



आतंकवाद निरोधक दस्ता (ए.टी.एस.) एवं स्पोर्ट मुख्यालय उत्तर प्रदेश

रेलवे स्टेशन रोड, अमौसी, लखनऊ, पिन कोड-226008

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पत्र संख्या- एटीएस-तीन-क-4(8)/2022

दिनांक- 06.06.2023

Expression of interest (EOI) for purchase

Anti-Terror Squad, Uttar Pradesh is considered a specialized operational commando unit of UP. Which is supposed to conduct High risk Operations, provide security cover to VVIP, and Security of Vulnerable Area Vulnerable Point (VAVP) throughout the entire state as well as specialized task given by DGP UP.

Now UP ATS is conducting a market survey for availability of specialized & latest Weapon, Equipment and Accessories being used by Special Police Operation Team (SPOT Commando) of UP ATS to strengthen its fighting capability during special operations to counter any unforeseen emergent situation which may be a threat to Man & Material of UP State.

UP ATS requires under mentions special Weapon, Equipment and Accessories in following categories.

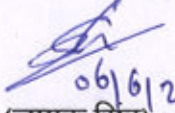
1. Arms/Ammunition
2. Operational Equipment
3. Slithering Equipment
4. Breaching / BDDS Equipment
5. Combat Dress
6. Tactical / Protection Equipment
7. Communication Equipment
8. Computer Equipment
9. Vehicle
10. Mess Equipment

The specifications of such categories are hereby attached as Annexures.

Submissions: Supplier (Company/firm/other) should send brochure of product with Specifications and report of the weapons which can provide with approximate cost of purchase/installation/ maintenance (including tax) via email- controlroom.ats-up@gov.in .

The features & Specifications mentioned are indicatives. Firms are welcomed to quote better products and give suggestions / comments if any for the mentioned products.

The closing date of submission is 30.06.2023 at 1200 PM Indian Standard time.


(लायक सिंह)

पुलिस उपाधीक्षक लाइन
एटीएस/ स्पोर्ट लखनऊ

TECHNICAL SPECIFICATION OF FIRE ARMS

1.TECHNICAL SPECIFICATION OF ASSAULT RIFLE

S.N.	Features	Specifications
1	Ammunition type	7.62x39mm
2	Operation	Gas-operated rotating bolt
3	Mode of fire	Automatic fire, single fire
4	Lever position	Automatic, single & safe
5	Min. Effective Range	300 metres
6	Maximum Weight With empty magazine	3.8 kg
7	Total Length	880±5 mm
8	Barrel Length	410±5 mm
9	Magazine Capacity	Minimum 30 rounds
10	Muzzle velocity	700±100 metres/sec.
11	Smoke from Barrel	Minimum
12	Flash Eliminator	Essential
13	Environmental Condition - Operating Temp. Storage Temp. Humidity	-40°C to 50°C -40°C to 50°C 95% at 25°C
14	Attachments	Provision for mounting UBGL, Tactical Light & Laser sight
15	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

2. TECHNICAL SPECIFICATION OF SMG SERIES

S.N.	Features	Specifications
1	Ammunition type	9x19 mm
2	Modes of fire	Semi auto, auto
3	Lever Position	Safe, Single, Auto
4	Min. Effective Range	100 Metres
5	Weight with empty magazine	2600±150 gram
6	Barrel Length	200±10 mm
7	overall Length stock open/ folded	625±45 mm / 375±50 mm
8	Magazine Capacity	25 -30 rounds
9	Muzzle velocity	500 ±100 metres/sec.
10	Smoke from Barrel	Minimum
11	Flash Eliminator	Essential
12	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
13	Attachments	Provision for Tactical Light & Sight
14	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit
15	FEATURES - <ul style="list-style-type: none"> ● Extremely durable. ● Easy maintenance and cleaning. ● Adjustable, folding and fully removable stock. ● Fully ambidextrous suitable for right as well as left-handed shooter. ● Compatible with suppressor. 	

TECHNICAL SPECIFICATION OF SMG SUPPRESSOR DEVICE

S.N.	Features	Specifications
1	Caliber	9 mm
2	Weight	450±50 gm
3	Length	175±25 mm.
4	Compatibility	Compatible with Inservice sub-Machine Gun.
5	Construction	Stainless steel
6	Colour	Black
7	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
8	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

3. TECHNICAL SPECIFICATION OF PISTOL 9MM

S.N.	FEATURES	SPECIFICATIONS
1	Ammunition type	9x19 mm
2	Modes of fire	Single shot
3	Min. Effective Range	50 metres
4	Weight with empty magazine	625±25 grams
5	Barrel Length	105±5 mm
6	overall Length	185±5 mm
7	Magazine Capacity	Minimum 17 Round
8	Muzzle Velocity	Minimum 350±20 Metres / Sec.
9	Smoke from Barrel	Minimum
10	Operating Principle	short recoil semi automatic
11	Safety	Safe action system which includes drop safety, trigger safety and fire pin safety
12	Trigger pull pressure	6±1 lbs
13	Shine and Colour	Must be Black with Good aesthetic
14	Attachment	Provision for Mounting modular optics system, laser grip sight & Tactical Light with easy fitment
15	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
16	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

4. TECHNICAL SPECIFICATION OF HIGH PRECISION LONG RANGE WEAPON

SNIPER RIFLE

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Ammunition type	.338 LM
2	Modes of fire	Single shot
3	Effective Range	1250±250 Metres
4	Weight with empty magazine	6.25 ± 0.25 kg
5	Barrel Length	500±150 mm
6	overall Length	1000±200 mm
7	Magazine Capacity	15±5 Rounds
8	Muzzle Velocity	800±200 Metres / Sec.
9	Smoke from Barrel	Minimum
10	Operating Principle	bolt Action, Semi auto
11	Safety	Should have Mechanical & Applied safety
12	Shine and Colour	Must be Black with Good aesthetic
13	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
14	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

5. TECHNICAL SPECIFICATION OF PAG (PUMP ACTION GUN)

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Ammunition type (Gauge)	12 Bore x 70 mm
2	Modes of fire	Single shot
3	Effective Range	35±10 Metres
4	Weight with empty magazine	2750±300 grams
5	Barrel Length	460±20 mm
6	Overall Length	700±50 mm
7	Magazine Capacity	10-12 rounds
9	Smoke from Barrel	Minimum
10	Operating Principle	Pump Action shotguns
11	Safety	Mechanical & applied
12	Shine and Colour	Black
13	Magazine Type	Detachable box magazine
14	Sight	Open Sight
15	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
16	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

6. TECHNICAL SPECIFICATION OF LMG

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Ammunition type	7.62x51 mm
2	Modes of fire	Semi & Full Auto
3	Effective Range	900±100 Metres
4	Weight with empty magazine	10 ± 2.5 kg
5	Barrel Length	23±2 inches (58±5 cm)
6	overall Length	45±4 inches (114±10 cm)
7	Mag. Type	Detachable box & Belt Magazine
8	Muzzle Velocity	900±50 m/s
9	Smoke from Barrel	Minimum
10	Rate of Fire	800±150 rds/minutes
11	Maximum range	3500±250 metres
12	Operating Principle	Gas operated, Open Bolt
13	Safety	Mechanical & applied
14	Shine and Colour	Black
15	Environmental Condition - Operating Temp. Storage Temp. Humidity	 -40°C to 50°C -40°C to 50°C 95% at 25°C
16	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

7. TECHNICAL SPECIFICATION OF CORNER SHOT PLATFORM **FOR GLOCK**

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Range Capability (Day)	50 – 100 metres
2	Range Capability (Night)	25 - 50 metres with night camera
3	Weight without Pistol	3.5 - 4 kg.
4	Design	Compact & Ergonomic
5	Field Of View	60°± 5° (Left and Right)
6	Trigger Pull Pressure	2 - 3 kg.
7	Safety	Should have Mechanical & Applied safety
8	Display Monitor	Display size 2.5 to 3.5 inch & minimum resolution 640x480 pixel
9	Overall Length	800-900 mm without folding
10	Transportability	Should be Man Portable & Facility to Carry on Siling with Water Resistance Storage case.
11	Shine and Colour	Must have Black in colour with non reflected surface
12	Detachability	Detachable Day / Night camera with Arrangements
13	Power Requirement	Rechargeable battery pack with spare battery minimum 2.5 hours on Continuous Mode
14	Picatinny rail	Should be compatible for Laser Indicator & Tactical Light
15	Environmental Condition - Operating Temp. -40°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
16	Engineering Support package	Technical literature, Training manual, User handbook & Repair and Testing kit

8. TECHNICAL SPECIFICATION OF UBGL

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Ammunition type	40x46 mm
2	Feed System	Breech Loaded
3	Rate of Fire	Not less than 5 Round per minutes
4	Min. Effective Range	400 metres
5	Length	425±25 mm
6	Weight	Maximum 1.6 kg.
7	Safety	Should have Mechanical & Applied safety
8	Barrel Life	Minimum 1000 Rounds
9	Ammunition Grenade	Compatible with 40x46 mm Round
10	Compatibility	Able to mount on Compatible Assault Rifle of user organisation
11	Sighting System	In built Sight System with Day & Night
12	Environmental Condition - Operating Temp. -20°C to 55°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
13	Engineering Support package	Technical literature, Training manual, User handbook & Repair kit

