

ज्ञापांक.....<sup>8751</sup>...../आपूर्ति

95-1-4-2017

पुलिस महानिदेशक का कार्यालय, बिहार, पटना

पटना, दिनांक- 24-7-17

सेवा में,

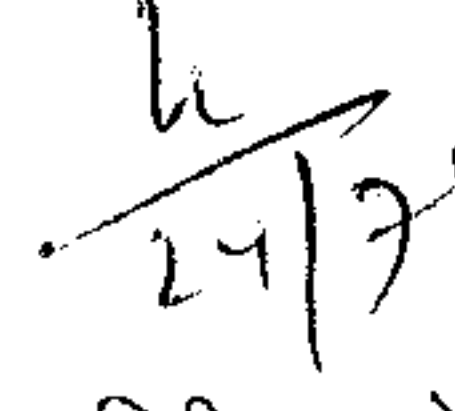
निदेशक,  
सूचना एवं जनसम्पर्क विभाग,  
बिहार, पटना

विषय- निविदा आमंत्रण सूचना सं०-13/2017-18 के प्रकाशन के संबंध में।

निदेशानुसार उपर्युक्त विषय के संबंध में निविदा आमंत्रण सूचना सं०-13/2017-18 की पाँच प्रतियाँ (सी०डी० सहित) संलग्न करते हुए अनुरोध है कि इसे राज्य एवं राज्य से बाहर के प्रमुख समाचार पत्रों में (अंग्रेजी एवं हिन्दी) के अगले दो संस्करणों में प्रकाशित कराने की कृपा की जाय साथ ही पी०आर०डी० वेबसाइट पर भी प्रसारित करने की कृपा की जाय।

इस निविदा आमंत्रण सूचना का प्रकाशन किन-किन समाचार पत्रों में किया गया इसकी सूचना देने की कृपा की जाय।

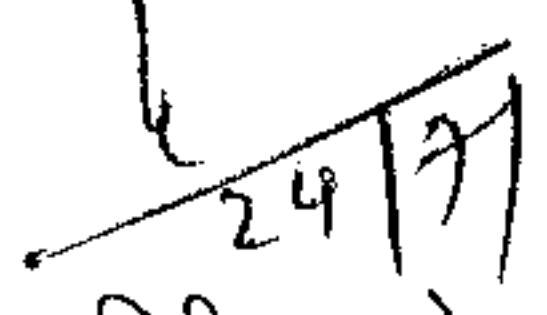
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पुलिस महानिरीक्षक के सहायक (क्यू०),  
बिहार, पटना।

प्रतिलिपि:-

1. आई०टी० मैनेजर, पुलिस महानिदेशक का कार्यालय, बिहार, पटना को कृपया सूचनार्थ। कृपया इसे आज ही वेबसाइट पर अपलोड किया जाय। साथ ही Indian Trade Journal, Kolkata के अंक में प्रकाशन हेतु Government of India, the Controller of Publications, Civil Lines, Delhi : 110 054, (Tel No. 011-23812527, FAX : 011-23817846), Email Id- sk.mondal.dgcis@nic.in के पतेपर भी अनिवार्य रूप से भेजा जाय।
2. Government of India, the Controller of Publications, Civil Lines, Delhi : 110 054, (Tel No. 011-23812527, FAX : 011-23817846), Email Id- sk.mondal.dgcis@nic.in को कृपया सूचनार्थ एवं आवश्यक क्रियार्थ प्रेषित। अनुरोध है कि उक्त निविदा का प्रकाशन Indian Trade Journal, Kolkata के अंक में करने की कृपा की जाय।

  
24/7/17

पुलिस महानिरीक्षक के सहायक (क्यू०),  
बिहार, पटना।

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**Police Headquarters, Bihar, Patna**  
**Notice Inviting Tender No.-13/2017-18**

1. Name of the Department: Office of Director General of Police, Bihar, Patna.
2. Last date & time for the acceptance of the tender : 17 / 08 / 2017, Till 02:00 PM
3. Date & time fixed for the opening of the tender : 17 / 08 / 2017, At 04:00 PM
4. Place fixed for receiving & opening the tender : Office of Director General of Police, Bihar, Patna.
5. Details of Job:

S.N.	Item name	Quantity
1	RTVS (Portable X-Ray)	1
2	Thermal Cutter	1
3	Disruptor	1
4	Telescopic Prodder	4
5	Remote Operated Wire Cutter	1
6	Optical Fibrescope	1
7	Car Remote Opening Tool Kit	1
8	RSP Tool Kit	1
9	Telescopic Search Mirror	2
10	Hook and Line Set	04
11	Electronic Sthethoscope	1
12	Hand Held Metal Detector	1

Specifications and other terms & conditions of the tender may be obtained in person from this office or may be downloaded from the website [www.prdbihar.gov.in](http://www.prdbihar.gov.in) or [www.biharpolice.bih.nic.in](http://www.biharpolice.bih.nic.in).

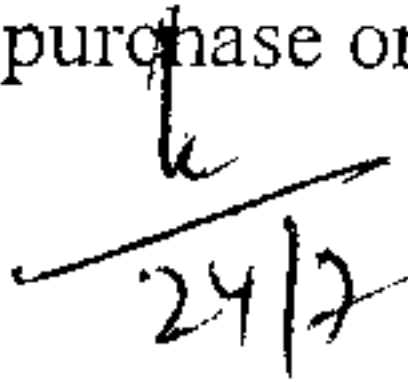
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## Terms & Conditions of Tender No.-13/2017-18

1. Tender of the firm will be accepted only on the condition that if their tenders are approved, the firm shall get registered with the Commercial Tax Department, Bihar, before the purchase order is issued.
2. The tender should be submitted in two parts: (i) Technical Bid and (ii) Financial Bid, duly sealed in two separate envelopes super-scribed as "Technical Bid" and "Financial Bid".
3. All relevant papers/ E.M.D./certificates/specifications etc. of items should be enclosed in the Technical Bid.
4. The rates of the items shall be quoted in the Financial Bid only.
5. All charges like BST/CST/Service Tax /VAT etc. shall be clearly mentioned in the Financial Bid and the net rate (in figures and words) including all taxes and duties must also be quoted. Vague offers like indicating taxes "as applicable" will not be accepted.
6. The rates of the items shall be quoted in the Financial Bid in two parts :  
(i) With AMC (Annual Maintenance Contract) and (ii) Without AMC
7. There should be no cutting, over writing or correction on the rates.
8. The technical and financial bids for each item should be submitted separately in separate envelopes. The technical and financial bids for more than one items submitted together in the same envelope shall not be accepted.
9. If the financial bid is submitted in the same envelope containing the technical bid then also it shall be summarily rejected.
10. The technical and financial bids should be put in two separate sealed envelopes and the envelopes should be marked Tender No-13/2017-18 (Technical Bid) and Tender No-13/2017-18 (Financial Bid) along with the name and address of the firm. The sealed envelopes containing the technical and the financial bids should be sent in another sealed envelope which should be marked as Tender No-13/2017-18. This envelope should not bear the name and address of the firm.
11. Income Tax Returns of last three years, a photocopy of PAN of the participating firm and turn-over of any two of the previous three financial years should be submitted with the technical bid. It should be specifically mentioned whether IT return has been filed manually or electronically.
12. The turnover of the firm for the last reported financial year should be at least double the amount of the supply order which is being issued. A copy of the profit and loss Account of the firm for any two of the previous three financial years, certified by a Chartered Accountant should be submitted along with the tender. If the tenderer is authorized dealer or authorized supplier of manufacturing firm, then the certified details of the turnover of authorizing firm may be accepted. Tender specific authorization from the OEM must be submitted, but in certain cases where authorization from OEM is not required, the Technical-cum-User committee (T.U.C.) shall decide about exemption (if any) on a case-by-case basis; citing appropriate reasons for the same.
13. If there is some discount in the price of any item, it should be deducted from price itself and such discounts should not be quoted separately.
14. If the product is available on DGS & D rate contract, then a copy of the contract must be attached and pricing be done including all taxes.
15. A copy of the test report for the product issued by any established and recognized private Laboratory or by agency accredited by the Government should be attached with the technical bid. However if required, the Technical-cum-User committee (T.U.C.) can take decision regarding exemptions/relaxations (if any), citing appropriate reasons.



