

अति आवश्यक / महत्वपूर्ण / द्वारा फैंक्स

# उत्तर प्रदेश पुलिस तकनीकी सेवायें मुख्यालय,

चतुर्थ तल, जवाहर भवन, अशोक मार्ग, लखनऊ-226001

पत्रांक-टीएस/एमओडी-120/2015-16 (एफएसएल) दिनांक, 29/5/2016 2-5-2016


## कार्यालय ज्ञाप

कृपया आधुनिकीकरण योजना के अन्तर्गत वित्तीय वर्ष 2016-17 में इस मुख्यालय के समांक पत्र दिनांक 23.4.2016 द्वारा निम्नलिखित उपकरणों हेतु निविदायें आमंत्रित की गई थी, जिसमें निविदा जमा करने की अन्तिम तिथि 5.5.16 समय 2.00 बजे अपरान्ह तथा निविदा के तकनीकी बिड खोले जाने की तिथि 5.5.16 समय 4.00 बजे अपरान्ह नियत थी:-

टेन्डर संख्या	आइटम	सं०	ई०एमओडी० (रु० में)	टेन्डर डाकुमेंट का मूल्य (रु० में)
1-टीएस-मोड-94/2015.16 (एफएसएल)	डेस्कटाप कम्प्यूटराइज (माड्यूलर)	01	22,000.00	300-00
2-टीएस-मोड-110/2015.16 (एफएसएल)	जीसीएमएस	01	1,60,000.00	300-00
3-टीएस-मोड-118/2015.16 (एफएसएल)	फोरेन्सिक एग्जामिनिंग सिस्टम	01	80,000.00	300-00
4-टीएस-मोड-130/2015.16 (एफएसएल)	रमन स्पेक्ट्रोमीटर	01	1,70,000.00	300-00
5-टीएस-मोड-132/2015.16 (एफएसएल)	जीसी	02	1,00,000.00	300-00

उपरोक्त उपकरण के सम्बन्ध में दिनांक 29.04.2016 को आहुत प्री बिड बैठक में क्रमांक 2 पर अवस्थित जीसीएमएस उपकरण में ब्राण्डेड कम्पेटेबिल विद जीसीएमएस प्वाइन्ट का समावेश कर उपकरण के निविदा जमा करने एवं तकनीकी भाव खोले जाने की तिथि निम्नवत की जाती है।

निविदा जमा करने की अन्तिम तिथि - 09.05.2016 समय 02.00 बजे अपरान्ह दि० 5.5.16 के स्थान पर  
तकनीकी भाव पत्र खोले जाने की तिथि - 09.05.2016 समय 04.00 बजे अपरान्ह दि० 5.5.16 के स्थान पर  
तकनीकी भाव पत्र पर कय समिति की बैठक- 10.05.2016 समय 11.30 बजे पूर्वान्ह  
वित्तीय भाव पत्र खोले जाने की तिथि 11.05.2016 समय 11.30 बजे पूर्वान्ह  
वित्तीय भाव पत्र पर कय समिति की बैठक 11.05.2016 समय 04.00 बजे अपरान्ह

  
(संजय कुमार) 2/5/16

अपर पुलिस अधीक्षक, तकनीकी सेवायें,  
निमित्त- पुलिस महानिरीक्षक, तकनीकी सेवायें,  
लखनऊ।

## SPECIFICATION OF GC-MS

### **Specifications of Gas Chromatograph:**

1. GC-MS system fully PC controlled from ambient temperature +4°C to 450°C
2. Facility to install two capillary columns of 30m.
3. Oven temp ramp rate of oven should be 70°C /min or better.
4. Possible to program 8 temp ramp or better.
5. All lines /channel for inlets, detectors or auxiliary gases should be controlled by EPC/PPC/AFC.
6. Preferably cool down rate 450°C to 50°C within 3.5 minutes or better.
7. The split ratio of 7500:1 or better.
8. Possible to use capillary columns of 0.25, .32 & .53mm or better.
9. The pressure setting range of 0.01 psi to 140 psi or 970Kpa. Maximum temperature attainable should be 450°C or more.
10. Two injectors should be provided. The system should be provided with one On column Injection with programmable temperature vapourizer (PTV) only & the other with split/ split-less inlet (S/SL) for capillary columns having pressure range up to 140 psi.
11. Fully automatic auto sampler: having capacity of 12 vials with upgradeable facility to 150 vials or more with area reproducibility of 0.5% RSD or less. It should inject from 1µl to 50µl or better with variable speed & varying syringe sizes and must operate from software. Auto injector / sampler must have facility to inject samples at any two injection ports with changeover facility as necessary and should be quoted with all necessary utilities along with qualitative and quantitative analysis software.
12. The system should have one FID detector with the following specification or better.



MDL < 1.5 pg c/s or better, dynamic range >  $10^7$  Data Acquisition rate up to 250Hz or 4 milli seconds or better. All gases flow should be adjustable and controlled by software.

