

**REQUEST FOR PROPOSAL & SPECIFICATION DOCUMENT
MEMS & NANOFABRICATION SEMICONDUCTOR CLEANROOM
FACILITY**



ANNEXURE 6

**Model BOQ (Sheet) with relevant
columns for reference**

Priced BOQ FORMAT (Refer Note at the end)																	
Sl. No.	Description of the item specification in brief (Detailed item specification in the technical specification part of tender document)	QTY	Unit (Nos/Sqm/LOT)	Supply				Total Supply cost Including GST/ Tax (Rs)	Installation				Total Installation cost Including GST/ Tax (Rs)	Total Supply & Installation	Makes Considered as per RFP	RFP Reference page number. (For which the item is offered)	
				Unit Rate (Rs)	Total (Rs)	GST %	GST Amount		Unit Rate (Rs)	Total Installation (Rs)	GST %	GST Amount					
1	CLEANROOM Interiors: Fabrics like wall panels, CeilingGrids,ceiling panels, Doors,View panels, coving,ESD Flooring,Uv filtered yellow films. Cleanroom lighting, yellow lighting Accessories like Air shower,Garment cubicles, Pass Boxes,Cross over benches,shoe racks etc. Instruments like Magnehelic gauges, Temp & RH Indicators, safety emergency Shower Structure for hooking & Validation of cleanroom,any other item required																
	(Items under this category to be listed below as separate rows)																
2	Heating Ventilation & Air Conditioning (HVAC) LOW side like AHUs, Heaters, related chilled water piping & its insulation, drain pipes, Air cladding, pre-cooling coils, VFD, Isolation & Modulating valves, Gauges, instruments,thermometers. Humidistat,Thermostat,Ducting, Duct Insulation, fire dampers, PPUs, PPU Controls,Hooded HEPA Filters & flexible ducts, RA Raisers, RA riser Cladding,VCD, RA Grills, VCD, Dehumidifiers,Humidifiers, Fresh air system, SA & RA diffusers, structural support, etc & any other item required.																
	(Items under this category to be listed below as separate rows)																
3	Heating Ventilation & Air Conditioning (HVAC) High side like screw Chillers, pumps, expansion joints,VFDs, Air separators,Pressurization units, expansion tank, chilled water pipes & its insulation, valves, gauges, fittings, air purge valves,thermometers, structural supports etc. any other item required.																
	(Items under this category to be listed below as separate rows)																
4	Electricals for HVAC & Cleanroom system, connections for Process Tools,Process Load Panels, Panels for BMS,I.T panels,MCC & PCC panels,MLDB Panels,star delta & DOL starters,Controls, Sensors,VFDs,Irr Temp & RH controls,Earthings,safety gadgets like rubber mats,Rubber hand gloves,DCP type Fire extinguishers,CO2 fire extinguishers, lightning Arresters system,MCH Distribution boards,MCCB,Switch Boxes & Industrial type Sockets,Power & Control Cables,Termination of Cables with PVC glands & Lugs,CBKA Module back boxes,Light fittings,GI Perforated Cable Trays,PVC Conduits, UPS,ELECTRICAL CONTROL SWITCHES & SOCKETS and Telephone system within cleanroom & any other item required.																
	(Items under this category to be listed below as separate rows)																
5	Process Extraction Systems: Wet extraction system complete, Polypropylene ducting/piping, SS Dampers,Accessories made of PP/FRP/SS304, duct supports made of SS304, PVC hoses with clamps, etc. any other item as required. b.Dry Extraction System Complete:suitable Ducting SS 304 with accessories, dampers, duct suspender, and PVC hoses,clamps & complete, any other item as required.																
	(Items under this category to be listed below as separate rows)																
6	Compressed Dry Air System. Air-cooled oil injected rotary screw compressors,Accessories,Condensate moisture separator, automatic condensate solenoid drain valve, sound attenuating enclosure, quick latch panels etc complete as per specification,Air Dryer Desiccant type with accessories & fittings,filtration system, valves, Regulators, pressure Gauges, CDA piping,fittings etc. any other item as required.																
	(Items under this category to be listed below as separate rows)																
7	Life, Safety and Security Systems: (Fire &Smoke detection systems as per Annex.5 of RFP, fire suppression, Emergency showers, CCTV etc.																
	(Items under this category to be listed below as separate rows)																
8	Building Management System (BMS), fire alarm,Addressable Multi Criteria Detectors,Addressable Fixed type,manual pull stations,hoisters,Monitoring modules,Control/Relay Modules, Fault Isolator Module,Network Repeater Panel,Cables & Conduits,Gas based Fire Suppression system with all accessories &Controls, actuators,fittings,supports etc,Access Control System with accessories & reader controls,magnetic contacts,Central Work Station Server with accessories & controls,EPBX Telephone system,Local Area Networking (LAN),Public Address System etc. BMS Work Station Hardware with related soft ware,Software Integration Controller,IP based DDC Controller and hardware,Factory Pre-Calibrated Field Devices with Cabling and Conduits,CCTV System with accessories, any other item as required.																
	(Items under this category to be listed below as separate rows)																
9	Bulk & Specialty Gas Distribution systems: Gas Supply panels for R20, C2F6,Ar,SF6,CF4S,CF4,CH3F,O2, SINGLE CYLINDER SEMI AUTOMATIC GAS CABINETS FOR NHD, C12 and 5% SiH4 in He., VMP3 & VM8B, Manual Changeover Panel for Nitrogen, Gas leak Detectors (Safety System), Coastal Pressure Switches, SiH4 Outer Sensors,Electropolished Stainless Steel Seamless 316L tubes,Cosual Electropolished Stainless Steel Seamless 316L tubes,Stainless Steel High Purity Fittings,supports & clamps,etc. GAS DISTRIBUTION MANAGEMENT system with Programme Logic Control System for Gas Management, Scada System for Gas Management, Cables & trays for Scada system,Support Structure for Panels and safety equipment,Electrical panel for Gas System,UPS System for Gas System,Gas cabinet Extractive System with suitable Ducting, Accessories & hardware for Gas Management System, TESTING AND VALIDATION complete, any other item as required.																
	(Items under this category to be listed below as separate rows)																
10	Tool Hookup including Process cooling System Installations as per the Process tools layout & interfacing with all the utilities required. Testing & validation of Gas system																
	(Items under this category to be listed below as separate rows except raw process cooling chillers listed as optional)																
11	Others - any other systems required in order to Meet the requirement as mentioned in the RFP on turn key.																
	(Items under this category to be listed below as separate rows)																
12	Warranty																
13	Process Tools Cooling Chiller, 2 Numbers, (Optional #)																
14	Post warranty 5 -year comprehensive AMC (Optional #)																
	TOTAL																

