**GENERAL INSTRUCTIONS**

(1) Sealed tenders are invited for the procurement of laboratory items of HBTI Kanpur. The tender documents can be bought from the Store Purchase Section, Harcourt Butler Technological Institute Kanpur. Interested tenderers may download the same from the website and submit their offer along with **Tender fee of `1000/- each** (In form of Crossed Demand Draft issued by any Nationalized Bank in favour of Director H.B.T.I., Kanpur). While submitting your offer mark Tender No. and due date on the envelope.

(2) Quotations received without Tender fee will not be considered.

(3) No request for the extension of the due Tender date will be considered.

(4) Each Tender consisted of various schedules and EMD for each schedule is mentioned separately. Tenderers may submit their proposals for **one or more schedules** along with the respective EMD (In form of Crossed Demand Draft issued by any Nationalized Bank in favour of Director H.B.T.I., Kanpur).

(5) The offer submitted for each schedule should be complete in all respect and price quoted for each schedule should be **FOR destination HBTI Kanpur**.

(6) Late/delayed offers will not be accepted.

(7) Tenders received before the deadline shall be opened in the presence of attending Tenderers/their authorized representatives on the same day at scheduled time and venue.

(8) Corrigendum, if issued any for the Tender, shall form part of the Tender document. Corrigendum will be posted only on HBTI Kanpur website (www.hbti.ac.in). Tenderes are requested to visit HBTI Kanpur website regularly and note the corrigendum/amendments to the tender without fail and submit the offer accordingly.

(9) All other terms and conditions are as per the Institute rule.

(9) The Director reserves the right to cancel any or all Tenders without assigning any reason.