9. TECHNICAL SPECIFICATION OF STUN GRENADE

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Operational Characteristics	Its should be non-lethal, non-fragmentation, flash and bang type of hand grenade
2	Firing Mode	by Hand
3	Intensity	It should have a flash intensity of minimum three million candles or more.
4	Sound	Bang of 180 decibel or more
5	Length	10 cm (Approx.)
6	Diametres	6 cm (Approx.)
7	Weight	Not more than 500 grams
8	Smoke	Minimum smoke and not generate any burning debris
9	Time delay	Not less than 1 sec. & not more than 2 sec.
10	Self Life	5 Years or more
11	Safety	In built & Applied safety
12	Transportation	Easy & safe for transportation, storage & Handling
13	Packing	Suitable packing case so they do not deteriorate during storage and transportation. Suitable marking for easy identification by Day & Night.
14	Environmental Condition - Operating Temp. -20°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
15	Engineering Support package	Technical literature, Training manual, User handbook & Maintenance kit

10. TECHNICAL SPECIFICATION OF HE-36 GRENADE

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Type	Hand Grenade
2	Variants	No. 36 mark 1
3	Weight	Not more than 760 grams
4	Length	90±5 mm (Approx.)
5	Diametres	60±5 mm (Approx.)
6	Filling	Baratol (mixture of High Explosive)
7	Detonation Mechanism	Percussion cap
8	Time Delay fuse	Minimum 4 sec. Maximum 7 sec.
9	Physical Characteristics	Cast iron body filled with High Explosive, Lemon Shaped, three holes in the body
10	Killing Area	Minimum 9 gauge
11	Casualty Area	Minimum 250 gauge
12	Danger Area	Minimum 300 gauge
13	Safety	In built & Applied safety
14	Transportation	Easy & safe for transportation, storage & Handling
15	Packing	Suitable packing case so they do not deteriorate during storage and transportation. Suitable marking for easy identification by Day & Night.
16	Environmental Condition - Operating Temp. -20°C to 55°C Storage Temp. -40°C to 55°C Humidity 95% at 25°C	
17	Engineering Support package	Technical literature, Training manual, User handbook & Maintenance kit

11. TECHNICAL SPECIFICATION OF 84mm CGRL

S.N.	PARAMETRESS	TECHNICAL SPECIFICATIONS
1	Ammunition Used	HEAT- High Explosive Anti-Tank HE – High Explosive TPT – Target Practice Tracer Smoke Illuminating 9mm Sub caliber Adapter
2	Working Principle	Breech Loaded Precaution fire, Recoilless
3	Effective Range	HEAT- minimum 400 metres HE – minimum 1000 metres Smoke – minimum 1200 metres Illuminating – minimum 2000 metres
4	Muzzle Velocity	HEAT- minimum 300 m/s HE – minimum 240 m/s Smoke – minimum 240 m/s Illuminating – minimum 260 m/s
5	Sighting system	1. Open Sight Attached with CGRL 2. Telescopic Sight
6	Grooves	24 Left to Right
7	Length of Barrel	Minimum 850 mm
8	Length of Venturi	Minimum 270 mm
9	Over all Length	Not more than 1130 mm
10	Weight with Accessories	Maximum 16 kg.
11	Weight of Launcher	Maximum 15 kg.
13	Environmental Condition - Operating Temp. -20°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
14	Engineering Support package	Technical literature, Training manual, User handbook & Repair kit
15	Other Characteristics	1. Easy to Carry 2. 06 types of ammunition can be Fired 3. Recoilless 4. Anti-Tank & Anti-Person 5. Penetration of HEAT round in Steel plate should be 400 mm

12- TECHNICAL SPECIFICATION OF PROJECTOR PYRO

TECHNIC HAND 13 MM 1A (PPTH)

S.N.	Features	Specifications
1	Cartridge Type	White, green and red
2	Weight	55 grams (Approx.)
3	Diametres	Internal – 11 mm External – 13 mm
4	Length	160 mm
5	Visibility (Day)	Minimum 3 km
6	Visibility (Night)	Minimum 7.5 km
7	Lightening Time	04 to 06 sec.
8	Power	Minimum 3000 Candela
9	Environmental Condition - Operating Temp. -20°C to 50°C Storage Temp. -40°C to 50°C Humidity 95% at 25°C	
10	Engineering Support package	Technical literature, Training manual, User handbook & Repair kit

TECHNICAL SPECIFICATION OF DRONE CAMERA COMPARISON

S.N.	Features	Specifications
1	Drone Feature	A cost-effective micro or small UAV with advanced automation and quick deployment for defence and homeland security.
2	Configuration	Quad copter with vertical take-off and landing
3	Flight mode	Both manual and autonomous
4	Minimum Endurance	45±5 mins
5	Minimum Speed	40 km/hr
6	Flight Altitude	Minimum 500 metre Above Ground Level
7	Service Ceiling	4500 m Above Mean Sea Level
8	Minimum Range	10 km in radio Line Of Sight
9	Weight	Less or equal to 5 kg.
10	Temperature	-5° to +50°C
11	Launch and Recovery	Vertical take-off and landing in 5m x 5m patch of land
12	Noise	Should have low noise which is inaudible at 100 metre
13	Storage	Both Internal (minimum 16 GB) & External (minimum 128 GB) Storage
14	Minimum Wind Resistance	30 km/hr
15	Video resolution	1.1920×1080 pixel (Full HD 1080P) 10x optical zoom daytime video camera. 2. 640x480 pixel night time infrared video camera
16	System Features	1.Simple assembling & disassembling function. 2. Automated Operation from take-off to landing. 3. Point and click user interface. 4. Dual Redundant GPS & high wind fail-safe. 5. Digital, AES-128bit encrypted communication link. 6. Three-axis gimbal stabilized swappable payloads. 7. Single Pilot Operation. 8.Emergency return to launch position option 9.Autonomous return to home on communication link loss 10.Autonomous return to home or land (programmable) in case of power loss 11. Collision avoidance system (360°)

Operational Equipment (Technical Specification)

15. SEE THROUGH WALL RADAR

1.	Physical Characteristics		
	(a)	Size	Compact, portable and operable by one soldier
	(b)	Weight of system with all Accessories excluding tripod and tripod mount.	(Max) 14.5 Kgs. In man pack role both for pulse as well as continuous wave.
2.	Technical Characteristics		
	(a)	Range	i) Brick, Cement, Stone Wall (up to 12") -20 m ii) Brick, Cement, Stone Wall (up to 18") - 13m iii) Concrete & Reinforced Concrete Wall (18")-8m
	(b)	Display in terms of depth, Angular disposition and height of the target.	Should provide 3D view on a color display.
	(c)	Field of view	80° in both azimuth and elevation.
	(d)	Resolution	i) Range Resolution: 50 cm or less at the end of the range. ii) Azimuth Resolution : 100 cm + 10% tolerance at the end of range 8m.
3.	(a)	<u>Capability Required</u> Detecting and Tracking living being amidst clutter on other side of wall. (i) It should be possible to detect up to 4-5 number of persons in room. (ii) It should have a GUI which initially gives indication to the operator about the kind of activity in the room i.e. whether person is standing/lying etc.	
	(b)	Wall Thickness/Materials	i) Brick, Cement, Stone Wall (up to 12") -20m ii) Brick, Cement, Stone Wall (up to 18")-13m iii) Concrete & Reinforced Concrete Wall (18")-8m Except glass treated and metal.
	(c)	Operating both, in-contact with the wall and in stand-off mode i.e. from a distance away from the wall with in the op range of the radar.	
	(d)	Should have a simple user interface for easy interpretation of the scenario ¹⁰ .	
	(e)	On board recording and/or wired remote terminal should be Min 25 meter away from main unit (To be specified by the user department at the time of indent.	

	(f)	Should provide wired remote control of device from a distance of Min 25 Meter through laptop/ control unit (If user department has asked for the same.
4.	Power Supply	Suitable batteries to be provided to power the equipment for 2 hrs. Or better. Additional battery with Battery charger be provided to sustain prolong operation.
5.	System should comply IP 65 or better.	
6.	Safety	The radiation emission from the radar should comply with the international standards like IEEE/FCC standards for radiation safety worldwide.
7.	Ruggedization	Should comply with MIL STD 810F or better i.e. Humidity, shock, vibration and high/low temperature.
8.	Tripod	Suitable Tripod to mount the device.
9.	Data Recording	Either on board data recording of 4 GB (Min) or recording on external control unit to be provided for evidence collection and training.
10.	False Alarm / Noise Detection	Should not be more than 10%.
11.	Probability of Detection	Should be 90%.
12.	Radar with Jamming resistant facility.	

