a vacuum within  $\pm 0.05$  cm of the desired level up to and including 30 cm of mercury. The system shall consist of vacuum pump, moisture trap, vacuum regulator, manometer with electronic controller; bleed valve, all interconnecting tubing/piping, and any other accessories as needed to complete the vacuum system.
- Thermometer – The thermometer shall be of mercury in glass tube with cylindrical bulbs and made of suitable thermometer glass having temperature range from 0-300°C as per with 0.2° graduation.
- Timing Device – A stop watch or stop clock capable of reading up to ½ second.(Inbuilt Digital System)
- Tubes :- Capillary type made of borosilicate glass conforming to the following specifications-
- U Tube, Reverse flow Size 6 &7 with Manufacturer Certificate for kinematic Viscosity
- 2) Cannon Manning Vacuum Viscometer Tube, Size 12, with Manufacturer Certificate (Direct flow)
- 3) Cannon Manning Vacuum Viscometer Tube, Size 13, with Manufacturer Certificate (Direct flow)
- 4) Cannon Fenske Routine Viscometer Tube, size 350, with Manufacturer Certificate (Direct Flow)
- 5) Cannon Fenske Routine Viscometer Tube, size 400, with Manufacturer Certificate (Direct Flow)
- 6) Cannon Fenske Opaque, Reverse Flow Type Viscometer Tube , Size 350, Manufacturer Certificate
- 7) Cannon Fenske Opaque, Reverse Flow Type Viscometer Tube, Size 400, Manufacturer Certificate

## TERMS & CONDITIONS:

1. The tenderer (s) should preferably be the manufacturer of the equipment or an authorized distributor/agent of the OEM. In case of authorized distributor / agent, authorization certificate should be attached along with the tender. The tender should provide proof of supplying similar items to Govt./Academic Bodies during last three years.
2. The specifications mentioned are indicative. Equivalent higher configuration products may also be quoted.
3. The tenderer should have minimum average annual turnover of Rs.10 crores for last 3 years. Audited accounts should be attached.
4. The tenderer and its foreign associates, if any, should be ISO certified.
5. The tenderer should have Authorised Service Center facilities at Kolkata. They should make arrangement for visit to their authorized service center by the representatives of the NITTTR, Kolkata.
6. The tenderer should arrange to demonstrate their quoted model of instrument before the Technical Committee which will be a part of Technical Evaluation before qualifying them for Price Bid.
7. The tenderer should arrange for a Intensive Training of 5 days to the selected NITTTR representatives at their expenses.
8. The rate quoted must be F.O.B. NITTTR, KOLKATA inclusive of packing, forwarding etc. GST should be indicated separately. Educational discount, if any should be indicated clearly. For imported items, Customs Duty shall be indicated separately.

8.1 All legal disputes shall be under the jurisdiction of the Kolkata Courts in the state of West Bengal.

NB: Only relevant information (s) need to be submitted/Complied with along with quotation(s)

### 9. Earnest Money Deposit (EMD):

- 9.1 “EMD at the rate of 4% of the estimated price” in the form of Demand Draft or Bank guarantee from a commercial bank drawn in favour of Director, NATIONAL INSTITUTE OF TECHNICAL TEACHERS’ TRAINING AND RESEARCH, KOLKATA on any scheduled bank at Kolkata shall be submitted in a separate sealed envelope along with the tender (Technical Bid).
- 9.2 Tender without Earnest Money deposit shall be **OUTRIGHTLY REJECTED**. A model format of bank guarantee for furnishing EMD is enclosed in **Annexure- A**.
- 9.3 Forfeiture of EMD: EMD of a tenderer will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. Further, if the successful tenderer fails to furnish the required performance security within the specified period, its EMD will be forfeited.
- 9.4 Refund of EMD: EMD furnished by all unsuccessful tenderers shall be returned to them without any interest whatsoever, at the earliest after expiry of the final tender validity period

but not later than 30 days after conclusion of the contract. EMD of the successful tenderer shall be returned, without any interest whatsoever, after receipt of Performance Security from it as called for in the contract.

9.5 No EMD is required from bidders who are registered with (i) Central Purchase Organization (DGS & D) (ii) NSIC, (iii) the concerned Ministry or Department, and (iv) similar other Organisation as applicable.

9.6 EMD in the form of DD / Cheque should be in a separate envelope superscribing "EMD".

**10. Each bidder shall submit only one tender.**

**11. Validity of Tender:** Tender shall remain valid for a period not less than 6 months after the deadline date specified for submission.

**12. Delivery Period:** Earliest period of delivery shall be mentioned in the tender.

**13. Submission of Documents:** The tender should inter alia include the following (as applicable):

13.1 Printed copy of the broucher /leaflet containing, Make, Model No. and specifications.

13.2 Copy of current Income Tax acknowledgement (F. Y 2016-17) and PAN No.

13.3 Copy of Valid Trade License.

13.4 Copy of current Custom Duty clearance certificate, if applicable

13.5 Copy of GST registration certificate from State/Central Government.

13.6 Copy of current registration certificate of SSI Unit, if any.

13.7 The Tenderer (s) may furnish a list of clients served during the last three (3) years along with satisfactory completion certificates and a list of such projects/supply handled in the last three years, and also furnish the details of the Annual Turnover during last three years.