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16. In case of Bullet Proof/Bullet Resistant items, test report of TBRL is compulsory.
  17. Firms participating in this tender shall also submit duly sworn affidavit to the effect that " this firm has not been black listed/debarred by any Government or Semi Government or Private Agency and no sister concern of this firm is participating in this tender."
  18. Firms participating in this tender shall also submit the self attested list of users of its equipments.
  19. All items shall be received at Central Clothing Store, Patna; therefore price should be quoted FOR Central Clothing Store, Phulwari Sharif, Patna.
  20. Firms will have to deposit a sum of Rs.50,000/- (Fifty Thousand) only as an earnest money deposit in the form of Bank Draft duly pledged in favor of the undersigned along with the quotations. The small scale units located in Bihar shall not be liable to deposit earnest money. Exemption from submitting E.M.D. will also be available to those who are registered with the Central Purchase Organization/State Purchase Organization and National Small Industries Corporation (NSIC).
  21. Technical Bids will be opened on scheduled date and time in the office chamber of Police Headquarter. Representatives of the firms competing in the tender may remain present at the time of opening of the technical bid.
  22. The technical bids will be opened first and placed before the Technical Committee of the Police Headquarters, Bihar. If the technical bids are found satisfactory as per tender conditions, it will be put before Central Purchase Committee of the Police Headquarters, Bihar. The firms may be required to participate in the demonstrations of the quoted product and discussions with this committee.
  23. Any paper/document will not be accepted after opening the tender.
  24. Successful firm will have to enter into an agreement after depositing a sum of 5% of the total value of the order as security money in the form of Bank Guarantee duly pledged in favor of undersigned.
  25. The firm will be required to provide satisfactory after-sales service after the delivery of the product.
  26. The firm will be required to supply all the items within the stipulated time frame as mentioned in the purchase order.
  27. Payment for the delivered items will be made only after the acceptance report of the Inspection Committee of the Police Headquarters, Bihar.
  28. The firm whose quotation is approved by the Central Purchase Committee of the Police Headquarters, Bihar, shall be invited to enter into an agreement with the undersigned.
  29. It is expected to submit the duly filled chart attached herewith, along with the technical bid.
  30. Indexing of the requisite documents must be done and submitted along with the technical bid.
  31. Hands on training of the equipment must be imparted to the user group by the firm.
  32. Director General of Police Bihar, Patna reserves the right to reject any or all the quotations partially or fully, without assigning any reason thereof.
  33. The Quantity indicated may increase or decrease at the time of issuing purchase order.

  
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Bihar, Police.

## SPECIFICATIONS OF REAL TIME VIEWING SYSTEM (RTVS)

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1. The system should be as lightweight in weight as possible. The system should be compact and easy to set up.
2. All components should be portable.
3. The system should be able to function with both pulsed and continuous X-ray source.
4. Real time measurement of any object on screen should be possible.
5. The system should have a laptop based control and display unit along with a compatible video camera unit.
6. X-Ray Generator should be light in weight and capable of being operated remotely.
7. The RTVS should be mountable/ suspend able from the ROV and Mini ROV and the mounts be included in the equipment.
8. To facilitate the off site study the system should be supported by a hardware and software capable of image recording on a storage media i.e Floppy, CD, Pen Drive, etc.
9. The software be menu driven and should facilitate the operator to choose from the wide range of functions provided by the software.
10. The software should have the facility of zooming the image along with the ability to scroll the full image (200 to 400%)
11. The system should be able to store minimum 1 000 images in its data base library with the capability of annotation.
12. The software should provide image enhancement facilities as under:-
  - (a) Polarity and Pseudo coloring facility.
  - (b) Brightness & Contrast control.
  - (c) Split screen capability.
  - (d) Sharpening of images.
  - (e) 3D effect of a image.
  - (f) Tilting/Rotation of an image.

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(g) On screen measurement facility (both inches and mm)

(h) Over Lay capability should be supported.

i) Multiple Undo/Redo and Restore original functions.

13. The system should have an option for wireless operation.

14. For easy field use the system should be operated with rechargeable battery and should have additional facility of operating with AC power supply.

15. The system should have a battery low-level indicator.

16. The system should have an anti virus software to protect stored data.

17. The system should be capable of operating in the temperature range of  $-15^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$ .