16. NIGHT VISION GOGGLE (PASSIVE NIGHT VISION BINOCULAR)

S.N.	Features	Specifications
1	Weight	Should not be more than 990 g. including cells / Batteries.
2	Image Intensifier Tube	All the parameters of II Tube mentioned below should be supported by certificate of II Tube manufacturer and data sheet of each II Tube must be provided (a) Resolution 64 lp/mm or better. (b) Signal to Noise Ratio 22 or better at 108 μ lux.. (c) Mean time to Failure (MTTF): Minimum 10,000 operational hours. (d) II Tube should be military grade. (e) It should have inbuilt AGC & BSP.
3	Water resistance	The Complete equipment shall be capable of being submersed into water in 1 meter deep for half an hour without water leakage into its interior. The Night Vision Goggle should function properly.
4	Range (In star lit conditions without moon)	i) For human being Detection- 400 m Recognition- 300 m ii) For light commercial vehicle Detection- 500 m Recognition- 400 m
5	Power Source	i) Should be operable independently on primary and

		rechargeable cells and battery. The equipment is to be supplied with one set of commercially available primary and rechargeable Ni-MH/Li-ion cells or battery. ii) One commercially available charger each Night vision goggle required with charging facility both AC volt and DC volt (2 in-one facility)
6	Low battery indication	Low battery indication should be provided inside the Field of view.
7	Magnification	4xminimum
8	Field of View	6" minimum
9	Inter pupillary distance (IPD)	Should be provided with adjustment.
10	Dioptre adjustment	-4.5 d to dioptre or better should be provided.
11	Operating temperature	-30 degree Celsius to 55 degree Celsius
12	Carrying case	Each equipment should be supplied with a suitable water proof carrying case and hard transportation case.
13	Environmental requirement	Binocular should confirm to JSS 55555 or Mil std 810-F latest for humidity, shock, vibration, rain test etc. to be supported by national / internationally accredited Laboratory certificate.
14	<u>Miscellaneous:</u> a) Purging kit be provided at the time of supply (Quantity to be specified by the user). b) One additional set of battery be provided. c) Cleaning kit should be provided with each of the equipment. d) List of supporting test equipment's and their rate be provided. e) Supplier to submit undertaking to provide spare parts for next 10 years minimum from the date of supply. f) Technical manual / operational manual including repair manual of Night Vision Goggle to provide. g) Repair & maintenance training should be arranged for about 10 working days to minimum 10 Technicians at OEM premises & operational training to 100 operators at field Locations.	

17. NIGHT MONOCULAR

S.N.	Features	Specifications
1	Weight	Not more than 315 gm. Including cells / batteries
2	Image Intensifier Tube	All the parameters of II Tube mentioned below should be supported by certificate of II Tube manufacturer and data sheet of each II Tube must be provided (a) Resolution 64 lp/mm or better. (b) Signal to Noise Ratio 22 or better at 108 μ lux.. (c) Mean time to Failure (MTTF): Minimum 10,000 operational hours. (d) II Tube should be military grade. (e) It should have inbuilt AGC & BSP.
3	Must be capable of being used as a hand held viewer, face & helmet mounted. Suitable adaptor should be provided with each equipment.	
4	Water resistance	The Complete equipment shall be capable of being submersed into water in 1 meter deep for half an hour without water leakage into its interior. The Night Monocular should function properly.
5	Range (In star lit conditions without moon)	i) For human being Detection- 200 m Recognition- 125 m
6	Power Source	i) Should be operable independently on primary and rechargeable cells and battery. The equipment is to be supplied with one set of commercially available primary and rechargeable Ni-MH/Li-ion cells or battery. ii) The battery should run at least 8 hours with IR and 15 hours on normal mode. iii) One commercially available charger each Night Monocular required with charging facility both AC volt and DC volt (2 in-one facility)
7	Must have IR laser illuminator for use in totally dark environment for recognition at a range of 125 m or better.	
8	Low battery indication	Low battery indication should be provided inside the Field of view.
9	Magnification	1x or better.
10	Field of View	40 degree minimum.
11	Dioptre Adjustment	-4.5 d to +4 d or better
12	Operating Temperature	-30 degree Celsius to +55 degree Celsius
13	Carrying case	Each equipment should be supplied with a suitable water proof carrying case and hard transportation case.
14	Environmental requirement	Monocular should confirm to JSS 55555 or Mil std 810-F latest for humidity, shock, vibration, rain test etc. to be supported by national / internationally accredited Laboratory certificate.
15	<u>Miscellaneous:</u>	

	a) Purging kit be provided at the time of supply (Quantity to be specified by the user). b) One additional set of battery be provided. c) Cleaning kit should be provided with each of the equipment. d) List of supporting test equipment's and their rate be provided. e) Supplier to submit undertaking to provide spare parts for next 10 years minimum from the date of supply. f) Technical manual / operational manual including repair manual of Night Monocular to provide. g) Repair & maintenance training should be arranged for about 10 working days to minimum 10 technicians at OEM premises & operational training to 100 operators at field Locations.	
16	Source	MHA

18. NIGHT WEAPON SIGHT

S.N.	Features	Specifications
1	Type	Weapon Sight
2	Weight	Not More than 1 Kg without Battery
3	Length	240 ± 20 mm
4	Dimension	30x10x12 cm (Approx.)
5	Range of Detection	Minimum 500 m
6	Recognition Range	900±100 metre.
7	System Zoom	Minimum 5x
8	Operation Time	24 to 36 Hrs.
9	Waterproof	3 ft. for 4 hours
10	Colour	Black with Non-reflective material
11	Field of Vision	Minimum 10°
12	Power Source	AA Battery
13	Operating Temperature	-40 degree Celsius to +50 degree Celsius
14	Storage Temperature	-40 degree Celsius to +50 degree Celsius
15	Engineering Support Package	User hand book, Training manual & Repair and testing kit

19. LASER DISTANCE METER

S.NO.	FEATURE	SPECIFICATION
1	Material	Plastic or Metal
2	Weight	200±90 grams
3	Item Dimension	11.9x5.3x2.9 cm (Maximum)
4	Measuring Range	0.15 – 40 Metres
5	Power Source	Battery Power
6	Water Resistance Level	Waterproof
7	International Protecting Rating	IP54 / IP65
8	Battery Description	Alkaline
9	Include Components	1pc Hand Loop, 2pcs AAA Alkaline Battery, 1pc User Manual

20. BINOCULAR

S.N.	Features	Specifications
1	Magnification	20 times
2	Objective Diameter (Entrance Pupil)	80 mm
3	Exit Pupil	3.5 to 4 mm
4	Eye relief	15 mm to 18 mm
5	Light Transmission to the viewer laser filter	≥ 85%
6	Optics coating	Fully multicoated
7	Field of view	Angular: Minimum 2.75 degree or better
8	Apparent field of view	Minimum 55 degree
9	Dioptric Range	± d or better
10	Inter Pupillary distance	56-72 mm
11	Operating Temp Range	-40 degree to + 60 degree
12	Weight of Binocular with OG cover	Hand Held 3.2 kg Maximum
13	Nitrogen pressure filling	One way or Two way valve system
14	Quality parameter	All unit / sub unit must comply Mil Grade 810 G standard.
15	Environmental Protection	Must Comply to IP-67
16	Laser protection filter Class 1 eye safe	Required
17	Prisms (Roof)	BAK4/ Similar or better
18	Rubber armouring	Non-slip UV-resistant
19	Body Structure	Fibre Re-in forced polycarbonate rubber armoured housing.
20	ISO certification for FOV	ISO14132-1:2002
21	Suitable, ruggedized anti-corrosion coated/painted Tripod should be provided.	
22	Hard and ruggedized transportation box should be provided.	

21. TACTICAL LIGHT FOR AK-47

S.N.	Features	Specifications
1	Product Type	Tactical Light
2	Water Resistance	Minimum 3 m
3	Colour	Black with non-reflective material
4	Battery Life	Minimum 2 hrs. Continuous operation
5	Weight	100 ± 20 grams
6	Dimension	6x4 Inches
7	Power of Light	Min, 55,000 candelas
8	Length	140 ± 20 mm
9	Operating Temperature	-40 degree Celsius to +60 degree Celsius
10	Storage Temperature	-40 degree Celsius to +60 degree Celsius
11	Engineering Support Package	User hand book, Training manual & Repair and testing kit

22. HOLOGRAPHIC SIGHT FOR AK-47

S.N.	Parameter	Specifications
1	Features	Able to fast target acquisition, reliable, durable & easy to fit without tools.
2	Compatibility	Night Vision Compatible, with standard picatinny rail
3	Length	140 ± 10 mm
4	Weight	325 ± 10 gm.
5	Water Resistance	Minimum 3 m
6	Power Source	2x1.5 v AA
7	Battery	Lithium Ion rechargeable
8	Battery Life	2.5 Continuous hours at normal setting
9	Brightness	Minimum 20 day light setting and Night Vision setting
10	Operating Temperature	-40 degree Celsius to +60 degree Celsius
11	Storage Temperature	-40 degree Celsius to +60 degree Celsius
12	Engineering Support Package	User hand book, Training manual & Repair and testing kit

23. LASER GRIP FOR GLOCK PISTOL

S.N.	Parameter	Specifications
1	Feature	Instinctive Activation allows the laser to be activated with a normal firing grip. Mater on / off switch Fully Adjustable for windage and elevation.
2	Bean Colour	Red
3	Item Colour	Must be Black with non-reflective material
4	Laser Output	Minimum 5 mW
5	Wavelength	Minimum 500 nm
6	Range	Minimum 50 ft.
7	Attachment	Rear Grip
8	Battery Type	Lithium Rechargeable
9	Battery Life	Minimum 2 hours Continuous
10	Battery Quantity	Minimum 4 spare
11	Reticule	Dot
12	Water Resistance	Immisible to 3 ft. for 2 hours
13	Length	Not more than 3 inches
14	Weight	30 ± 5 grams
15	Fabric Material	Polymer rubber combination
16	Activation Location	Rear
17	Activation Type	Instinctive
18	Attachment	Grip attachment
19	Dot Size	0.5" At 50' (Approx.)
20	Beam Intensity	5 mw peak, 633 nm, class 3R red laser
21	Operating Temperature	-40 degree Celsius to +50 degree Celsius
22	Storage Temperature	-40 degree Celsius to +50 degree Celsius
23	Engineering Support Package	User hand book, Training manual & Repair and testing kit

24. THERMAL IMAGING SNIPER NIGHT SIGHT

1. Range-

Target	Detection Range	Recognition Range
Single Human Target	Minimum 1200 meters	Minimum 800 Meters

2. Reticule Pattern- Minimum one basic selectable cross hair reticule

3. Mounting- Mountable on Picatinny Rail of Sniper Rifle in Clip-On mode.

4. Zeroing- Arrangement to adjust Thermal Image to align MPI and zeroing should not get disturbed post firing or re-mounting at the same location

5. Thermal image sight adjustment-

a. Smallest Correction - 1 MOA in zoomed out mode

b. Total correction - Minimum ± 8 MOA

6. Technology – Un cooled Thermal Detector.

7. Technical Characteristics-

a. Detector Resolution (FPA) - Minimum 640 x 480; Pitch less than or equal to 12 microns.

b. Field of View - Minimum of 6° (Azimuth) x 4° (Elevation) in zoomed out mode in stand alone mode

c. Optical Magnification - 1X + 10%

d. Electronic Zoom - Upto 4X

e. Dioptre Adjustment - Minimum – 4D to + 2D

8. Features - Controls / facilities should be available for :-

a. Power On and Off.

b. Brightness and Contrast.

c. OLED Display.

d. White Hot and Black Hot polarity selection.

e. Non-Uniformity Calibration (NUC).

