

SPECIFICATION FOR INSTRUMENTS/ITEMS

Sl. No. 1: High Performance Liquid Chromatography:

Earnest Money : Rs. 90,000.00

Specifications:

Pump: Quaternary gradient pump with flow 0.01—10 ml/min, pressure range 9000 PSI or more, flow accuracy 0.1% or better, Precision < 0.05% RSD, four channel degasser with solvent rack.

Injector: Auto sampler.

Detector: Photo Diode Array Detector, wave length range 190-800 nm. No of Diode 1024 or more, lamp temperature control facility.

Column oven: Programmable microprocessor controlled column oven, Temperature range 5°C —80 °C, all brand of LC column can be fitted with. Explosive analysis column is to be provided.

Validation: hardware folder/protocol to be quoted with software.

PC with printer: to be quoted separately.

Service: Must able to provide AMC.

Extra: System should have the provision to be upgraded or may be amalgamated with LCMS.

Sl. No. 2 : Workstation for Computer Forensic workstation with hardware & software:

Earnest Money Rs. 40,000.00

Specifications:

a) Hardware for workstation:

1. Should have Dual Xeon (6 Core) Processor, 32 GB RAM DDR 3, Multi Speed DVD Writer, LAN CARD 10/100/1000, Graphic Card with 2 GB Dedicated Memory, Windows 7 Professional 64 Bit, 800W or Better SMPS.
2. Should have write blocker for IDE/SATA/USB/SAS/Firewire for write protection of suspected storage device.
3. Should have all cables and adapters for 3.5", 2.5", 1.8" & ZIF Drives
4. Should have 1TB HDD for OS and APPLICATION
5. Should have 1 TB HDD for Database
6. One 1 TB HDD for Storage Case Data and Index
7. One 1TB HDD for Storing Forensic Image
8. One removable SATA drive bay for adding forensic images
9. Should Have 2.1 Channel Speaker System
10. Should have 24" TFT Monitor ,standard keyboard and Mouse

b) Write Blocking Kit for workstation:

1 x IDE + S-ATA Combo write protect Bridge, 1 x SCSI write protect bridge, 1 x USB write protect bridge, 1 x SASA write protect bridge, 2 x power supplies with power lead for main units, FireWire cables + Two USB cables + all other necessary cables for IDE/SATA and SCSI, 1 x SCSI 68 pin to 50 pin and SCA adaptor, 1 x 2.5" Adaptor laptop, 1 x Laptop 1.8" Adaptor, 1 x Laptop ZIF Adaptor set for Hitachi and Toshiba HDD, 1 x Micro SATA adapter, Waterproof, dust proof pelican case (Black), 1 x Disk Monitor software, 1 x Compatible Disk Imaging software

c) Mobile Phone Forensic Device:

- Solution must run on Windows XP, Vista or 7 Operating System
- Solution must support a minimum of 9000 different hand held device profiles
- Solution must provide the option to do a full forensic dump and decode
- Solutions should have minimum 70 cables
- Solution should offer a unique help file for every device with easy data extraction and immediate reporting
- Solution software should be able to be exported into: Excel, Word, Open Office, XML, Google Earth, Print
- Solution should be able to report content capability to include: Summary, Case data, General Information, Network Information, Contacts, Notes, SMS and MMS, Pictures, video and audio, E-mail, Documents, Files, Device overview, Log.
- Solution must have the functionality to examine unsupported handsets using known handset profiles
- The reporting tool of the device must offer the possibility for users to enter comments for each entry of report without changing the original evidence

- Solution requires a secure report reader application to facilitate review by authorized third parties
- Support options for the solution must include telephone, email and web support facilities
- Product tools to include: CD/DVD burning wizard, Clone SIM Cards, Clean Registry, License update, download updates
- Solution should include the following functions: SIM Card Reading, SIM Card Cloning, Mobile phone logical examinations, Mobile phone physical examinations, GPS device logical examinations, GPS device physical examinations, Memory card logical examinations, Memory card physical examinations, Hex viewing, File Importing, Hash algorithms, File signature analysis, Selective extraction of data
- Solutions should be able to support multiple extractions and be able to perform up to three simultaneous extractions from three separate devices
- Solution must offer re-usable SIM Clone Cards
- Solution should support acquisitions from china clones/china copied phones
- Write protected Memory card reader to be included.
- Solution must be able to extract security code only.
- Solution must be able to do logical file system extraction from Windows Mobile 7.
- Solution must be able to do physical dump and decode of Android.
- The solution should be housed in a briefcase with a cables carrier.