13. Sample splitting through software for two detector simultaneous analysis should be optionally offered.
14. PC operated static heated ( $350^{\circ}\text{C}$ ) transfer line with 5 shaking mode facility based dedicated bottom loading vial headspace analyzer with 80 or more vials without requirement of adapter for 20ml or 10 ml vials to be supplied with minimum 12 pre-incubation heated vials positions having an RSD of < 1 % operational through software.

### **MS Specifications:**

1. LAN based quadrapole MS system with non coated inert ion source. System should include differentially pumped turbo molecular pump with 300L/Sec. or better capacity with EI source
2. Mass range of 2-1050amu in 1 amu steps.
3. Mass axis stability should be 0.10 amu/48 hours.
4. Scan speed up to 20,000  $\mu$ /Sec. or better.
5. Ion source temperature up to  $300^{\circ}\text{C}$  for better sensitivity. And it should be programmable.
6. Transfer line temp 100- $350^{\circ}\text{C}$ .
7. Ionization energy range up to 70eV or better.
8. Ionization current range up to 10-100 eV or better.
9. The mass spectrometer shall have the capability to create 100 scan or more.

### **Sensitivity Specifications:**

10. EI Full Scan sensitivity 1500:1 or better
11. Sensitivity, S/N Ratio  $\geq 800:1$  or better for 1pg OFN m/z 272/222.
12. Spectral libraries: (A) NIST LATEST VERSION-2014 WITH LICENCE.
13. The system should have the capability of replacement of GC

columns without venting MS vacuum break facility.

14. The system should be Quoted with all necessary utilities for GC-MS-HS
15. Columns: suitable capillary columns for **narcotic drugs, petroleum samples, alcohol samples, toxicological samples two numbers each.**  
Branded gas generators compatible with instrument for hydrogen, nitrogen and zero air should be offered
16. All BIS marked gas cylinders (hydrogen, zero air, nitrogen, helium and, regulators (2 stage SS), gas purification panels, tubing's, ferrules with all necessary spares for two years. Automatic leak check facility for carrier gas. Additional syringes of 2, 5 and 10 micro liters (5 each).

### COMPUTER SPECIFICATION

1. Branded with suitable PC with at least 8GB RAM, 1 TB HARD DISK, 21 inch colored TFT with cordless mouse and keyboard, graphic card  
Original (genuine)
2. Compatible Windows with other suitable software like Office 10, etc to be offered (all in original).
3. 10 KVA Online UPS with half an hour Backup (maintenance free batteries).
4. FIVE years AMC for complete instrument after two year standard warranty.
5. Colored Laser Printer.
6. Water proof table with drawer (with lock & key) for complete instrument with two sitting chairs.
7. User Technical/Maintenance Manual to be supplied in ENGLISH
8. Comprehensive 10 days training for lab staff at our site with our different samples.
9. Training for trouble shooting at your recognized research laboratory free of cost for four scientists.



10. Needles for auto sampler (10 piece), and linear auto sampler vials with caps and septa (1000 piece) and headspace vials with caps and septa (1000 piece) with all necessary utilities.

  
02/05/2016

(Dr. M.K. Verma)  
S.A. (chem)

  
2/5/16

(A.K. SINHA)  
(DD)

  
02/5/16

(Dr. K.K. VERMA)  
DD (chem)

## SPECIFICATION OF GC

### Specifications of Gas Chromatograph:


1. GC-HS system fully PC controlled from ambient temperature up to 400°C with >12 litres oven capacity and LCD display for all the parameters & settings.
2. Facility to install two capillary columns of 30m.
3. Oven temp ramp rate of oven should be min 30° C to 70°C/min or better.
4. Possible to program 8 temp ramp or better.
5. Preferably cool down rate 300°C to 50°C within 6 minutes or better.
6. Possible to use capillary columns of 0.25, 0.32 & 0.53mm and above.
7. The pressure set point should be adjustable 140 psi / 970Kpa. Maximum temperature attainable should be 400°C or more.
8. Dual injectors should be provided. The system should be provided with Dual split/split-less inlet for capillary & packed or wide bore columns having pressure range up to 140 psi.
9. Fully automatic auto sampler: having capacity of 12 vials or more with upgradeability to 150 vials area reproducibility of 0.5% RSD or less. It should inject from 1µl to 50µl or better with variable speed & varying syringe sizes and must operate from software. Auto sampler must have facility to inject samples at two injection ports. The system should have dual FID detector with the following specification or better.  
FID : MDL < 3pgc/s or better, dynamic range > 10<sup>6</sup> Data Acquisition rate up to 250Hz or 4milli seconds.
10. PC operated static heated transfer line based dedicated headspace analyzer with 20 or more vials with min. 6 preheating or pre-incubation facility having an RSD of < 2 % Operational through software..
11. The system should be Quoted with all necessary utilities for GC-HS
12. Columns: suitable capillary columns for narcotic drugs, petroleum samples, alcohol samples, toxicological samples two numbers each.

