Notice for inviting Tenders

Department of Mechanical Engineering is inviting quotations for the following items latest by December 15, 2011. The quotations must be sealed and addressed to the Chairman, Mechanical Engineering Department, Aligarh Muslim University, Aligarh, UP, India.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of equipment</th>
<th>Detailed specifications</th>
<th>Make/Model</th>
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<tbody>
<tr>
<td>1.</td>
<td>Centrifugal Pump performance characteristics apparatus with optional Turbines and data acquisition system</td>
<td>Centrifugal pump with flowmeter, valves, reservoir and instrumentation for measurement and display of inlet/outlet pressures, torque, speed and power and turbine inlet pressure</td>
<td>1. Model: HM450, HM450.01, HM450.02 Make: M/s GUNT Pvt. Ltd., Hamburg Germany 2. Model: MFP101, MFP101a, MFP101b, MFP101c, MFP101d Make: M/s Tecquipment Pvt. Ltd. (UK)</td>
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<tr>
<td></td>
<td>Kaplan Turbine Characteristics apparatus</td>
<td>Adjustable guide vanes, Instrumentation/display for output power, speed, torque and flow rate, closed water circuit</td>
<td>Model: HM 421, Make: M/s GUNT Pvt. Ltd., Hamburg, Germany</td>
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<td>2.</td>
<td>CNC Milling Machine</td>
<td>Table size: 600x 400 mm (approx.) Slide travel: x-axis 400 mm (approx.) y-axis 400 mm (approx.) z-axis 300 mm (approx.) Slide positioning accuracy = 0.01 mm (approx.) Slide running parallelism accuracy = 10 micron in 500 mm (approx.) Spindle power 2.2 kW (3hp) Machine control 3-axis, CNC control</td>
<td>Make: FANUC Japan/SIEMENS/any other reputed company</td>
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<td>3.</td>
<td>Rotor-Bearing Kit with Proximity Probes (Machinery Diagnostic System) With Elastic Shaft Kit, Crack Detection Rotating Shaft Kit, Roller Bearing Faults Kit and PC based Evaluation Software and Instrumentation Kit</td>
<td>The Specification includes: Base Unit or Machinery Diagnostic training system Rigid base plate with work piece holder slots Speed controller drive motor with frequency converter Digital speed and power display Two Shafts and two unbalanced flywheels with interchangeable balance weights</td>
<td>GUNT, Germany PT-500, PT-500.04, PT-500.10, PT-500.11, and PT-500.12</td>
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| 4. | **CROSS FLOW HEAT EXCHANGER**  
This is an experimental set-up complete with instrumentation and control console. It must have a free standing vertical air duct with variable speed fan into which a range of optional heat exchanger accessories can be inserted. Supplied complete with instrumentation and control console suitable for all of the optional heat exchanger accessories. Control console contains temperature limit control and electrical overload protection. Control console may be Upgraded for optional computerized data acquisition at any time. | **Make:**  
P. A. Hilton Ltd. U.K. |

**Cross Flow Heat Exchanger (H352)**  
with following ancillaries:  
(a) **Finned Tube Bundle in Cross flow (H352C)**  
with experimental capabilities of  
(i) Studying effect of external fins on the heat transfer watt density of plain tubes in cross flow and  
(ii) Determination of Mean surface heat transfer coefficient for finned tubes in the 1st, 2nd, 3rd and 4th rows of a finned cross flow heat exchanger.  
(b) **Data Acquisition Upgrade (HC352A)**  
The combined software and hardware package allows immediate computerized acquisition of all the necessary parameters such as temperatures, pressures and voltage.  

**Finned Tube Bundle in Cross flow**  
The accessories include a clear plastic plate that is design to fit the aperture in the cross flow Heat Exchanger duct. The plate be a four row finned tube bank with a removable finned tube in the centre of each row. An electrical heated finned active element with an integral surface thermocouple which may be inserted in place of the removable tube in the centre of each row.  

**Data Acquisition Upgrade with software**  
The computerized data acquisition consists of a 43 Channel (Hilton Data logger system D102) together with dedicated Windows™ compatible software and the additional transducers necessary to interface to the Cross Flow Heat Exchanger-instrument console. The Hilton Data Logger System D102 should connect; using the cable supplied to a standard RS232 port on the user.
| signals available from the Cross Flow Heat Exchanger and its instrumentation console. a. | Supplied IBM or IBM compatible computer. |