13.8 In case of foreign manufacturer Authorization Certificate.

**14. Bid Price:** While furnishing the quoted price, the tenderer(s) may note the following:

14.1 The contract shall be for each item of equipment / instrument / software as mentioned in the schedule of goods/services. Corrections, if any in quoted price, shall be made by crossing out, initialing, dating and rewriting.

14.2 All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price and Taxes should be quoted separately.

14.3 The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account, except revision of taxes and duties.

14.4 The prices should be quoted in Indian Rupees only.

14.5 The rate quoted must be both in words and figures.

14.6 The quantity against each item mentioned in the tender may vary according to the actual requirement at the time of placing Purchase Order.

**15. Award of Contract:** The NITTTR, KOLKATA will award the contract to the bidder whose tender has been determined to be substantially responsive in terms of technical specifications, terms & conditions and price quoted.

15.1 Notwithstanding the above, NITTTR, KOLKATA reserves the right to accept or reject any tenderer(s) and to cancel the bidding process and reject all tenderer(s) at any time prior to the award of contract.

15.2 The bidder whose bid is accepted will be notified of the award of contract by the NITTTR, KOLKATA prior to expiration of the tenderer(s) validity period. The accepted terms of the offer shall be incorporated in the purchase order.

**16. Performance Security:**

16.1 Performance Security at the rate of 5% of the contract value in the form of Demand Draft, fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank in favour of Director, NITTTR, Kolkata shall be submitted within 21 days after the notification of the award of contract. Performance security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations. A model format of Bank guarantee for providing performance security is enclosed at **Annexure –B**

16.2 Forfeiture of Performance Security: Performance security is to be forfeited and credited to the Institute Account in the event of a breach of contract by the supplier, in terms of the relevant contract.

16.3 Refund of Performance security: Performance security should be refunded to the supplier without any interest, whatsoever, after it duly performs and completes the contract in all respects but not later than 60 days of completion of all such obligations under the contract.

17. **Payment:** Payment will only be made after delivery & satisfactory installation / commissioning of the goods / services and training of personnel.

18. **Normal Commercial Warranty/ Guarantee:** Normal commercial warranty/ guarantee at least one year after the date of commissioning shall be applicable to the supplied goods/ services and this should be specified clearly by the bidder.

19. **Live Demonstration:** Live demonstration of the item(s) should be arranged by the vendors at their cost, if asked by the Institute.

20. **Evaluation of Tender:** The preference in evaluation of the tender will be based on the terms and conditions subject to fulfillment of other conditions as mentioned in the tender document.

21. Points which are not explicitly covered under “**terms and conditions**” above shall be covered by Manual on Policies and Procedures for Purchase of Goods (GFR 2005) circulated by Ministry of MHRD, Govt. of India. Tenderers are advised to go through the manual before submission of their tenders available at <http://finmin.nic.in/>.

22. The non-transferable tender document excluding standard agreement form can be obtained from the Account Section as per above users on payment of **500/- (Rupees Five Hundred only)** in cash or Demand Draft drawn in favour of the Director, NITTTR, Kolkata. **The users of downloaded tender document shall have to pay the cost of tender document i.e. 500/- by way of Demand Draft in favour of the Director, NITTTR, Kolkata payable at Kolkata while submitting their tender. Otherwise the Tender will not be accepted.**

You are requested to provide your offer as per schedule provided in Notice Inviting Tender in the sealed envelope super-scribing “Tender Advt. No. .../2017-2018

To,  
Director,  
National Institute of Technical Teachers’ Training and Research,  
Block – FC, Sector – III,  
Saltlake City, Kolkata – 700 106  
PIN: 700 106 Tel. No. +91(033) 2337-0497/4125  
Fax No. 2337-6331



**ANNEXURE - A**

**MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD**

Whereas.....  
.....(hereinafter called the "tenderer")..... has  
submitted their offer date.....  
for the supply of .....  
.....(hereinafter called the "tender")..... against the purchaser's  
tender enquiry No. ....  
KNOW ALL MEN by these presents that WE .....  
of..... having our registered office at  
.....are bound unto.....  
having at office at.....are  
(hereafter called the "Purchaser").....  
in the sum of .....  
for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors  
and assigns by these presents. Sealed with the Common Seal of the said Bank this  
.....day of .....2016.

**THE CONDITIONS OF THIS OBLIGATION ARE:**

- (1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
  - a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.
  - b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)  
Name and designation of the officer  
Seal, name & address of the Bank and address of the Branch

**ANNEXURE - B**  
**MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY**

To  
The Director,  
NITTTR, Kolkata

WHEREAS .....  
(name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no ..... dated ..... to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;  
NOW THEREFORE we hereby, affirm that we are guarantors and responsible to you, on Behalf of the supplier, up to a total of .....  
.....(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the ..... day of ....., 20....

(Signature of the authorized officer of the Bank)  
Name and designation of the officer

Seal, name & address of the Bank and address of the Branch  
Civil Engineering Department  
National Institute of Technical Teachers' Training and Research