9. Power Supply.

a. removable rechargeable commercially available batteries.

b. Spare set of batteries be provided.

c. Endurance 06 hrs at $27 \pm 2^{\circ}\text{C}$.

d. Recharging of batteries by AC and DC source.

e. Battery status display must be provided.

10. Weight – Not more than 1100 grams

11. Colour – non reflective Black in colour.

12. Carriage and Transportation – soft case for carriage and hard case for transportation.

13. Operating Temperature – Between -10°C to $+45^{\circ}\text{C}$

14 Service Life –.Minimum 10,000 Hours of operation or 10 Years whichever is earlier

15 BITE - Built in Test equipment

16 ENGINEERING SUPPORT PACKAGE –Repairing, maintenacnce & Test kit with spares parts. User handbook, Technical documentation and Training

25. FIBRE OPTICS SCOPE CAMERA

S.N.	SPECIFICATIONS	PARAMETERS
1.	Probe.	
a.	Probe effective length	01 mtr, 2 mtrs or more.
b.	Outer diameter	8 mm or less.
c.	Probe type & flexibility	Flexible / semi-flexible
2.	Optics	
a.	Field of View	70 degree or more
b.	Direction of view	forward
c.	Depth of Field	50 mm to infinity
d.	Recognition	Capable of recognizing a human target at least up to a distance of 5 mtrs or more.
e.	Day / Night viewing capability	Should be able to recognize objects in pitch darkness (standard dark room) & day light.
f.	Light source	Eye safe infra-red (invisible to naked eye.)
g.	Lamp Life	Minimum 1000 hours of operation.
3.	Articulation section	
a.	Articulation angle	4 ways, up/down/right/left/90 degree or more (to view 360 degrees). All movements should be controlled with joystick/ control lever/ articulation knobs.
b.	Articulation Control	Control with power assist mechanism including locking function. All movements should be electronic or joystick / control lever/ articulation knobs controlled.
c.	Operating temperature	-10°C to $+45^{\circ}\text{C}$ or better (in air).
4.	Camera	

a.	Camera sensor	CCD or CMOS
b.	Camera resolution	Should be 3,00,000 pixels or more.
c.	Lens	Wide angle 1.8 mm or better.
d.	Digital zoom	5x or better
5.	Audio. Microphone inbuilt / external in flexible fiberscope	Supersensitive audio microphone with 5-7 mtrs audio pickup.
6.	LCD Monitor.	
a.	Type	Handheld LCD monitor to be provided. (Shoulder harness/ neck strap for monitor is an optional requirement which is to be mentioned by the user at the time of indent).
b.	Size	Minimum – 4” Diagonal. Maximum – 7” Diagonal.
c.	Control	Should have controls for brightness, contrast & zoom.
d.	Audio video interface	Provision for audio & video interface should be provided.
7.	Recording.	
a.	Encoding wideband	MPEG4 / JPEG / AVI
b.	Frame rate	30 per sec or better.
c.	Memory	Minimum 32 GB on detachable SD card.
8.	Safety	Should be comply with MIL std 810 G, IP-67 or better.
9.	Power supply	
a.	Battery	Rechargeable & replaceable Lithium battery. Should be available in India.
b.	Battery working life	Minimum 2 hours in day / night working conditions on full charge.
c.	Battery charging time	Less than 4 hours.
d.	Weight of complete system excluding carrying case.	Operational weight (excluding carrying case) – 2 kg or less.
10.	Accessories with each Fiberscope.	
a.	Carrying case	(i) Soft & hard carrying case with back strap. (ii) Soft & hard carrying case for transport (water proof).
b.	Spare batteries	2 Nos. of spare batteries.
c.	Battery charger	Quantity 01 per fiberscope. Should work with 220V / 230V AC, 50 Hz & battery charging with 12 V battery.
d.	Belt sets. (Optional requirement to be mentioned by the user at time of incident)	Belt set should enable comfortable operation.
11.	Literature. Operating & technical literature for each discrete components of system should be in English language.	

26. BODY WORN CAMERA

S. NO	Parameter	Specification
1	Device type	Camera with audio-video recorder cum player with live streaming facility.
2	Device dimensions (max)	Length - 120mm, Width - 90mm, Height - 40mm
3	Working temperature	-10°C to +60°C
4	Storage temperature	-10°C to +60°C
5	Device ID	Unique ID for identification.
6	Water Proof	IP65/66/67/68 (Any one of these).
7	Computer Interface	USB Cable, Type 2.0/3.0
8	Body worn facility	Clip/Harness Type
9(A)	CAMERA:	
a.	Sensor Capacity (minimum)	05 MP
b.	Sensor Type	CMOS
c.	Resolution (minimum)	720 P @30 fps
d.	FOV (minimum)	120 °
e.	Night Vision	IR
9(B)	RECORDER:	
a.	Recording type	One button recording start/ stop.
b.	Snapshot	Capture photos during recording.
c.	Audio	High quality inbuilt microphone.
d.	Recording "on" indicator	LED indicator
e.	Recording duration (Minimum)	8 Hrs
f.	Storage capacity (minimum)	16 GB inbuilt.
g.	Expandable storage	Optional
h.	GPS	Built-in (Optional)
9 (C)	INBUILT AUDIO/VIDEO PLAYER CUM IMAGE REVIEW:	
a.	LCD Screen	2 inch (max), TFT, Color Display
b.	Screen Protection	Scratch Proof Coating/Screen Guard
c.	Audio/Video playback	Yes
d.	Fast Forward	2X,4X,8X
e.	Rewind	2X,4X

f.	Editing / detection protection	Should be password protected.
g.	User language interface	English
9 (D) a	Connectivity	4G/3G + WI-FI
b.	Connectivity type	IP interface for IP Streaming & Network Connections
c.	Device should be able to transmit the data to password protected cloud-based platform which can be tapped through internet for live view (with 1 sec latency) as well as review & analysis on later stage.	
9 (E)	Interface Software / platform	1. Recorder & transmitter software as well as review software or app should be compatible with windows platform. 2. Compatibility with android based platform will be additional advantage. 3. Option for live recording at review end with dedicated dvr will be additional advantage.

28. ASSAULT LADDER

S.N.	FEATURES	SPECIFICATION
1	Material	Aluminium
2	Colour	Silver
3	Weight	13 ± 3 kg
4	Reach	16 ± 4 feet
5	Working Load (Minimum)	150 kg
6	Closed Height	4 feet (Approx.)
7	Item Dimensions	69x44x548 cm (Approx.)
8	Warranty	2 Years

Ladder Care and Safety Handbook

Each ladder order is supplied with the 'Ladder Care and Safety Handbook' introducing the safe use, maintenance and storage of ladders.

Stealth

With covert operation in mind, Tactical Ladders are designed for silent operation, can be fitted with optional rubber wall pads or synthetic fur for noise dampening.

29. BATON STICK LIGHT

S.N.	FEATURES	SPECIFICATION
1	Material	ABS
2	Colour	Transparent (Red & Green blink)
3	Shape	Round
4	Power Source	Battery Powered, AAA Batteries
5	Dimension	55x5x5 cm (Approx.)
6	Intense Light Output	Up to 12 hrs.
7	Item Weight	245 ± 80 gm. (approx..)
8	Shelf Life	04 Years

- Baton light is designed with a button cycle and with front torch through its features.
- 1st press for Blinking Red, 2nd press for Steady-glow on Green, 3rd Press both blinking.
- This traffic light stick has some water resistance and can be used in light rain.
- It should be certified under any water or dust proofing standards
- This product is Ideal for Traffic signalling, Parking guides, School Road-crossing, etc.
- Visible 200 meters away in darkness.
- 360° illumination LED Flash Light.
- There is also a hanging loop so u can hang the flashlight on any hook.
- USB Rechargeable: Powered by Build in rechargeable battery, USB charging, Can be charged by Power bank or connecting any adapter.