18. Exposure time for X-ray (1-99 Pulses or better) should be adjustable depending on type of object to be viewed on X-Ray and these controls should be available in the software as well as X-Ray Generator. Accumulation of pulses on Image Capture Unit should be possible.

19. The laptop should be configured with the latest version of software

20. Audio and visual warning during the X-Ray activation should be available

21. Image Capture Unit (ICU) should be available in different sizes i.e small / medium / large ( Ranging from 150 mm to 330 mm x 110 mm to 440 mm)

22. All types of accessories and consumable items required for functioning of the equipment should be available in the market.

23. Laptop Specifications:

(a) Screen: at least 14" TFT with 1024x768 Resolution, 16.7 million colours, 256 gray levels.

(b) Processor: PIV 1.66 GHz or Higher 1 MB Cache. (c) Hard Disk: 80 GB or Higher.

(d) Drives: 3.5" Floppy Drive, CD RW or higher, Card Slot, USB 2.0 Slots x 2 ( Or Better Specifications)

(e) Operating System: Windows XP Professional or Later version.

(f) Visual Database: Storage of atleast 10,000 images including data, user name, date, time, category, place, filename, project name, type of ICU, type of XRay and

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Description. Capability to backup and restore the database. Quick save and project functions.

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(g) Split screen with synchronized scrolling capabilities. (h) Built in email access.

(k) Audible and visual warning during 'X-Ray activation, incorrect setup, etc.

24. Misc: The firm should be able to provide the following as applicable, along with the equipment-

(a) Technical Manual giving full description of the item.

(b) User's Hand Book.

(c) Literature on preservation technique, as applicable.

(d) Specification for packing, handling/transportation/storage.

(e) Details regarding proof/periodical inspection by the user.

(f) All the above tools should be packed in a pelican case with wheels and the equipment should fit into space provided inside.

25. There is no limit on the positive tolerance.

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## SPECIFICATION OF THERMAL CUTTER

The Thermal cutter shall be employed in situations where entry hole is to be made on the IED to gain access to the contents. The typical use of this equipment would be against soft skinned IED containers like plastic, rexene, cloth, etc. The aim is to melt the outer surface by employing heat on the skin of these containers thereby removing a triangular section creating an opening.

The equipment should have quick heating and should achieve its peak temperature in less than 10 minutes. The edges of the tools should be thin and sharp.

It should be able to cut the plastic materials of thickness of minimum 5 mm. For this, it should be able to attain at least a minimum of 5000 C.

The equipment should have a heating element head in the shape of equilateral triangle of 4" size.

It should be operable with both AC and DC.

It should be provided with a light weight stand which can be positioned in 3600 sphere. The stand should be modular in design and should have a maximum height of 6 ft.

The cutter should be remotely operable.

The equipment should be compatible ROVs and should have fitments in the stand for this purpose.

The equipment should be supplied packed in pelican carrying case with insets in Firm should be able to provide the following as applicable, along with the equipment –

- (a) Technical manual giving full description of the item.
- (b) User's Hand Book
- (c) Literature on preservation technique, if applicable
- (d) Specification for packing, handling/transportation/storage
- (e) Details regarding proof/periodical inspection by the user

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## SPECIFICATION OF DISRUPTER

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1. The slugs must be in steel.
2. The said disrupter has to be set up in any type of lands including in case of Robot operated vehicle.
3. It must be easily carriable.
4. Minimum back pressure upon the disrupter stand has to be entertained at the time of firing.
5. Cartridges and spare parts must be easily available.
6. Minimum distance in between the disrupter and the suspected device is about 15 ft may be preferred.
7. Lesser pointed must be fitted with the disrupter. 8. It should be remotely operated.

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## SPECIFICATION OF TELESCOPIC PRODDER

The prodder is used for removing soft soil or drilling through soft soil for the location of buried /hidden explosive devices.

1. The non metallic of approx. 8-10 mm diameter.
2. Length about 3 feet with pointed tip.
3. Insulated hard grip.
4. Proder to withstand prodding force of min. 30 kgs.

