Seismic Shaker Table

Sr. No	Specifications	Qty
1	Seismic Table Assembly: • Size: 7'x7' table • Degree of Freedom: 1 • Frequency: 0 to 100 Hz • Maximum Payload: 8 Metric ton • Maximum Table Acceleration: 1g at maximum payload • Maximum Table Velocity: 1m/s at maximum payload • Displacement/Hydraulic actuator stroke capability: ±125mm • Maximum height of test specimen: 3m (Overturning moment should be according to this height) • Mounting grid pattern on the surface of table for attachment of test specimens • Complete hydraulic actuator, hydraulic power supply and manifold etc. for proper operation of shaker table. Must include hydraulic bearings, double rod actuators, chamber pressure sensors, servovalves, backlash swivels • All necessary cables for connections of actuator, power supply and sensors • Available power supply: 240V single phase, 50Hz /400V three phase • Distance between seismic table and control room: 20m • Compliance with IEEE standard 344 • Pre-requisites on part of costumer such as power supply requirement, gas supply requirements and safety requirements must be provided with the quotation	01
2	a) Controller, Software and Instrumentation: The controller software modules must have following capabilities, to control the seismic table: • Types of excitation: Swept sine, sine, sine beat, random/transient, classical shock, waveform replication options and external signal provision • Actuator waveform generator for RRS (required response spectra) including sine and all classic wave shapes and digital data. • Time History Generator • Software to simulate test before actual testing • Scope – real time graph allows starting/stopping zooming/panning of multiple data acquisition channels • Fourier Spectrum – graphical FFT • X vs. Y plot – plot of two channels in opposing axes • Seismic analysis module • Report generation option for word, excel etc. Instrumentation: 04 uniaxial accelerometers. Measuring range ±5g (as per requirement). Frequency range: 0-200Hz, Low noise cable: 40m Computer: Core i7 PC with software installed and configured, with 32" LED, USB mouse, USB keyboard and LAN port	

	UPS: 1000VA UPS for power backup b) Data Acquisition module: Complete data acquisition system for Real Time Control of system and real-time recording of data: • I/O data acquisition channels and associated software • Acquisition channels for acceleration and servo-actuator rod position • General purpose analog inputs (Qty: 16, expandable upto 256 and able to communicate with HBM hardware) • Digital I/O board Note: Quote price of item (b) separately, if not built-in part of the control system.	
3	Civil Works: Civil works and vibration isolation system design and detailed step-by-step construction procedure should be provided by the manufacturing company. Which includes the following: • Complete definition and design of main civil works elements: Pit excavation, slab, retaining wall, definition of polymeric material layer, foundation block • Reinforcement steel definition • Concrete and grout type and pouring phases definition • Elements leveling procedures Note: Quote price of item (3) separately.	
4	Accessories: a) Necessary/recommended spares parts of the system (Quote each item's description and price separately). b) Calibration module for component and for system (if available) Standard components for calibration of instrumentation and calibration module in software for calibration of system (Quote prices separately).	
5	Inspection/Training: • Pre-shipment inspection at manufacturer's site • Operational training of all the equipment at vendor site of three engineers for three weeks, covering all software, hardware, integration and configuration of modules and systems • Installation, testing and commissioning by vendor at client site	
6	Calibration Certificate: • Calibration certificate of instrumentation modules • User and Maintenance and Software Manuals in English, software CD • 1 year warranty	
7	Drawings: Detailed civil drawings, pit design, foundation design etc. for the base of table must be provided with the quotation, so that arrangements can be made for the installation of the seismic table.	

Note: **Quote each item's price separately, where applicable.** Clearly specify make, model numbers, origin, above mentioned parameters and provide detailed literature in support. Failure to compliance may cause the rejection of the offer.

Check List

Seismic Shaker Table

Sr. No.	Description	Yes	No	N.A.
1	Part number of each item is mentioned			
2	Make and origin of each part is mentioned			
3	Each item price is quoted separately, where applicable			
4	All necessary accessories are provided for operation			
5	Softwares are provided in the quotation			
6	Installation and training is provided			
7	Input of Equipment is 220V, 1 phase, 50Hz			
8	Civil drawings are attached with the quotation			
9	Warranty is provided			

Note: N.A = Not Applicable