30. INFLATABLE EMERGENCY BALOON LIGHT TOWER

S.NO.	FEATURE	SPECIFICATION
1	Lighting Type	Fluorescent, High Intensity Discharge
2	Frequency	50 Hz
3	Net Weight	50 ± 10 kg
4	Luminous Flux	65000±25000 lm
5	Max. Height	4 ± 1 metres
6	Closed System	630x600x690 mm (Approx.)
7	Time for tower extension	60 sec
8	Time for closing	4 min
9	Voltage	220-230 V
10	Power Supply	Portable Generator Power

31. HAND HELD SEARCH LIGHT (WITHOUT REMOTE & WITH REMOTE)

S.N.	Features	Specifications
1	Casing/Body	<p>(a) Casing/body of HHSL should be tubular heavy-duty water resistant and one piece moulded with integral handle of ABS. It should be light, impact proof and corrosion proof. Should be able to withstand impact from one metre on hard surface.</p> <p>(b) Maximum weight including the battery=4.3 kg</p> <p>(c) Length maximum =35cms</p> <p>(d) Front diameter maximum=22 cm</p> <p>(e) Rear diameter maximum= 19 cm</p>
2	Construction	<p>(a) Modular construction consisting of replaceable modules for ease of servicing/repairs.</p> <p>(b) The lamp shall be replaceable by unscrewing the front cover.</p> <p>(c) The battery and blown fuses can be replaced without disturbing electronic circuit by unscrewing the back cover.</p> <p>(d) Colour of the casing should be preferably black or olive green.</p> <p>(e) Makers name shall be clearly printed on the body of the cabinet.</p> <p>(f) Operational instructions in brief shall be printed on the casing of the body</p>
3	Operating Temperature	Equipment shall be able to operate satisfactorily in the temperature range of -20°C to 55°C and 95% RH at 40 °C. Lab certificate should be furnished by the firm along with tender documents.
4	Battery	Rechargeable sealed 12 volts and minimum 7 AHC maintenance free batteries.
5	Housing of Battery	<p>(a) Housing for the battery should be provided in the cabinet/casing of equipment.</p> <p>(b) There should be adequate space around the battery in the battery housing for dissipation of heat developed in battery while charging.</p> <p>(c) The battery fuse should be easily accessible from outside for ease of replacement.</p> <p>(d) The battery compartment should not be over crowded by placing electronics all around it.</p> <p>(e) All electronics should be placed on lamp end of the search light.</p> <p>(f) Electronics should not be in direct contact with body of the battery.</p> <p>(g) The housing is such that the battery could be replaced easily.</p>
6	Circuit	<p>(a) Glass epoxy PCB.</p> <p>(b) Electronics component nomenclature should not erase.</p> <p>(c) Wire should be heavy duty.</p> <p>(d) Tantalum capacitor should be used.</p> <p>(e) PCB should be easily removable for repairs.</p> <p>(f) Moulded modules should not be used at any stage.</p> <p>(g) Electronic circuit should not be sealed at any stage.</p> <p>(h) Any additional circuitry for facilitating like traffic lights, LCD display torch light etc. will not be acceptable to avoid complexity in circuit.</p>
7	Minimum Continuous	Should operate minimum of one hour continuously.

	Operation	
8	Wiring	Wiring should be neat and clean using minimum number of wires for case of serviceability. Wires should be heavy duty.
9	Switches/Selector	Suitable control for ON/OFF and function like flasher, dimmer and timer. Single rotary selector for all the following modes: (a) Continuous/direct light (b) Preferably 2 positions for dimmer to extend battery life to 2 and 5 hrs. respectively. (c) Flasher to give 45 flashes (± 2 flashes) per minute. (d) Timer 1 minute. (e) Remote control (when provided as an option with search light)
10	Battery Status	Low battery indicator and DC blown fuse indicator shall be provided
11	Beam Distance/Range	Search light should be able to detect a group of moving persons at a distance of 400 meters minimum.
12	Reflector	(a) Parabolic reflector mounted in the shock resistance cap of good quality rubber. (b) Sealed/glass beam reflector should not be used.
13	Front Glass	The glass should be of a good quality and should be heat and shock resistance. It should not crack when water droplets fall on it when used continuously.
14	Shoulder Straps	Shoulder straps should be adjustable, should be minimum 150cms long 3cms wide, made of good quality nylon and the metallic part to connect the strip to the search light should be coated with non-shinning paint. Strap should have a pad of minimum 20cms long 5cms wide 3cms thickness.
15	Battery Charger	a) In built battery charger. b) Input voltage 90 to 270 volts, 50 HZ single phase AC. c) Charging time 8 to 10 hrs. d) Charging status: Single LED to indicate Battery is on charging. e) Adequate protection shall be provided against short circuit, battery Over charge, battery deep discharge and reverse polarity. f) When battery voltage drops to around 10.5V advance low battery indication should be provided through LED and battery should cut off at 10.5V ($\pm .2V$)
16	Resting Support	Should be provided on front and back cover plates as well as on the body of the casing.
17	Power Cord	3 meters long fitted with suitable connector.
OPETIONAL ACCESSORY		
18	Remote Control	(a) The transmitter should work on 9V/12V Battery. (b) Dimension of TX unit:- 80mm x 50mm x 20mm (± 5 mm) excluding the length of the antenna. Range minimum 100 meters.
19	IR Filter	Should have IR filter which can be attached or detached with ease. IR collar should be able to jack on the Hand Held Search Light.
20	Specification of wired control	(a) Length of the cord 100mtrs minimum. (b) Cord shall be spooled on a plastic or metallic reel having knob for spooling and mounted on a power coated metal frame.

33. PORTABLE GENERATOR

S. No.	ITEM	SPECIFICATION
1.	Description	Portable generator 1.5 KVA to produce power upto 1500 watt.
2.	Type	1. Easy to carry 2. Easy to install with proper base. 3. Diesel/Petrol version — 10 ltrs.
3.	Technical specification	1. 220 volt portable Gen 1.5 KVA with AVR. 2. Good quality & service 3. OEM/ODM 4. CE SONCAP ISO9001
4.	Features	1. Four stroke OHV motor, low POL consumption, stable performance 2. AC Generator, stable performance, low fault rate. 3. Separate DC output, battery loading function available. 4. Machine low oil alarm system, automatic protection of motor, damage free 5. High capacity of oil tank, long time operation. 6. Gen set should aggregate with 50 or 60 Hz values.
5.	Other features	1. Test for Load capacity — 1400 watts connection 2. Fuel capacity — 10 ltrs 3. Sound vibration — Mechanical/sound vibration should be as less as possible 4. Ruggedness test — by pulling on hard surface to check fitted accessories or in build mechanism is not displaced and remain intact 5. Time duration — Gen set is made to run continuously for 6 hrs without any break 6. Separate DC output availability 7. Auto Cut — the system is to be checked by manually applying short circuit and at that time gen connection should automatically out off from main supply and does not get any damage.

34. COMPASS

1. The compass should be dry and has the robust aluminium body. Parts should be made up of non-ferrous materials except magnetic needle and should not be fragile.
2. Compass should have luminous facility to facilitate night reading. The light source should be with such type that illumination does not require an external power source. The illumination material should be serviceable for minimum 10 years (Certificate to be provided by OEM). Facility for night navigation must be made available in the compass.
3. Index ring/Bezel (Outer ring where degree/pointer are marked/ mentioned/ printed/engraved) should move smoothly but does not move freely i.e., move when deliberate force is applied by user.
4. Provision of Anti-friction pads/feature should be given.
5. Compass should give accurate result in all climatic condition. The inaccuracy should not exceed + 1 (One) degree from true course.
6. Compass should give accurate bearing up to minimum 7-degree tilt.
7. Compass should be correctly operated on the Temperature Range between -40 to +60 degree centigrade.
8. Graduation/marking provided for 360 degree. The number shall be printed/ engraved at interval of each 10 degree, each degree shall be displayed with a small line and each fifth degree shall be displayed with a bigger line. All graduation shall be distinguishable during day and night.
9. Sighting device/sighting part should be an integral part of compass body, user friendly and bearing should be visible clearly.
10. The forward and back bearing both are required to be read simultaneously but user should be able to differentiate clearly.
11. Inner compartment should be properly sealed and strong enough to prevent ingress of any foreign material inside the compartment.
12. Compass weight should not be more than 250 grams
13. Size — Maximum 125mm x 60 mm x 40mm.
14. It should be rugged, shock proof and water proof.
15. The compass is contained in a soft durable carrying case having suitable carrying strap. A durable hard transportation box should be provided.
16. Neck sling suitable attached with the compass should be provided. It should be in loop form, 150 ± 5 cm long, 2.5 ± 0.1 mm dia having lusterless green colour. With provision for neck sling should be available for compass.
17. Compass should be durable and repairable.
18. The magnetic assembly shall come to rest within 6 second of time being deflected 180 degree from a position of equilibrium.

35. GPS

S.N.	Features	Specifications
a) Navigation Features		
1	Routes	Minimum 50 routes with compatible SD memory card
2	Track Back	Storage of Track Log files should be provided
3	Map Datums	Should have the facility for user-defined datum with inbuilt Standard datums including Indian datums.
4	Coordinates	Late/ Lon, UTM, MGRS (Indian GR system) with facility of selecting any of the Indian zones) and other grid based on user defined requirements.
5	Navigation Screens	Should Display Battery status, own position, compass, graphical plot, speed and time, total distance covered and cross track error.
6	PC Interface	Should provide cable with software to upload and down load data with high-speed USB Port.
7	Alarm	Off track visual indication and arrival audio alarm
8	Way point icons	Should be provided.
9	Compass	Should have built in Electronic compass for real time direction indication without GPS fix.
b) Performance		
1	Receiver	Min 12 parallel channel receiver
2	Acquisition	≤ 20 seconds hot, ≤ 60 seconds warm and ≤ 3 minutes cold.
3	Mapping units and software	Loading of Maps of user specific format in the GPS unit along, with map loading software should be provided.
c	Update rate	One per second continuous
d	Accuracy	< 10 meters
e	Power (source)	Rechargeable Batteries and compatible Battery charger with option of standard AA batteries
f	Physical	
1	Weight	Max 300 grams with batteries
2	Display	High contrast Colour Display with backlighting of display
3	Key board	Should have keys or multi – function keys for easy & quick operations like navigations, Setup, illumination, Goto Point logging and marking
4	Case	Ruggedized and water proof.
g	Temperature Range	-100 degree Celsius to 600 degree Celsius
h	Memory	Memory back up – Minimum 1 GB additional memory through SD card should be provided with the unit.