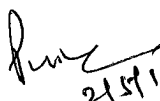


13. All BIS marked gas cylinders(hydrogen,zeroair, nitrogen etc., regulators (2 stage), gas purification panels, tubing's, ferrules with all necessary chemicals and all necessary spares for two years. Automatic leak check facility for carrier gas. Additional syringes of 2, 5 and 10 micro liters (2 each).

#### COMPUTER SPECIFICATION

1. Branded with i5 processor with at least 500GB HARD DISK, 19 inchColored TFT with cordless mouse and keyboard with Laser Printer.
2. Latest Ver. Of Windows software & Antivirus (all in original).
3. 5 KVA Online UPS with half hour Backup (maintenance free batteries).
4. FIVE years AMC after two year standard warranty.
5. Comprehensive Training for lab staff and support for familiarity with the system at our site with our samples.
6. Needles for auto sampler (5 piece), and linear auto sampler vials with caps and septa (1000 piece) and headspace vials with caps and septa (1000 piece) with all necessary utilities.

  
02/05/16  
(Dr. M.K. VERMA)  
S.A.

  
21/5/16  
(Paulraj Krishnan)  
FSL Dy. Director

  
21/5/16  
Dr. K.K. Verma  
DDC(Chem)

## Specifications: Forensic Document Examination System

High Resolution CCD/IR Digital Firewire Color Camera or better with Hyper Spectra.

Camera Spectral Response Approx. 350-1000 nm or better.

2.5 or above MP (Optional) High Resolution CCD/IR Digital Firewire Color Camera

Spectral range: 350-1000nm.

Hyper Spectrometer

### MONITOR

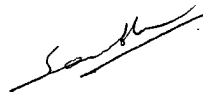
30" TFT wide screen Monitor or better.

Magnification (Optical) up to x170 or above.

Field of view approx. 200 x 150 nm or above

### Illumination:-

- 1) Long Wave Incident UV at 365 nm,
- 2) Medium Wave Incident UV at 312/313 nm,
- 3) Short Wave transmitted UV at 254 nm,
- 4) Long Wave transmitted UV at 365 nm,
- 5) Visible & IR Incident High Intensity Light,
- 6) Visible/Infrared Co-axial Light,
- 7) Visible/Infrared Oblique Light,
- 8) Visible/Infrared Transmitted Flood Light,
- 9) IR Illumination for Anti-Strokes features detection.





### **SOFTWARE (SW)**

- 1) 2D/3D Technology,
- 2) ICAO Data Reader,
- 3) Hidden Image Decoder,
- 4) Histogram Stretching,
- 5) Case Work recording,
- 6) Side by side comparison of live & stored image,
- 7) Colour Measurement to measure colour Coordinates,
- 8) Comparison of spectrums for whole visible & NIR Region,
- 9) Split Screen for simultaneous ink analysis on two separate Documents,
- 10) Calibration procedure including measuring statistics, Image Analysis, Processing & Reporting P.C.
- 11) Operating System – WINDOWS or advance
- 12) X-Y Translator stage,
- 13) Polarcife viewer for UV

### **Accessories**

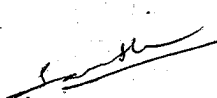
Distance between two points, Area within a user defined box, Radius of a circular feature from three peripheral points, Angle between two lines, Area of user defined shapes, Area of selected features i.e. an alphanumeric character of logo.

### **Image Comparison & Transformation:**

- 1) OVI imaging
- 2) Image Integration
- 3) Superimposition of live & stored image with adjustable mix, 0 to 100%
- 4) Variable speed image storable between a live and a stored image
- 5) Left to right image reversal (Horizontal mirror reversal)
- 6) Top to Bottom Image Reversal (vertical mirror reversal)
- 7) Grey Level reversal (Positive to Negative)
- 8) Image rotation through any angle
- 9) Contract Stretch
- 10) Image Processing, Image Quality enhancement filters, Multi Laser Imaging, IPI decoder, OVI Viewer, MRZ decoder

### **Examination of Indented Writings**

Facility for Examination of Indented writings



<b>Data Base</b>
Passport & Travel Documents data and bank Note. Bank Note Data Base of various countries with upgradation/ modification free for next 5 years.
<b>Computer</b>
A computer with latest configuration & operating system.
<b>Printer</b>
Colour Laser Printer with High Resolution and high speed and quality out put on normal paper or better
<b>UPS</b>
Online ups of 2KVA with 30 minutes backup
<b>Service Support</b>
1) <b>Warranty:</b> Two (02) Years with spare parts
2) <b>AMC &amp; Services:</b> 5 years AMC (with/ without spare parts).
3) Registered Complaint should be attended with in 48 hrs.
<b>License &amp; Software Upgradation :</b> The installed software free upgradation till the item is declared obsolete/till the warranty period and their free license/no expiry of license
<b>Training:</b> Free of Cost training for three days or more days if required; further 1 day training with upgradation of Hardware/Software.

*Samal*  
05/02/16  
(Samal Anil)  
SA, FSL, LHO

*Shri*  
05/2/16  
(Dr Sudhin Kumar)  
DD (Doc)  
FSL, VNS