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## **SPECIFICATION OF ROWC (REMOTE OPERATED WIRE CUTTER)**

- 1 Equipment should be able to cut electric wire upto dia 5mm thickness. remotely from 100 meter distance.
- 2 Works on inbuilt SMF rechargeable battery with universal charger (70-240V, 50-60 Hz .
- 3 Comes with a cordless remote of minimum distance of 100 meters.
- 4 It's light weight, portable devise.
- 5 Self balancing tripod stand to stand on any type of hard/ soft ground.
- 6 360 degrees horizontal movement, with locking arrangement .
- 7 Option to adjust the y axis/ angle of the cutter upto 45 deg.
- 8 Operatable on both AC and DC.
- 9 Modular design, easy to carry.
- 10 Hard carring case required.
- 11 Warranty – three years.

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## SPECIFICATION OF OPTICAL FIBER SCOPE

- 1- Battery Version: - In case less than 9 kg Without Case: less than 2.5 kg
- 2- Power (Lithium Ion Battery): - 75 WH (4-hour)
- 3- LCD Monitor: - Integrated < 10 cm VGA color LCD
- 4- Joystick Control: - 360° Tip articulation menu access and navigation
- 5- Audio: - Integrated 2.5mm headset/microphone jack
- 6- Internal Memory: - 1GB Flash memory
- 7- Data I/O Parts: - One USB® 2.0 port
- 8- Brightness Control: - Auto and Variable
- 9- Illumination Type: - White LED
- 10-White Balance: - Factory default or user defined
- 11-Waterproof: - Insertion tube and tip up to 10m of water
- 12-Diameter Probes: - < 4 mm
- 13-Image Sensor: - 1/10 inch color CCD camera
- 14-Software - Real time multi tasking
- 15-User Interface: - Simple drop-down menu-driven operation Menu navigation using articulation joystick
- 16-File Manager - Embedded file manager software sporting file & folder creation, naming, deleting, store to internal flash IC/or USB Thumb Drive. Copy between USB & C/
- 17-Audio Data - PC compatible
- 18-Image control - Invert zoom (3x digital) image capture & recall
- 19-Digital Zoom - Continues (3x)
- 20-Image format - Bit map (BMP) JPEG (JPG)
- 21-Video format - MPEG 4
- 22-Tip Articulation - Up-down 100° min. Left right 100° min.
- 23-Probe length - 4 meters
- 24-Warranty - 3 Years
- 25-Certification - CE/ UL Certificate Required

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## SPECIFICATION OF CAR REMOTE TOOL OPENING TOOL KIT

Car remote tool opening tool kit shall consist of following minimum equipments:

- Vice grip pliers with ring (25 mm/Max.jaw gap 115 mm) 01
  - Hook single (50 mm gap) 01
  - 'S' hook (25 mm gap) 01
  - Hook single with ring (25 mm) 01
  - Hook double with ring (50mm) 01
  - Ring Large (50 mm) 01
  - Ring small (25 mm) 01
  - Bonnet cover opener 01
  - Trunk lid opener screw clamp 01
  - Door opener all types of cars 01
  - Door opener clamp all types of cars/remote window breaker 01
  - Door handle lifter 01
  - Door button pusher 01
  - Multi purpose clamp 01
  - Ignition key holder screw type 01
  - 9.1.16 Ignition key holder with magnet 01
  - Key/handle clamp 02
  - Spring clip hook double with ring (50 mm) 01
  - Spring clip with ring (25 mm) 01
  - Triangular window opener 01
  - Rope nylon 2 mm dia, 10m (200 kg load) 01
  - Rope nylon 2 mm dia, 15m (200 kg load) 01
  - Rope nylon 6 mm dia, 30m with hook (600 kg load) 01
  - Stand held lifting assembly 01
  - Pulley snatch (strength – 400 kg) 04
  - Hub cup opener with ring 01
  - Screw driver set 01
  - Double end spanner set (5/7 to 22/27) 01
  - Rivet opener screw type x 01 and rivet opener punch type 01
  - Hammer ball pane/claw 01
  - Cutter knife 01
  - Special lead for self starter 01
  - Pliers side cutting 01
  - Karabiner type hook 23 mm/2700 kg 01
  - Special clamp for bonnet cover opener with vice grip pliers 01
  - Suction pad anchors 01
  - Self adhesive anchors 05
  - Telescopic tripod with top eye (capacity – 750 kg) having overall 01 height at least 2000 mm, steel anchor pegs for stability, minimum pitch circle diameter of 2000 mm at maximum extension.
  - Pelican Carrying Case with rubberized foam insets to 01 accommodate the tools.
- Original Equipment Manufacturer or their authorized distributors should be able to provide the following as applicable along with the equipment –