Note on BOQ :
 *Detailed priced Bill of Quantity/Materials envisaged for the project, Make/Brands of all the equipment's/materials conforming to the specifications in this RFP document, etc. along with price bid
 *The BOQs of all the items required (row wise as list under each category) should be included in conjunction with the specifications mentioned in the RFP. Please refer Annexure 5 also for the BOQ related to Fire detection system & control panel
 *Vendor shall be solely responsible for the quantity of various items mentioned by them in the BOM/BOQ.
 * Vendors may add other relevant items under the category "11 Others", if necessary
 *Priced BOQ/BOM with itemized rates separately for Supply and Installation (including Testing, Commissioning, and Validation) shall be submitted in the Price Bid.
 *Vendor shall also quote post warranty 5 -year comprehensive AMC price separately, as an option.
 * Quoted price for Optional # items mentioned as 13& 14 will not be included in comprehensive statement for determining the L-1.

UnPriced BOQ FORMAT-With Technical Bid(Refer Note at the end)					
Sl. No.	Description of the item specification in brief (Detailed item specification in the technical specification part of tender document)	QTY	Unit (Nos/Sqm/LOT)	Makes Considered as per RFP	RFP Reference page number. (For which the item is offered)
1	CLEANROOM Interiors: Fabrics like wall panels, Ceiling/Girds, ceiling panels, Doors, View panels, coving, ESD Flooring, UV filtered yellow films, Cleanroom lighting, yellow lighting. Cleanroom accessories like Air shower, Garment cubicles, Pass Boxes, Cross over benches, shoe racks etc. Instruments like Magnetic gauges, Temp & RH Indicators, safety emergency Shower, Structure for hooking & Validation of cleanroom, any other item required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
2	Heating Ventilation & Air Conditioning (HVAC) LOW side like AHUs, Heaters, related chilled water piping & its insulation, drain pipes, AI chidding, pre-cooling coils, VFD, Isolation & Modulating valves, Gauges, instruments, thermometers, Humidistat, thermostat, Ducting, Duct Insulations, fire dampers, FFUs, FFU Controls, Hooded HEPA Filters & flexible ducts, RA Raisers, RA raiser Chiding, VCD, RA Grills, VCD, Dehumidifiers, Humidifiers, fresh air system, SA & RA diffusers, structural support, etc & any other item required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
3	Heating Ventilation & Air Conditioning (HVAC) High side like screw Chillers, pumps, expansion joints, VFDs, Air separators, Pressurization units, expansion tank, chilled water pipes & its insulation, valves, gauges, fittings, air purge valves, thermometers, structural supports etc. any other item required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
4	Electricals for HVAC & Cleanroom system, connections for Process Tools, Process Load Panels, Panels for BMS, LT panels, MCC & PCC panels, MLDB Panels, star delta & DOL starters, Controls, Sensors, VFDs, for Temp & RH controls, Earthings, safety gadgets like rubber mats, Rubber hand gloves, DCP type Fire extinguishers, CO2 fire extinguishers, Lightning Arresters system, MCB Distribution boards, MCCB, Switch Boxes & Industrial type Sockets, Power & Control Cables, Termination of Cables with PVC glands & Lugs, CRCA Module back boxes, Light fittings, GI Perforated Cable Trays, PVC Conduits, UPS, ELECTRICAL CONTROL, SWITCHES & SOCKETS and Telephone system within cleanroom etc & any other item required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
5	Process Extraction Systems: Wet extraction system complete, Polypropylene ducting/piping, SS Dampers, Accessories made of PP/FRP/SS304, duct supports made of SS304, PVC hoses with clamps, etc. any other item as required. b. Dry Extraction System Complete: suitable Ducting SS 304 with accessories, dampers, duct suspender, and PVC hoses, clamps & complete, any other item as required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