SI. No. 3. Water determination in petroleum products:

Earnest Money Rs 6,000.00

Specifications:

Conforms to ASTM-D-4928, IP-386, API-chapter 10.9, Microprocessor controlled stepped pulse current technology. Automatically controlled background drift compensation.

SI No. 4. Crime Scene Physical Evidence kit:

Earnest Money Rs. 1,000.00

Specifications:

(A) General Crime Scene Investigation Collection and Packing Material

Consisting of

- Portable Blue LED Light
- Illuminated White LED Magnifier
- Illuminated Scaled Magnifier
- LED Flash Light White
- Set of Evidence Collection Material Pouches , Big Containers and Jars
- Set of Gloves Latex, Cotton, Heavy Duty
- Set of Body Protective- Dust Mask, Head Cover and Overshoes
- Apron / Body Suit
- Set of Tools- Scissor, Scalpel, Tweezers, Measuring Tape
- Set of Evidence Markers- Red , Black, Blue and Green
- Cotton Gauze Roll and Balls (Pack of 6)
- Set of Hardware Tools- Pliers, Ratchet Screw Driver, Wire Cutter
- Digital Vernier Caliper
- Digital Camera (7.5 MP)

(B) Blood and Semen Detection Material-

Consisting of

- Blood Stain Detection Tablets
- Human and Non human Determination Strips
- PS 30 Test Spot Strips
- Paper Envelopes

(C) Fire Arm Residue Collection Kit (AA and SEM) –

Consisting of

- Gunshot Residue Collection Vial, Right Palm, Left Palm, Right Back and Left Back
- Vial, Left Back, Right Back, Left Palm, Right Palm, Contaminant Free Vial, Left back, Right Back, Left Palm, Right palm, Contaminant free
- Vial, Cartridge Case, Contaminant free
- Vial, Control , Contaminant free
- Latex, Powder-Free Gloves, Pair, Ambidextrous
- Paper Envelopes and Cotton Ball

- (D) Explosive Detection Material –
Consisting of
- Detectors for detection of explosives- TNT, DNT, RDX(C-4), PETN, SEMTEX, DYNAMITE, NG, SMOKELESS POWDER, POTASSIUM NITRATE(Black Powder),AMMONIUM NITRATE (ANFO), UREA NITRATE
- (E) Bullet Hole Detection Material –
Consisting of
- Detectors for detection of bullet hole- Lead and Copper
- (F) Search light
- Operating range of about 1000 mtrs. (i.e. 1km Approx)
 - 55 Watt halogen beam
 - Uses internal 12V/ 7Ah sealed lead-acid battery, rechargeable
Internal SMPS battery charger for 90-270 volt operation.

Sl. No. 5. UV Visible Spectrophotometer:

Earnest Money Rs 14,000.00

Specifications:

1. Photometric system – Double beam/Duel Beam.
2. Measuring range – 190-900 nm.
3. Processing/Operation
 - Fully externally controlled by PC, window based software.
 - Fully integrated Scan.
 - Real time spectral display.
 - Calibration facility.
 - Storage & reprocess of data.
 - Spectral saving/retrieving to/from hard disk.
 - Spectral overlay.
 - Spectral manipulation – Addition, subtraction, multiplication and division between any two channels.
 - Result and reports created automatically.
 - In built library.
4. All reflecting optical system (SiO₂ coated) with holographic grating.
5. Monochromator with 1440 lines/mm UV/VIS blazed at 240 nm Littrow mounting, sample thickness compensated detector optics.
6. At least 4 segmented chopper mechanism for dark current compensation for sample and reference.
7. Photo multiplier detector.
8. Photometric accuracy
 - Double Aperture method at 0.3 A.
 - +/- 0.0006A
 - NIST 1930 D filters 2A +/- 0.003.
 - NIST 930 D filters 1A +/- 0.003 A
 - NIST 1930 D filters 0.5 +/- 0.002A
 - K₂Cr₂O₇ solution USP/DAP method +/- 0.01 A
9. Photometric linearity at 3.0A, +/-0.02A
10. Photometric reproducibility
 - ! A with NIST 930 D filter at 546.1 nm.
11. Standard deviation – 0.0008A on 10 measurement.
12. Photometric stability 0.0002A/h
13. Photometric range – 6A or more.
14. Base line flatness
 - +/- 0.0008 A at 200nm-850nm, 2nm slit, 0.2 sec integration.
15. Base line correction – Automatic.
16. Stray light - <0.0001 % T at 220, 320 and 340 nm.
17. Wave length accuracy - <0.06 nm with D2 lamp lines.
18. Optical resolution - <0.20 selectable up to 5 nm.
Quartz Cells with 10 nm path length with stopper & lid.