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- (a) Cleaning kit, if any.
- (b) Technical Manual giving full description of the items (including parts catalogue where applicable).
- (c) User's Hand Book
- (d) Literature on preservation technique as applicable.
- (e) Details regarding proof/periodical inspection by the user.
- (f) Spares and tool kit where applicable.
- (g) Operator training/demonstration

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## SPECIFICATION OF RENDER SAFE PROCEDURE (RSP) TOOL KIT

RSP tool kit shall consist of following minimum equipments:

SN. Items Quantity

- 1 Doctors Stethoscope : 01
- 2 BP Handle 6" + 1 with BP Blade set : 01
- 3 Scissors 6", 7", 8" : 01 (each)
- 4 Dental Mirrors Length : 6" + 1, 10" + 1 Mirror Diameter : 0.75" + 0.25" : 01 (each)
- 5 Scalpel Length : 8" : 01
- 6 Artery Forceps Length : 6", 7", 8", 9" : 01 (each)
- 7 LED Torch with two pencil cells (One spare LED incorporated in Torch): 01
- 8 Torch medium with two cells with Krypton Lamps (One spare lamp incorporated in torch): 01
- 9 Hammer sledge (2 kg), ball peen, claw hammer : 01 (each)
- 10 Pipe wrench 10" : 01
- 11 Hand vice grip 6" : 01
- 12 Magnifying glass : 01
- 13 Nipper cutter : 01
- 14 Tin cutter : 01
- 15 Nose pliers : 01
- 16 Stainless steel knife 80 mm blade : 01
- 17 C Clamp 4", 6", 12" : 01 (each)
- 18 Spanner adjustable 15 + 5, 30 + 5 mm : 01 (each)
- 19 Hack saw 6" with blade set : 01
- 20 One Screw Driver set consisting of – (a) Flat 2 +1, 4+1, 6+1,8+1, 10+1 mm blade width (b) Flat offset 6+1, 7+1, 10+1 mm blade width (c) Cross point (150+5, 200+5, 250+5,75+5 mm : 01 01(each) 01(each) 01(each)
- 21 Hand drill with drill bit set : 01
- 22 Spanner 10 piece metric set : 01
- 23 Spanner 10 piece imperial set : 01
- 24 Soldering iron 6" with soldering flux & solder wire 50 gms. : 01
- 25 Sponge holder 10" : 01
- 26 Can opener 6" : 01
- 27 Tape packaging 3"/50m and electric insulation tape : 01
- 28 Duct Tape 3"/50m : 01
- 29 Nylon Strapping Tape 1"/50 : 01
- 30 Punch 5" : 01
- 31 Cold chisel 6" : 01
- 32 Cold chisel 8" : 01
- 33 Screw Driver set (watch maker) : 01
- 34 Screw Driver alignment : 01
- 35 Super glue adhesive : 01
- 36 Pliers cutter with grip long point nose : 01
- 37 Pliers cutter/grip combination : 01
- 38 Pliers flat jaw : 01
- 39 Pliers round jaw : 01
- 40 Cutter side 120 + 5, 150 + 5 mm : 01 (each)
- 41 Fish line (50 m) with hook (various sizes) : 01 (each)
- 42 Tweezers 6" : 01
- 43 Probe (Straight & angular) : 01
- 44 Wire brush : 01
- 45 EOD multi tool with crimper (Material: High Strength Aluminum): 01
- 46 Tape measuring 4+1 meter : 01
- 47 Non metallic probe : 01

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- 48 Kevlar hand gloves : 01
- 49 CO2 Portable Fire extinguisher 600 gm : 01
- 50 Bar lever spike and cranked chisel ends 445 mm : 01
- 51 Bar lever cranked form and wedge ends 260 mm : 01
- 52 Square driver socket set : 01
- 53 Pick 560 mm head : 01
- 54 Pry bar : 01
- 55 Hand held self ignited propane gas torch : 01
- 56 Plastic tweezers 6" : 01
- 57 Scriber double ended : 01
- 58 Class Cutter : 01
- 59 Measuring tape spool - 30 m : 01
- 60 Brush painting nylon bristles - 1", 2", 4" : 01 (each)
- 61 Tin/sheet metal snips/cutter - 2.5" blade : 01
- 62 Nylon cord 0.04"/30 m : 01
- 63 Plastic knife 6" blade : 01
- 64 Knitting needle plastic : 01