6	Compressed Dry Air System: Air-cooled oil injected rotary screw compressors, Accessories, Condensate moisture separator, automatic condensate solenoid drain valve, sound attenuating enclosure, quick-latch panels etc complete as per specification. Air Dryer Desiccant type with accessories & fittings, filtration system, valves, Regulators, pressure Gauges, CDA piping, fittings etc. any other item as required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
7	Life, Safety and Security Systems: (Fire & Smoke detection systems as per Annex.5 of RFP, fire suppression, Emergency showers, CCTV etc.				
	<i>(Items under this category to be listed below as separate rows)</i>				
8	Building Management System (BMS), fire alarm, Addressable Multi Criteria Detectors, Addressable Fixed type, manual pull stations, hooters, Monitoring modules, Control Relay Modules, Fault Isolator Module, Network Repeater Panel, Cables & Conduits, Gas-based Fire Suppression system with all accessories & Controls, actuators, fittings, supports etc. Access Control System with accessories & reader controls, magnetic contacts, Central Work Station Server with accessories & controls, EPBX Telephone system, Local Area Networking (LAN), Public Address System etc. BMS Work Station Hardware with related soft ware, Software Integration Controller IP based DDC Controller and hardware, Factory Pre-Calibrated Field Devices with Cabling and Conduits, CCTV System with accessories, any other item as required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
9	Bulk & Specialty Gas Distribution systems: Gas Supply panels for N2O, C2F6, Ar, SF6, C4F8, CF4, CHF3, O2, SINGLE CYLINDER SEMI AUTOMATIC GAS CABINETS FOR NH3, O2 and 5% SiH4 in He. VMPS & VMBS, Manual Changeover Panel for Nitrogen, Gas leak Detectors (Safety System), Coaxial Pressure Switches, SH44 Outer Sensors, Electropolished Stainless Steel Seamless 316L tubes, Coaxial Electropolished Stainless Steel Seamless 316L tubes, Stainless Steel High Purity Fittings, supports & clamps etc. GAS DISTRIBUTION MANAGEMENT system with Programme Logic Control System for Gas Management, Scada System for Gas Management, Cables & trays for Scada system, Support Structure for Panels and safety equipment, Electrical panel for Gas System, UPS System for Gas System, Gas cabinet Extraction System with suitable Ducting, Accessories & hardware for Gas Management System, TESTING AND VALIDATION complete. any other item as required.				
	<i>(Items under this category to be listed below as separate rows)</i>				
10	Tool Hookup including Process cooling System Installations as per the Process tools layout & interfacing with all the utilities required. Testing & validation of Gas system				
	<i>(Items under this category to be listed below as separate rows except new process cooling chillers listed as optional)</i>				
11	Others : any other systems required in order to Meet the requirement as mentioned in the RFP on turn key.				
	<i>(Items under this category to be listed below as separate rows)</i>				
12	Warranty				
13	Process Tools Cooling Chiller. 2 Numbers. (Optional #)				
14	Post warranty 5 -year comprehensive AMC (Optional #)				
	TOTAL				

Note on BOQ :

* Detailed Unpriced Bill of Quantity/ Materials envisaged for the project. Make/ Brands of all the equipment's/ materials conforming to the specifications in this RFP document to be submitted with technical bid.
 *No pricing information shall be submitted in the Technical Bid. In case of pricing information being disclosed in the Technical bid, the bid shall be summarily rejected.
 *The BOQs of all the items required you use as list under each category should be included in conjunction with the specifications mentioned in the RFP. Please refer Annexure 5 also for the BOQ related to Fire detection system & control panel
 *Vendor shall be solely responsible for the quantity of various items mentioned by them in the BOM/BOQ.
 * Vendors may add other relevant items under the category "11 Others", if necessary