Sl. No. 6. On Line UPS-5KV:

Earnest Money Rs 1,800.00

Specifications:

- 1) Capacity 5 KVA
 - 2) Input Voltage –single phase 160-270 VAC, 2 wire +E
 - 3) Frequency --50 Hz.
 - 4) Battery Type/capacity-EXCIDE/AMARON or Equivalent, 12V, 42 AH,
 - 5) Back Up time –Not less than 1 hour on full load.
- Out put Voltage --230

Sl. No. 7. 96 well plated Thermal Cycler (PCR) system:

Earnest Money Rs 8,000.00

Specifications:

- Must have a 96 well Thermal Cycler with 6 separate peltier blocks to provide independent temperature zones to run – six different assays with varying annealing temperatures at the same time.
- Must have blocks and each block accommodate 16 wells and having the ability to set up PCR with a specific temperature differential of up to 5 degree centigrade between blocks.
- Must run up to 6 separate temperatures in the same plate with user defined time to determine the optimal annealing temperature.
- Must have on board Tm calculator facility to approximate the optimal annealing temperature.
- Must have Standard and Fast and Fast run modes in a single instrument with the ability to use 0.2 ml/0.1 ml PCR tubes or micro-well plates.
- Must have the support to PCR volumes ranging from 10 to 80 microlitre.
- Must have mouse or stylus free navigation capability with VGA colour touch screen allowing for easy intuitive graphical user interface programming.
- Must have choice of saving the methods up to 800 to the instrument or unlimited to a USB memory stick.
- Must have programmable heat lid cover from 50 degree to 105 degree centigrade for efficient PCR optimization.
- Must have the capability to interlink up to 11 PCR systems via single Ethernet hub.
- Must have the ability to store most important methods on a memory stick.
- Must have a USB port to transfer methods from one machine to another.
- Must have the ability to allow easy product updates via USB port.

Sl. No. 8. Electrophoresis System:

Earnest Money: Rs 45,000.00

Specifications:**Horizontal gel unit**

- i) Gel dimension—13x15 cm /20x20cm
- ii) UV tray with buffer re-circulation ports and coloured loading units.

U V Trans illuminator:

- i) Transparent shield—8.3 x10.2 inch/21x25 cm
- ii) Should specify UV light source and intensity setting

1) AmpFLSTR IdentifierPlusKit:

Key Feature: AmpFLSTR Identifier PlusKit enables forensic analysis to recover more interpretable results from wider range of DNA evidence samples with increases confidence.

The Kit includes the same primers and allelic ladder as the widely used Identifier kit and harmless next generation PCR amplification technology to help provide enhanced sensitivity, a clear base line, unproved performance and the ability to overcome high levels of PCR inhibition.

2) AmpFSLTR Y-Filer Kit:

Key Feature: AmpFLSTR Y-filer PCR amplification kit permits the analysis of complex male-female DNA mixtures that often yield ambiguous or inconclusive results with auto somal STR. Analysis trace quantities of male DNA that may be present in a large background of female DNA. Amplify 17 Y-STR loci in a single PCR reaction.

3) AmpFLSTR Minifiler Kit:

Key Feature: The minifiler kit, designed to obtain DNA results from compromised or degraded samples has proven its utility globally in wide range of investigation, including cold cases missing person cases, exonerations and historical and archeological cases.

4) 36cm x4 CAPILLARY ARRAY – CAT No. 433464.

5) 36cm x8 CAPILLARY ARRAY – CAT No. 4404683.

Sl. No. 9. Spare parts for UV, GC, N₂ & H₂ gas generator Headspace GC including GC & HPLC column, injection syringe, headspace vial, caps, Ferrules & septum:

Specifications:

Spares & accessories for G.C:

- Material No 120320-0030—Filament Assembly-ION-TRAP/DSQII.
- Material No 119590-0022—PCB ASSY ANALOG DSQ.
- Material No 119590-0050 PCB ASSY REGULATOR ION TRAP.