36. LOUD HAILER

S.N.	FEATURES	SPECIFICATION
1	Type	Hand Held
2	Power output	50 watts
3	Functions	Talk, Music, Record
4	Size	203x333 mm (Approx.)
5	Weight	2.0 ± 0.5 kg
6	Micro phone	Unidirectional with volume control and detachable mic with press to talk switch
7	Material of body	ABS
8	Voice range in traffic junctions (High Noise environment) (Meter)	350 ± 50 metres
9	Voice range in quite areas (Meter)	1000 meter or better

- Long Shoulder Belt and folding handle for an easy to carry
- Additional USB/SD Card Feature
- Protective PVC ring on the flare
- Tough ABS Plastic Moulded Body for Compact, Light Weight and rugged used
- Microphone on rear covers with convenient carry strap

37. REMOTE AREA LIGHT SYSTEM

S. No.	Feature	Specification
1	IP Rating	54-65
2	MATERIALS	Polypropylene (Body) Aluminium (Head, Mast) Polycarbonate (Lens)
3	Lighting colour	Cool White
4	Beam Angle	60°-120°
5	Rechargeable	Yes
6	Maximum Charging Time	8 hrs
7	Weight	26±2 kg
8	Light Source	LED
9	LED Quantity	35±10
10	Working Lifetime (Hour)	50000-100000

38. FIRST AID BOX

S.N.	Features	Specifications
1	Material	Metal/Plastic
2	Weight	2.25 Kg approx...
3	Colour	Multi-coloured
First Aid Box Items		
1	plasters in a variety of different sizes and shapes	
2	small, medium and large sterile gauze dressings	
3	at least 2 sterile eye dressings	
4	triangular bandages	
5	crêpe rolled bandages	
6	safety pins	
7	disposable sterile gloves	
8	tweezers	
9	scissors	
10	alcohol-free cleansing wipes	
11	sticky tape	
12	thermometer (preferably digital)	
13	skin rash cream, such as hydrocortisone or calendula	
14	cream or spray to relieve insect bites and stings	
15	antiseptic cream	
16	painkillers such as Paracetamol	
17	antihistamine cream or tablets	
18	distilled water for cleaning wounds	
19	eye wash and eye bath	

39. ABD BANDAGE

S.N.	Features	Specifications
1	Material	cotton
2	style	adhesive
3	Item Size	6 x 6 x 11.5 cm

40. BOLIN CHEST SEAL

S.N.	Features	Specifications
1	Product Dimensions	12.7 x 2.54 x 12.7 cm
2	Product Weight	113 g
3	Item Size LxWxH	12.7 x 2.5 x 12.7 Centimetres
4	Operating Temperatures	32°F/86°F
5	Shelf Life	5 years

41. ICE & GO COLD BANDAGE

S.N.	Features	Specifications
1	Bandage Composition	Cotton 60%, polyamide 28%, elastomer 12%. Cooling composition: water, alcohol SD 40, propylene glycol, carboxymethylcellulose, PEG 40, hydrogenated castor oil, carbomer, triethanolamine, methylparaben imidazolidine urea, fragrance, disodium edta
2	Product Dimensions	16.51 x 10.49 x 3.51 cm; 82 Grams
3	Item Weight	82 g
4	Stretches to 9.8 feet (3 meters)	

42. FOLDABLE STRETCHER

S.N.	Features	Specifications
1	Product Size (LxWxH)	190*x54*x90x cm (Amended- Not less that 190*x54*x80x cm)
2	Net Weight	40 kg
3	The bearing Pressure	159 kg
4	Dimension of the packing box	200x65x30 cm
5	Gross Weight	50 kg

SLITHERING EQUIPMENT (TECHNICAL SPECIFICATIONS)

1. SLITHERING ROPE 14MM 50MTR

S. No.	Features	Specifications
1	NYLON ROPE RAPPELLING	<ol style="list-style-type: none">1. EASY TO STORE AND PACK2. DURABLE AND WATER RESISTANT3. WEIGHT NOT LESS THAN 35 GRAMS4. IMPACT FORCE NOT LESS THAN 4.2 KN5. SHOULD HAVE DYNAMIC ELONGATION NOT LESS THAN 30%6. SHOULD HAVE ROPE BAG7. SHOULD BE CE, EN & UIAA CERTIFIED

2. SLITHERING ROPE 10MM 100MTR

S. No.	Features	Specifications
1	ROPE CLIMBING	<ol style="list-style-type: none">1. THE DIAMETER SHOULD BE BETWEEN 10 MM2. SHOULD BE LIGHT WEIGHT3. DYNAMIC ELONGATION SHOULD NOT BE LESS THAN 30%4. SHOULD BE EASY TO HANDLE5. SHOULD BE ABLE TO WITH STAND IMPACT OF MIN 5KN6. SHOULD HAVE ROPE BAG7. SHOULD BE CE, EN & UIAA CERTIFIED

3. FIGURE 8 DESCENDER

S. No.	Features	Specifications
1.	Descender	<ul style="list-style-type: none">● Classic figure of 8 descender● Compact and lightweight● Material: Aluminium● Weight: ≤ 90 g● Rope compatibility: 8.1 to 11 mm (single and half ropes)● Working load limit: 100 kg● Strength: 15 KN

4. CARABINERS SCREW

S. No.	Features	Specifications
1	CARABINER SCREW TYPE	<ol style="list-style-type: none">1. SHOULD FACILITATE SCREW LOCKING2. SHOULD NOT WEIGH MORE THAN 45GRAMS3. COMPACT SHAPE4. LIGHT WEIGHT AND DURABLE5. EASY TO USE AND HANDLING6. SHOULD BE MADE OF ALUMINIUM ALLOY7. WEIGHT NOT MORE THAN 85 GRAMS8. FOR MAJOR AXIS BREAKING STRENGTH SHOULD NOT BE9. SHOULD BE CE, EN & UIAA CERTIFIED

5. CARABINERS PLAIN

S.NO	Features	Specifications
1	CARABINER PLAN TYPE	<ol style="list-style-type: none">1. SHOULD NOT WEIGHT MORE THAN 45 GRAMS2. COMPACT SHAPE3. LIGHT WEIGHT AND DURABLE4. EASY TO USE AND HANDLING5. SHOULD BE MADE OF ALUMINIUM ALLOY6. WEIGHT NOT LESS THAN 40 GRAMS7. FOR MAJOR AXIS BREAKING STRENGTH SHOULD NOT BE LESS THAN 22KN8. MINOR AXIS BREAKING STRENGTH SHOULD NOT BE LESS THAN 8KN AND FOR OPEN GATE NOT LESS THAN 7 KN9. SHOULD BE CE, EN & UIAA CERTIFIED

6. FULL BODY HARNESS (CLIMBING HARNESS)

S. No.	Features	Specifications
1	FULL BODY HARNESS	<ol style="list-style-type: none">1. SHOULD BE ABLE TO ARRANGE FALL ARREST2. SHOULD BE MADE OF NYLON POLYESTER3. SHOULD HAVE DRY TREATMENT FOR WET CONDITION4. SHOULD BE WATERPROOF AND DRY TECHNOLOGY5. SHOULD BE MADE OF WEB CORE TECHNOLOGY6. SHOULD HAVE FLEXIBLE GEAR LOOP ON BOTH THE HAND SIDE7. SHOULD HAVE ADJUSTABLE SHOULDER STRAP AND LEG LOOP FOR PRECISE FEET8. SHOULD BE LIGHT WEIGHT AND EASY TO WEAR9. SHOULD HAVE BREATHABLE CONSTRUCTION

		10. SHOULD NOT WEIGH LESS THAN 750 GRAMS 11. SHOULD BE CE, EN & UIAA CERTIFIED
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7. HALF BODY HARNESS (SEAT HARNESS)

S. No.	Features	Specifications
1	SEAT HARNESS	1. SHOULD BE ABLE TO ARRANGE FALL ARREST 2. SHOULD BE LIGHT WEIGHT AND EASY TO USE 3. SHOULD BE COMFORTABLE AND ULTRA-LIGHT DESIGN 4. SHOULD BE MADE OF WEB CORE TECHNOLOGY 5. SHOULD HAVE DRY TREATMENT FOR WET CONDITION 6. SHOULD HAVE ADJUSTABLE BUCKLE 7. SHOULD BE WATERPROOF AND DRY TECHNOLOGY 8. SHOULD BE CE, EN & UIAA CERTIFIED

8. SLITHERING GLOVES (RAPPELING MITON)

S. No.	Features	Specifications
1	RAPPELING MITON	1. SHOULD BE WATERPROOF AND SHOULD PROVIDE WARMTH 2. PALM AND THUMB SHOULD HAVE DOUBLE LAYER CANVAS 3. SHOULD PROVIDE PROTECTION TO THE PALM FROM HEAT GENERATING DURING RAPPELLING AND LOWERING 4. SHOULD BE MADE OF HEAVY-DUTY CANVAS FABRIC / LEATHER 5. SHOULD HAVE ELASTIC ON THE CUFFS 6. SHOULD BE DURABLE AND WATERPROOF 7. GLOVES SHOULD HAVE ERGONOMIC CUFFS