All the above mentioned tools should be packed in a sturdy casing and to be provided with carrying case.  
Cleaning kit should also be provided with carrying case.  
All the above tools should confirm ISI standards (preferably ISI marked) and manufactured by standard and reputed companies.

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## SPECIFICATION OF TELESCOPIC SEARCH MIRROR

1. This inspection mirror is should be used to look under tanks, machinery and vehicles without getting down on the floor.
2. Handle adjusts from 30" to 50", and has wheels for effortless manoeuvring. 12" dia. Mirror should give more precise view and accurate depth perception.
3. This model is for both indoor and outdoor use.
4. With wheels and flashlight.
5. Weight not more than 1 kg.

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## SPECIFICATION OF HOOK AND LINE SET

### Essential Qualitative Requirement:

It should be capable of being launched by a man portable launcher/crossbow so as to achieve range up to 100 meters.

It should have pull setting for various ranges on the launcher.

The launcher should have an accuracy of 45 cm radius at the target end.

It should have 60 ropes. The qualitative requirement for the ropes shall be as follows:

a. Type of Rope -Nylon

b. Length of Rope -75 meters.

c. Weight of Rope -1.7 Kg to 1.8 Kg. (23 - 25 gms per meter)

The hook/prong should preferably be light and sturdy so as to sustain repeated blast of launch and at least 50 impacts at target end.

It should have 12 numbers of hook/prongs with the set.

It should be used friendly.

It should be made of non-reflective material.

Total weight of launcher with one projectile should not exceed 4 Kgs.

### Preferable Qualitative Requirements:

Noise level during operation should be low.

It should have a sight system with graticulam for various ranges.

It should have optical and open sights.

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## SPECIFICATION OF ELECTRONIC STETHOSCOPE

- 1 Should be light weight and portable.
- 2 Should detect sounds through solid materials like bricks walls, glass, wood, packing materials etc.
- 3 The amplification of sound should be of order of  $5 \times 10^5$  or better at a distance of 1M
- 4 Search head should not be affected by loud noise in the surroundings.
- 5 Power supply should have options of rechargeable batteries at 230 V AC
- 6 The sensitivity should be very high with option to optimise it by adjustment of gain and frequency controls.
- 7 The system should have both contact and non-contact sensor.
- 8 Operating time should be of the order of :-
  - (a) Contact sensor - 15 hours ( minimum )
  - (b) Non-contact sensor ( Contact less ) - 05 hours ( minimum)
- 9 The system should be able to cover frequency band from 500Hz to 5.5 KHz.
- 10  
The kit should be shockproof splash resistant packed in robust carrying case with spare battery pack. Battery charger and connecting cable.
- 11 Mechanical and electronic timers ( quartz digital, move of second / minute hand to be detected.

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## **SPECIFICATION OF HHMD (HAND HELD METAL DETECTOR)**

- 1- Technology - Pulse indication technology transmitter/receiver with automatic instant reset.
- 2- Operating frequency - Approx. 20 KHz to 100 KHz
- 3- Audio frequency - Approx- 2KHz
- 4- Weight - Less than - 300 gm.
- 5- Power sources - Standard 9V rechargeable/disposable battery provided with high quality charger
- 6- Detection range –
  - (i) Should detect a small metal object like Gem- clip from a distance of 1 inch
  - (ii) Instant response to all metal.
- 7- Indicators –
  - (i) Audio, & visual.
  - (ii) Low battery indicator & charging & full charge indicator.
- 8- Power control - Push button/press on/off switch
- 9- Adjustment provision - (i) Audio on/off switch
- 10-Safety - Safe for heart pace makers & non interference with magnetic recording materials.
- 11- Operating temperature - 0 degree to 50 degree Celsius
- 12- Certification - CE. certificate Required
- 13- Warranty - Three years warranty.

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