**For HBTI Kanpur**

**Tender No.: 10/SPS/PL/2016 Dated: 14.03.2016 due on 04.04.2016 by 01:30 pm**

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| **Schedule No.** | **Name of Equipment and specification** | **Quantity** | **EMD (`)** |
| 1. | Lab scale Horizontal Screw based Injection Molding M/c with two molds of test specimens. CNC based M /c with PLC controls.  **Specifications**:  Shot capacity : 30-40 gm  clamping pressure - 25 Tons  Temp. - Up to 400 0C | 01 | 21000 |
| 2. | Lab Scale Microwave Synthesizer Capacity (1-2 litre )  Temp. ( up to 500 0C )  Uniform Temperature control inside oven  **Specifications** : -  Capacity - 25-30 litre  Panel - Set all operational parameters through one panel.  Stirrer - ONE Magnetic stirrer with controller  Exhaus**t** - Powerful Exhaust System for open reaction.  Timer - up to 100 min.  Reaction Size - up to 1000 ml suitable reaction flasks of various sizes.  **SAFETY FEATURES :-**   * Allows addition of reagents while microwaves are being delivered * Can easily accommodate 1000 ml and 2000 ml flask. * Facilitates to have Refluxing, Normal & Vacuum Distillation and Extraction & Digestion | 01 | 6000 |
| 3. | Weighing Machine (Digital)  Capacity : Up to 5 kg  Sensitivity : ± 5 gm | 02 | 1600 |
| 4. | Dielectric Strength Tester :-  Dielectric Strength : MV/ m or kV/mm  ASTM : D 149  Specimen : sheets / films  Electrodes : 51 mm Ø  Rise of voltage :   * Short time 100/200/300/1000/2000/5000   V/s   * Step by step equal increments working with breakdown voltage   Medium : air, gas, oil  Temperature : 25 ± 50C | 01 | 3000 |
| 5. | Electronic Densimeter :-  Specifications:  Density Resolution : 0.01 g/cm3  Volume Display : 0.01 g/cm3  Scale Capacity : 0.01 - 300g  Repeatability : ±0.01g/cm3  Measurable Density : 0.01 g/cm3  Measuring Method : Conform to pycnometer and Hydrostatic Method  Adaptable Standards : ASTM D297-93-16 | 01 | 1500 |
| 6. | Hydraulic Press ( Lab Scale )  Clamping Tonnage : 20 Tons  Temp. range : 250 0C to 300 0C  Mold plate suitable for making sheet of  6'' x 6'' size from plastic granules / powder ,  thickness: 4 mm  daylight = 8'' | 01 | 3500 |
| 7. | Low Temperature Storage Unit -  Deep Freeze with stabilizer ( Horizontal )  Temp.: 0 to -20C  Volume - 150-200 litre | 01 | 700 |
| 8. | Arc Resistance Tester  ( Test Confirms to standard : ASTM D 495, IS 10810 )  Voltage range : 5-12.5 kv ( 50 Hz )  Current : 5 mA-40mA  Electrode : Tungsten rod electrode, dia :  2.4 mm, Length 4.5 mm  Interrupter Accuracy : ±1/120 sec  Autotransformer and Auto digital timer for accurate interval of 1 sec. | 01 | 2000 |
| 9. | MELT FLOW TESTER WITH ACCESSORIES AS PER ASTM D 1238 METHOD A TEMP. CONTROLLER(PID) and STOP WATCH., MAX. WORKING TEMP.- 3000C. Resolution-0.10C. ACCURACY: +/-0.20C.  ACCESSORIES-  1-WEIGHTS OF 2.16GKG. & 5.0 KG.  2-PISTON.  3-BARREL CLEANER.  4-ORIFICE &ORIFICE REMOVER.  5-ORIFICE CLEANER.  ADDITIONAL WEIGHTS OF 1.2KG.  ADDITIONAL WEIGHTS OF 3.8KG.  ADDITIONAL WEIGHTS OF 10.0KG.  ADDITIONAL WEIGHTS OF 21.6KG. | 01 | 2300 |
| 10. | VICAT SOFTENING POINT(VST)/ HDT APPARATUS AS PER ASTM D 1525 and ASTM D 648  Twin Station machine to have two samples to be tested at the same time. Jacketed bath to have cooling water circulation. Heating rate of 0.8 deg. C/min. or 50+/-5 deg C /hr &2 deg C/ min combined in a single PID controller.  Max. working temp. 250 degC,  Machine should be supplied with required weights to perform both the tests. | 01 | 2500 |
| 11. | WEAR AND FRICTION MONITOR TESTER:  Along with computer, printer and related softwares for testing of tribological properties of plastics, composites, coatings and biomaterials.  Should consist of Lubrication and its recirculation.   * Pin Diameter: Min-3mm Max-12mm (Diagonal/ Diameter) * Bail Diameter: 10mm * Disc (diameter x thickness): 165 x 8mm * Wear track diameter: Min-50mm Max-100mm * Sliding velocity: Min-0.5m/sec Max-10m/sec * Disc speed: Min-200 rpm Max-2000 rpm, LC - 1 rpm * Normal load: Min-5 N Max-200 N ,In steps of 5 N * Frictional Force: Min-0 N Max-200 N,   LC -0.1 N  Wear: Min-0 µm Max-2000 µm ,LC - 1 micron | 01 | 11000/- |
| 12. | FALLING DART IMPACT TESTER FOR FILMS   * Conforms to IS: 2508 1984 specifications. | 01 | 1400/- |
| 13. | Rock Well Hardness Tester  Type : D  \* for Hard plastics and composites as per ISO-2039/ ASTM-D-785(suitable for Rockwell Hardness in range of 40-100) | 01 | 1000/- |
| 14. | Indigenous 4 Sided Applicator.  Range : 100,200um  With Cert. traceable to National standards | 01 | 200/- |
| 15. | Thickness Guage (as per IS Standards)  Range 10 to 100 µm  Range 100 to 250 µm | 01  01 | 300/- |
| 16. | " Low Temperature Cooling Bath "    Capacity : 350- 400 litre  Temperature Range : 00C to  - 100C  Defrost : Yes  No. of Baskets/ Shelves : 4 | 01 | 1300/- |

**NOTE:-**

The Supplier must be authorized dealer for at least for Two years/ and also submit the certificates from users of such equipments to whom he has supplied.