9. POWER ASCENDER

S. No.	Features	Specifications
1	POWER QUICK ASCENDER	1. SHOULD BE MADE OF STRONG AND NON COROSSIVE MATERIAL 2. SHOULD FACILITATE QUICK AND SAFE INSERTION OF ROPE 3. SHOULD FACILITATE TO OPERATE WITH REMOTE CONTROL 4. OPERATING RANGE OF REMOTE CONTROL SHOULD BE UP TO 100 MTR 5. SHOULD BE WATER RESISTANT AND DUSTPROOF 6. SHOULD BE DURABLE AND EASY TO OPERATE

		7. SHOULD FACILITATE LONG BATTERY LIFE WITH VERY SHORT CHARGING 8. WORKING LOAD SHOULD NOT BE LESS THAN 200KG 9. WEIGHT SHOULD NOT BE MORE THAN 20 KG 10. SHOULD BE SUITABLE FOR ROPE DIA 9 TO 13 MM 11. SHOULD BE CE, EN & UIAA CERTIFIED
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10. ROPE LAUNCHER

S. No.	Specifications
1	<p>Physical Characteristics of Rope Ladder</p> <ol style="list-style-type: none"> 1. Material - Nylon/Poly propylene or equivalent material. 2. Length - Minimum 20 meters. 3. Container - Compatible container for Rope Ladder. <p>Physical Characteristics of Rope Line.</p> <ol style="list-style-type: none"> 4. Material - Nylon, Polypropylene or equivalent material. 5. Length - Minimum 100 meters. 6. Minimum Break load - 1000 kg. 7. Container - Compatible container for Rope Line. <p>Physical Thrower/Launcher</p> <ol style="list-style-type: none"> 8. Equipment should be foldable. light weight, enable quick assembling and use 9. Length of the launcher should not exceed 530mm. 10. Climbing Grappling Hook should be Rubber coated and should withstand strength of minimum 1000 kg. 11. It should have the provision for variable firing pressure to shoot the rope at different ranges and facility for reading of the pressure (day 3, night) to be provided. 12. Should have a safety catch mechanism to ensure the unit does not get fired accidentally. 13. When fired the noise generated by the equipment should not exceed 90 dB at 15 meters from the muzzle. 14. Should have provision for fitting of re-usable air cylinders. Each cylinder should allow the launcher to be fired for a minimum of 5 times and should be able to propel the projectile/grapnel upto minimum 50 meters vertically and 10D meters horizontally. 15. Multi Shot Capacity. Should allow deployment of minimum five projectiles in rapid succession with same cylinder without refilling.

	<p>16. Safety Mechanism. The equipment should be provided with both mechanical and applied safety mechanisms.</p> <p>17. Transport/Storage Case. Unbreakable watertight, dust proof, chemical/corrosion proof storage case to be provided with the equipment.</p> <p>18. Train Minimum 7 days training to be provided after procurement</p> <p>19. Accessories/Spares. The following accessories/spares will be provided with each set of Rope Ladder with Throw Line</p> <p>(a) High pressure projectile/grapnel hook in'lade of aluminum or equivalent superior quality alloy).</p> <p>(b) Tool Kit (as applicable).</p> <p>(c) Canister's for loading of ropes qty 02.</p> <p>(d) Compatible rechargeable eh⁺ cylinders.</p> <p>(e) Grapnel/Projectile shaft as per requirement.</p> <p>(f) Air filler hose</p>
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11. TACTICAL JUMAR

GENERAL DESCRIPTION

JUMARS. Jumars are required for climbing a mountain slope with the help of climbing rope. Each Jumar has got a device (Jaw) which allows the climber only to go up along the main rope in his effort to climb upwards whereas it (Jaw) does not allow him to come down due to its unique design of teeth as they grip the main rope firmly. Each Jumar consists of the following parts :

- (a) M a i n B o d y
- (b) J a w .

The main body of the Jumar is made of aluminium alloy sheet which is designed to support the body of the climber. The jaw is made of nickel chrome steel casting. The jaw is fitted to the main body with the help of the pivot pin and a spring. The sharp projections on the jaw enable it to have a firm grip on the main climbing rope and prevent the climber from coming down.

MATERIAL

Jumars. The main body of the Jumar shall be manufactured using aluminium alloy 74530 as per IS-733 / RED-40 alloy. Springs shall be made of stainless steel wire as per ASTM 313-76 suitable for sub-zero temperature conditions. Grip shall be of Nylon Grade N-6, M28 RC.

MANUFACTURE

- a. Main Body. The main body shall be manufactured using proper press tooling for blanking, punching, bending, trimming etc. All such tooling necessary for these operations shall be developed using proper die materials. Necessary heat treatment and preventive coating by anodizing shall also be given to the main body of Jumar.
- b. Jaw. The jaw shall be manufactured in special nickel chrome steel as per IS-3444 by investment casting. Electroplating coating of chromium shall be given for finishing.

- c. Pivot Pin. Pivot Pin shall be manufactured out of stainless steel 304/316 as per ASTM.
- d. Springs. Springs shall be made out of wires 1.0 mm nominal diameter from stainless steel suitable for sub-zero temperature conditions.
- e. Grip. Shall be moulded in Nylon N-6, M28 RC to the main body.

Quality Control

Quality Control shall be exercised by adopting the procedure enumerated below :

- a. Tests for Spring (Jumars). Each jaw shall be fully opened and released 200 times. On completion of this operation the springs fitted to the jaw shall not take a permanent set in, that the jaw shall function efficiently and spring back without sticking or jamming as soon as they are released from the open position at the conclusion of this test.
- b. Crack Detection Test. The main body and jaw of the Jumar shall be subjected to crack detection test by any of the standard non-destructive test methods before finishing.
- c. Load Testing. 100% of the main bodies (LH & RH) of Jumars shall be subjected to load testing by a suspended load of 1000 Kg along the longitudinal axis. The bodies thus tested shall not show any deformation/cracks. The assembled Jumars shall be tested as follows : A load of 500 Kg shall be tied at one end of rope of 14 mm diameter and the other end of the rope shall pass through the jaw. The Ascender when lifted with the load to assess the efficacy of the jaw the rope shall not slip through the jaw.
- d. Hardness Testing. The hardness of the main body after heat treatment shall be between SO BHN to 110 BHN.

PACKING

Packing. The finished Jumars with the identification marks shall then be packed separately as follows

- a. Jumar (LH) and Jumar (RH) shall be packed separately in polythene bags made out of polythene film of suitable gauge.
- b. One pair of Jumars i.e. one each of left hand and right hand Jumar shall then be packed in another polythene bag/thermocole box pressed into form to accommodate two Jumars side by side.
- c. Ten pairs shall then be properly placed and packed in one box made out of hard cardboards.
- d. A number of such cardboard boxes shall be packed in wooden packing boxes for despatch.

12. PULLEY

S. No.	Features	Specifications
1	PULLEY SINGLE	<ol style="list-style-type: none">1. SHOULD BE LESS RESISTANT PULLEY2. SHOULD ALLOW ROPE TO BE USED WHEN PULLEY IS CONNECTED TO ANCHOR3. SHOULD BE SUITABLE FOR HEAVY LOAD4. WEIGHT MIN 70 GRAMS5. MATERIAL STAINLESS / ALUMINIUM6. SHOULD BE SUITABLE FOR ROPE DIAMETER 8 TO 13MM7. BREAKING STRENGTH MIN 17 KN OF PULLEY8. SHOULD BE CE, EN & UIAA CERTIFIED

13 SLING LONG

S. No.	Features	Specifications
1	NYLON SLING	<ol style="list-style-type: none">1. THE DIAMETER SHOULD BE 9 MM2. MATERIAL POLYAMIDE OR EQUIVALENT3. SHOULD BE COMPACT AND LIGHT WEIGHT4. SHOULD BE SUITABLE TO ALL TYPE OF CLIMBING HIGH MOUNTAIN5. SHOULD HAVE A ROPE BAG6. SHOULD HAVE DYNAMIC ELONGATION NOT LESS THAN 34%7. SHOULD BE RESISTANCE TO ABRASION AND EDGES8. WEIGHT NOT LESS THAN 48 GRAMS9. SHOULD BE ABLE TO WITH STAND IMPACT OF MIN 5.3 KN10. SHOULD BE CE, EN fit UIAA CERTIFIED

Breaching Equipment (Technical Specification)

56. CUTTER WITH SPREADER ELECTRIC

S.N.	Features	Specifications
1	Blade Opening	355±5 mm
2	Cutting Force	390±10 kN
3	Minimum Spreading Force	45±10 kN
4	Maximum spreading Force	190±25 kN
5	Pulling Force	51±1 kN
6	Squeezing Force	75±3 kN
7	Working pressure	710±10 bar
8	Power supply	Main
9	Motor	230V:1100 W, -50Hz -5.3A
10	Head Rotation	180°
11	Weight	17±3 KG
12	Dimension	787x270x202 mm
13	Cord Length	10 feet

57. SPECIFICATIONS OF CUTTER WITH SPREADER

S.N.	FEATURES	SPECIFICATION
HYDRAULIC HAND PUMP		
1	Function	Two/ Three stage
2	Working pressure	700 bar + 3%
3	Weight	11 kg
SPREADER		
1	Spreading force with arm open	250kN (Min.)
2	Pulling force	40 kN (Min.)
3	Squeezing force	55 kN (Min.)
4	Spreader opening at tips	680 mm (min.)
5	Weight.	19 kg.
CUTTER		
1	Opening of blades	225 mm (min)
2	Reach	120 mm (min.)
3	Capacity of round bar cutting	30 mm (min.)
4	Capacity of flat bar cutting	Width 110 mm & 10 mm thick
5	Cutting capacity	360 kN (min.)
6	Weight	15 kg.
COMBINATION TOOL		
1	Spreading force	110 KN (min.)
2	Spreading distance	360 mm (min.)
3	Capacity of round bar cutting	30 mm (min.)
4	Capacity of flat bar cutting	Width 100 mm & 10 mm thick(min.)