Spare for G.C.

- GC -29013486 Graphite ferrule for 0.32 ID column
- 13103211 Septum
- Syringe for manual injection 10 µl and 75 mm needle length.
- Syringe for manual injection 10 µl and 51 mm needle length.
- 38606035 Aluminum cap for 20 mm dia with Teflon face septum.
- HP Ultra-2 GC column-cross linked 5% phenyl methyl silicon (-60 °C to 320 °C), 25mx 0.32mm x 0.17µm.
- HP Ultra-1 GC column-cross linked methyl silicon gum phase (-60 °C to 320 °C), 25mx 0.32mm x 0.17µm.
- HP- 20 M GC column Carbowax -20m phase (-60 °C to 220 °C), 25mx 0.32mm x 0.17µm.

Headspace Sampler to be Mounted on Thermo Fisher GC Trace Ultra

GENERAL

- The auto sampler must feature an X-Y-Z axis design without the use of transfer lines.
- The auto should have the options of performing alternate sampling and injection of:
 - Liquid samples
 - Gas samples
 - Both Liquid and Gas
 - Samples by SPME technique.

HEADSPACE SAMPLER:

- Must allow housing of up to four (six with the extended length X arm) 60-positions sample trays for a maximum loadability of 240 (360 with the extended length X arm) 10- or 20-mL vials.
- Must allow headspace injection without using any transfer line or loop valve.
- Must include an incubation/agitation oven, to be heated up to 150°C, and featuring 6 positions for 10/20 ml vials.
- Must permit sequential injections on the same inlet for sample enrichment.
- The syringe must be heated and feature a gas line for purging with inert gas, when required.
- Must allow installation and automation of gas tight syringes featuring volumes from 1 to 5 mL. Minimum headspace injection volume of 0.1 mL.
- Must be able to perform Multiple Headspace Extraction.
- Complete package for 100 samples consumables accessories

Spares & Accessories for HPLC:

- Material No- N9300320 PM KIT.PUMP
- Material No - N9300321 PM KIT.-HPLCA/S.
- Material No- N2601295 SEAL TOOL.
- Material No- N2600124 Piston-100 µl High Pressure
- Material No- 09903615 Sol Reservoir Sparger 40 MCRN.
- Material No- N9306025—7725 STAINLESS STEEL SAMPLE LOOP 20 µl.
- Material No- 02542313 Low Pressure Piston Guide S4.
- Material No- N 2600104 Low Pressure Piston 410 BIO PUMP.
- Material No- 02711441 20CM x.007IN TUBING.
- Material No- 00891480 50 CM X.0071N TUBING.
- Material No- 02540274 RHEODYNE NUT(6) + FERRULE(6).
- Material No- 00890945 NUT & FERRULE 1/16IN.
- Material No- 02540177 INLET CHECK VALVE S4 SST TESTED.
- Material No- 02540197 OUTLET CHECK VALVE S4 SST TESTED.
- Material No- 02542150 WASHER CHECK VALVE SEALING.
- Material No-09978210 IC-CLOCK TIME KEEPER 1386.

Sl. No. 10. Room Conditioner and Humidifier:

Earnest Money: Rs 1,000.00

Specifications:

1.5 Ton, SPLIT

- i) Capacity—1.5 Tons
- ii) Working Voltage—220—230 V, AC
- iii) Must removes excess moisture from atmosphere
- iv) Separate water collection tank.

Sl. No. 11. Fume Hood Chamber:

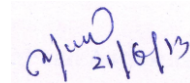
Earnest Money: Rs 8,000.00

Specifications:

Durable, Hazardous Chemical Gas Remove Wide variety of Material of User Selection Slide Type Sash Door with Tempered Safety Glass Powerful Sirocco Fan Blower

Built-in Utility Device

Air Volume	: 1440 CMH
Blower (Sirocco Fan)	: 1/3 HP
Material Inner	: Stainless Steel
outer	: Powder Coated Steel and stainless steel frame
Work top	: Synthetic Ceramic Plate
Utility Device	: Air cock, Gas cock, Water cock, Cup Sink Drain, Explosion Proof Lamp, Power consent 110 & 220V
Duct	: Diameter 200 mm
Dimensions (WxDxH)mm	: 1500x750x2250



Director,
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