DEPARTMENT OF CHEMISTRY
NATIONAL INSTITUTE OF TECHNOLOGY: TIRUCHIRAPPALLI - 620 015

24.01.2014

Minutes of the pre-bid conference

Tender Notification No.: NITT/F. No: SIF-007/PLAN 2013-14 dt: 19.12.2013

With reference to the above tender notification and the pre-bid conference held on 24.01.2014 at 2.30 PM in the committee room of Chemical Engineering department, the following amendments are made.

Specification for GAS CHROMATOGRAPH MASS SPECTROMETER (GC MS)

Original tender specification		Amended specification
GAS CHROMATOGRAPH		**No Change**
Oven		
Temperature settings	Ambient to 400 °C or more	**No Change**
Ramp rate	100 °C or better	**No Change**
Temperature ramps	Maximum 20	**Minimum 20**
Others	Capable to install 2 columns	**No Change**
Inlet		
Injection port	2 Nos., Heating up to 400 °C with split/split less and programmable split/split less modes	**No Change**
Pressure range	100 psi or better	**No Change**
Column	Capillary column with I.D. 0.1-0.5 mm and length 60 m, and facility to accommodate 30 m length column, DB-5MS/equivalent & DB-35/equivalent columns (each 2 Nos.)	**No Change**
FID	Temperature range up to 450 °C Minimum detection limit should be < 3 pg carbon/S Linear dynamic range ≥ 10^6	**No Change**
TCD	Temperature range up to 400 °C Minimum detection limit should be ≤ 1000	**No Change**

	pg/mL Gas sampling valve should be provided	
Auto sampler	Auto liquid sampler with 100 vials or more	**No Change**
MASS SPECTROMETER		
Ionization modes	Electron Impact (E.I) and Chemical Ionization (C.I), both PCI and NCI, both EI & CI modes should be fully automated for tuning and gas controls	**No Change**
EI sensitivity	S/N Ratio ≥ 800 for 1 pg OFN	**No Change**
PCI sensitivity	S/N ratio ≥ 500 for 100 pg benzophenone	**No Change**
NCI sensitivity	S/N ratio ≥ 5000 for 1 pg OFN	**No Change**
Filament	Long life filament compatible for both E.I. and C.I.	**No Change**
Detector	High sensitivity electron multiplier detector	**No Change**
Mass range	1.5-1000 amu or better	**No Change**
Resolution	≤ 1 unit mass	**No Change**
EI voltage	10-100 eV	**No Change**
EI mode scan	Simultaneous SIM & Scanning	**No Change**
Scan rate	12500 amu/sec or better	**No Change**
Analyzer	Quadrupole	**No Change**
Mass stability	±0.1 *m/z* over 48 hours	**No Change**
Vacuum pump	Turbo molecular pump (250 L/sec helium pumping capacity or better)	**No Change**
MS data collection	Full Scan, Selected Ion Monitoring (SIM), Simultaneous Full-Scan Selected Ion Monitoring (SIFI)	**No Change**
GC acquisition	Full control and data processing of a single GC/MS with FID & TCD detectors	**No Change**
Reporting	Include all models with specialized reports for environmental and forensic applications	**No Change**
GENERAL		
Power	230 VAC ± 10% @ 50/60 Hz ± 1%	**No Change**

Computer & printer	Branded system with latest configuration for controlling the whole instrument & color laser jet printer	**No Change**
Gas cylinders for FID & TCD	Filled nitrogen, argon, hydrogen, zero air and methane gas cylinders (each 2 Nos.) with double stage gas regulator and purification gas panel	**No Change**
Gas cylinders for MS	Filled helium cylinder (2 Nos.) with double stage regulator and purification filter	**No Change**
Column nuts & ferrules	Each 10 Nos. suitable for capillary columns to be included	**No Change**
Software	Suitable software to control GC-MS	**No Change**
MS libraries	Licensed NIST mass spectral library, including AMDIS deconvolution, Wiley mass spectral library	**No Change**
UPS	Branded - 10 KVA on line UPS (Output: 230 V/single phase; Output wave form: Pure sin wave; Backup time: 60 min, Battery: Maintenance free sealed battery)	**No Change**
Warranty period and support	Comprehensive three year onsite warranty from the date of installation	**Comprehensive five years onsite warranty from the date of installation**
		5% bank guarantee for 5 years should be given towards spares supply after the warranty period
Delivery schedule expected after release of purchase order (in weeks)	Within ten weeks from the date of purchase order	**No Change**
Any other details/requirement	1. GC should be upgradable to GC-MS-MS in future 2. Dual filament for mass spectrometer (optional) 3. Indicate the accessories needed for the complete utility of instruments which are not included in the quote, separately with their cost 4. Fully automatic computer controlled with programmable electronic control and having capability of qualitative and quantitative analysis 5. Maurer/Pfleger/Weber library of drugs,	**No Change**

	pollutants, pesticides and metabolites (optional) 6. 10 years of guaranteed support for spares 7. Manual in English should be provided 8. Onsite training should be given to the users	

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