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Ref No.: Dr.PDP/AMT/ MODROB/ /2022

Date : / /2022

To,

Subject: Quotation for the supply of Maintenance and Repairs of Structures Laboratory (Non Destructive Testing) equipment in Civil Engineering Department

Dear Sir,

You are requested to quote your lowest reasonable rates for the following items and send the quotation in sealed cover so as to reach the undersigned on or before 07/04/2022 Upto 4.00 PM

Sr. No	Name of Equipment	Description/Specification	Qty
1)	"PROCEQ" Original Schmidt Live N (analog cum digital)	Impact energy Type N 2.207 Nm (1.63 ft lbf) ² Standards: USA: ASTM C805, ACI 228.1R • Europe: EN12504-2, EN13791 • China: JGJ-T23 • Japan: JCSE-G504, JIS A1155 • Russia: GOST 22690-2015 • Housing dimensions 61 x 84 x 275 mm / 2.4 x 3.3 x 10.8 in • Weight (N-hammer) 1090 g / 2.4 lb • Memory 2,000 measurement series • Displays Analog & backlit digital (100 x 100 pixels, graphic) • Charger connection Micro-USB • Battery Standard AAA, alkaline or rechargeable IP classification IP54 Features: • Digital hammer with digital reporting and	01

		<p>data sharing (via a free, comprehensive Apple iOS app)</p> <ul style="list-style-type: none"> • Digital print console by wirelessly connecting to a Bluetooth printer and directly printing out test results • stand-alone digital hammer (using the digital display without the app and downloading the data to the app later, if required) • Stand-alone analog hammer (using it like an Original Schmidt with the mechanical display, even without a battery) <p>THE HAMMER SHOULD BE OF STANDARD MAKE. NO CHINA MAKE MATERIAL IS ALLOWED</p>	
2)	<p>Rapid Chloride Penetration Test Apparatus with Data Acquisition software</p>	<p>RCPT Apparatus is as per ASTM C 1202-05 4 Port(230-250 VAC power supply),plexi-glass chambers–4 pairs,500 mm vacuum desiccator, consumables–good for 1 doz</p> <p>Power supply:</p> <ul style="list-style-type: none"> •The DC power supply for the cells 60 volt continuously. •The DC supply is provided to all the four channels and the current of individual cells are monitored continuously. •Each channel is provided with protective fuse. <p>Flexible cables with banana type pins are provided for all the cells for easier connections to the RCPT apparatus.</p> <ul style="list-style-type: none"> •DC voltage is controlled by continuously adjustable potentiometer <p>Data Acquisition System:</p> <ul style="list-style-type: none"> •Four line LCD display is provided to indicate the current in milli ampere for eight channels. •3 1/2 digit LED display to indicate the DC voltage. 0-99.9 V range. •DC voltage in 0-99.9 volt, current in 999.9 milliampere •LCD displays indicate all the parameters continuously. All the data are transmitted to the computer simultaneously. •Record Interval time set : 0-99hr, 0-99min and 0-99 Sec.(Normally 30 min is for RCPT test) •Total log time set : 0-99hr, 0-99min and 0- 	01

		<p>99 Sec.(Normally 6hours 30 minutes is test period)</p> <ul style="list-style-type: none"> •The set values are settable through key pad switches provided •All the acquired data are transferred to the PC through RS232 output and through USB. •The monitor display the present current reading as well as the cumulative current reading. <p>Specifications of RCPT cells</p> <ul style="list-style-type: none"> •Each RCPT cell will be made up of transparent acrylic material of 150 * 150mm* 50mm thick as per ASTM C 1202. •It will hold the concrete specimen of 100mm diameter 50mm thick. •It will be provided with rubber gasket and washers for achieving leak proof. •Stainless steel bolts with washers and nuts will be provided to hold the specimen rigidly. •The power supply will be applied to each cell through banana sockets and the current will be distributed through the Brass mesh. •Each cell will be provided with openings in top for pouring chemicals and the temperature sensors. The openings can be closed with lids. •The volume of chemicals within the chamber shall be 250ml. 	
3)	<p>“HT-220” Water Permeability Test apparatus three cell model As per IS 3085 (Three Cell Model) with Air compressor (For Permeability of Water Through concrete)</p>	<p>AS PER IS: 3085.</p> <p>One of the durability tests of concrete is to determine permeability of water through specimen. Permeability apparatus is used for determining the permeability of cement mortar and concrete specimens of 15 cm cubes cast in the laboratory.</p> <p>Specifications:</p> <ul style="list-style-type: none"> •The concrete permeability apparatus comprises of three cells of brass/gunmetal of squares cross-section mounted on a stand and a pressure chamber is connected to the cell through copper tubing and T-connector mounted on the stand with sleeve packed valve and rubber hose pipe with end connections. •The cell assembly consists of one base plate, one metal funnel and one top plate, 	01

		<p>The pressure chamber is fitted with a pressure regulator which helps in regulating the pressure from 0-15kg/cm sq. gauge is for indicating the pressure in the cell. A foot pump and a pressure tube is supplied to develop pressure in the chamber.</p> <ul style="list-style-type: none"> •The apparatus is supplied with a measuring cylinder 500 cc to measure percolated quantity for water. Pressure can be applied by pressure line or compressor. •The equipment should be supplied complete with air compressor. 	
4)	<p>“MCS/ STE” Digital Extensometer</p>	<p>Note: <i>Digital Extensometer should be compatible with existing MARUT make Digital Universal Testing Machine at college. (Supplier Must Visit To College in person and check the existing machine) The Digital extensometer should be able to integrate with existing system.</i></p> <p>Electronic Extensometer MCS-2</p> <ul style="list-style-type: none"> •This device is used for the determination of proof stress and Young’s Module values. •With the Extensometer it is possible to measure correct strain values within the gauge length marks during a tensile test. •In case of ductile materials the stress strain curve is well defined and it clearly shows the yield point i.e. departure from the straight portion of the curve. •But in certain materials like high Carbon steels, Aluminum and Magnesium alloys, the straight portion gradually follows a curve entering into plastic region, making it difficult to determine the yield point, For such cases, it is advised to find proof stress value. •The proof stress is a stress corresponding to certain amount of plastic deformation after the proportional limit is passed. •In specifications of materials, this plastic deformation is expressed as a certain percentage of the gauge length. •MCS-2 is specially suitable for determination of Young’s modulus and 0.1 % to 1.0 % proof stress values. •EE-02 is suitable for almost all type of materials. The measurement accuracy satisfied all requirements of IS:12872- class 1. •Its reliable construction guarantees maximum safety of operation and longer working 	<p style="text-align: center;">01</p>

		service/life also in case of raised application conditions. Specifications <table border="1"><tr><td>Accuracy</td><td>Class 1 as per IS 12872 / ISO 9513</td></tr><tr><td>Type</td><td>Strain gauge type</td></tr><tr><td>Gauge Length</td><td>25 / 50 mm</td></tr><tr><td>Extension</td><td>2 mm</td></tr><tr><td>Maximum dia</td><td>25 mm / 50 mm</td></tr><tr><td>Resolution</td><td>0.001 mm</td></tr></table>	Accuracy	Class 1 as per IS 12872 / ISO 9513	Type	Strain gauge type	Gauge Length	25 / 50 mm	Extension	2 mm	Maximum dia	25 mm / 50 mm	Resolution	0.001 mm	
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