5	Pulling force with chain set	40 kN (min.)
6	Cutting capacity	350 kN (min.)
7	Cutting opening	220 mm (min.)
8	Reach	120 mm (min.)
9	Weight	15 kg

SPECIAL FEATURES:-

MANUAL HYDRAULIC PUMP:-

- A light weight hydraulic hand/ Foot pump mounted on suitable base plate shall be offered by the suppliers as a standby unit for operating the rescue devices at the venue of accident. The pump shall have a 5-meter long hydraulic hose set.
- It shall be capable of developing adequate pressure for operating rescue devices up to their full capacity. It shall be possible to operate the pump even when placed in an inclined/vertical position.
- The pump shall have two stage operations. The operating pressure and flow rate shall be indicated in the offer. The handle of hand/foot pump shall be adjustable in two positions (i) Pumping in horizontal position (sitting down) and (ii) Pumping in vertical position (standing up).

SPREADER:-

- The spreader should be double acting hydraulically operated device of light weight construction made of anti-corrosive high strength metal capable of being lifted, held and operated manually with ease. The details and design features of the hydraulic spreader and its controls, and material used for construction of its major components such as spreader arms, cylinder and other components should be explained in the offer.
- It should be capable of spreading, pulling, squeezing, peeling and lifting various sections.
- In case of two hose system, the spreader assembly shall include 0.5 meter long hydraulic hose complete with a single quick connect coupling mounted at the end of the twin hose equipped with dust cap and protection cover over length of 125 mm minimum from coupling end or protection spring over length of 125 mm minimum from coupling end.
- Spreader arms should be light weight, robust construction and properly ribbed for strength. Quick locking system for spreader/peeling tips and chain attachment shall be available.
- The operating controls should be conveniently positioned. All the control positions for (a) Spreading (opening), (b) Stopping and (c) Closing, should be clearly marked to avoid any ambiguity. It should be possible for right handed as well as left handed operator to operate equipment conveniently.
- The spreader tips shall be made of alloy steel suitably heat treated to spread/ open the steel doors, windows, side panel, roofs of passenger coaches without the tips getting bent or broken. The material specification of the tips and their hardness should be

indicated in the offer. It should be possible to quickly interchange tips/ accessories without the use of hand tools and without loosening connecting parts.

- The tips of the spreader should be suitably serrated to prevent any slip during operation. These should be of easily replaceable type and should have provision for mounting chains for pulling operation.
- Spreader should have safety features like dead man safety valve and easily operable by Left & Right Handed Operator. There should be a gap between two arms of spreader when the tips are fully closed so that operator fingers are not squeezed any time.

CUTTER:-

- The cutter shall be double acting hydraulically operated and shall be supplied along with 0.5 m long hose complete with a single quick connect coupling mounted at the end of the twin hose equipped with dust caps and protection cover over length of 125 mm minimum from coupling end or protection spring over length of 125mm minimum from coupling end in case of two hose system. It should be strong, reliable and of light weight construction capable of being lifted, held and operated manually with ease. Details of the cutter and material used for construction of its major components such as cylinder, piston and other components should be explained in the offer.
- The cutter blade should be parrot type and shall be capable to meet the requirements. The blade of the cutter shall be interchangeable with the blade of combination tool. The cutting blades should be of shock resistant non corroding alloy steel, hardened and ground and shall be exchangeable and regrind able. The material specification of the cutting blades and hardness shall be indicated in the offer.
- Cutters should be tested for 50% of operating pressure. The cutter should have dead man control valve and should be operable by Left and Right Handed Operator.

COMBINATION TOOL:-

- The combination tool should be double acting hydraulically operated device of light weight construction made of anti-corrosive high strength material capable of being lifted, and operated manually with ease. The details and design features of the combination tool and its controls and material used for construction of its major components such as arms, cylinders and other components should be explained in the offer.
- The multipurpose combination tool should be capable of spreading, cutting and pulling. The blade of the combination tool shall be interchangeable with the blade of cutter.
- In case of two hose system the tool should be supplied with connection hoses of 0.5 meter long complete with a single quick connect coupling mounted at the end of the twin hose, equipped with dust caps and protection cover over length of 125mm minimum from coupling end or protection spring over length of 125mm minimum from coupling end. The operating control should be conveniently positioned and it should be possible for right handed as well as for left handed operator to operate equipment conveniently.

- The blades should be of shock resistant non corroding alloy steel hardened and ground and shall be exchangeable and regrind able. The material specification of blades and hardness should be indicated in the offer.

JIMMY BARS

S.N.	Features	Specifications
1	Weight	0.7 kg – 2.3 kg
2	Length	360 – 700 mm
3	APEX TOOL	1/2-in. hexagonal stock, tip width 3/4-in. from both ends

58. DRILL HAMMER 10 KG.

S.N.	Features	Specifications
1	Product Type	Demolition Hammer
2	Impact Energy	20±5 J
3	Impact Rate At Rated Speed	1400±400 bpm
4	Rated Input Power	1500-1600 Watt
5	Sound Pressure Level	92 dB(A)
6	Sound Power Level	100 dB(A)
7	Total Vibration Values (Chiselling)	
8	Vibration Emission Value Ah	18.5 m/s ²
9	Uncertainty K	2 m/s ²
10	Tool Dimensions (Width)	270±5 mm
11	Tool Dimensions (Length)	570±10 mm
12	Weight	10-10.50 kg.

59. DRILL HAMMER 16 KG.

S.N.	Features	Specifications
1	Product Type	Demolition Hammer
2	Impact Energy	41 J to 45 J
3	Impact Rate At Rated Speed	1300 bpm
4	Rated Input Power	1750 W
5	Sound Pressure Level	92 dB(A)
6	Sound Power Level	103 dB(A)
7	Total Vibration Values (Chiselling)	
8	Vibration Emission Value Ah	10-13 m/s ²
9	Uncertainty K	2 m/s ²
10	Tool Dimensions (Width)	255±5 mm
11	Tool Dimensions (Length)	760±10 mm
12	Weight	16.75±0.25 kg.

60. HAMMER MANUAL

S.N.	Features	Specifications
1	Handle Material	Wood Handle
2	Colour	Brown or Blue
3	Head Weight	5.5 Kg
4	Handle Length	900 mm
5	Head Style	Flat

61. STONE CUTTER

S.N.	Features	Specifications
1	Item weight	9.5±4.5 KG
2	Power Source	Petrol or Battery
3	Wheel Diameter	315±85 mm
4	Cutting Depth	115±30 mm
5	Noise	110±10 dB

62. WOODEN CUTTER

Chain saw suitable for cutting reinforced concrete at least 300 mm Thickness and with built in reinforcement up to 12 mm diameter, Masonry, bricks Natural Stone or other similar

Material.

- 1. Engine-** 2 strokes petrol driven, air cooled, power shall be not less than 5 H.P.
- The starter shall be shielded from the dust & water. It shall have electronic ignition protected from water and single spring clutch proofed from water and concrete
- Fuel Capacity: 1 litter (Approx.)
- The noise level should not exceed 102 dB at 01 mtr.
- It shall be fitted with a chain, which runs over the guide bar. The chain saw shall be capable of cutting RCC up to 360 mm thick and iron rod up to 12 mm dia.
- The water supply required by the chain while cutting shall not exceed 10 lts/Min
- The chain saw shall also be provided with measures/attachments for reducing the force required during cutting operation in order to reduce fatigue on operator.
- It shall also be provided with foam covered full wrap handles, momentary contract on-off switch, water pressure guage, 360° swivel hose connector, sprocket side cover and guard flap for operator safety.
- Weight - Not more than 20 Kgs.
- Cutting rate - 10 to 25 " per min or more

ACCESSORIES

1. A spare diamond chain.
2. Water Pump: Water Pump coupled with petrol engine self-Powered for compatible supply of water Quantity : 01 No
3. Suction Hose : of compatible diameter, minimum length of 3 meter
4. Foot Valve : Quantity 01 No
5. Delivery Hose : Compatible with the equipment's, length not less than 15 meters with appropriate connection to pump outlet. Quantity -01Nos.
6. Reducer : If required.
7. Tool Kit : Tool Kit with necessary required tool.
8. Packing Box : Quantity 01 No.
9. Foldable water tank.

63. MULTI TOOL KIT

S.N.	Features	Specifications
1	Package Contents	1 Hex Key Rack, 4 Bit Rack 11 PIECES 1/4" 6PT SOCKET: 4, 7, 8, 9, 11, 12, 13, 14 MM 15 Pcs 1/2" 6PT Socket: 10-15, 18, 19, 20, 24, 27MM 8 Piece Hex Key Set: 1.5, 2, 2.5, 4, 5, 9.5, 6 MM 1pc Combination Wrench: 8-15, 17, 18, 19MM 1pc 1/2" Ratchet with Quick Release Button 72T 1pc 1/4" Ratchet with Quick Release Button 72T 1pc 1/2" Spark Plug Socket 21MM 1 Pc 1/2" Spark Plug Socket 16mm 1pc 1/2" Universal Joint 1pc 1/4" Universal Joint 1Pc 1/2" 3 Way Adapter 1pc 1/2" Extension 250MM 1Pc 1/2" Extension 125MM 1pc 1/4" extension 100mm 1pc 1/4" Extension 50MM 1pc 1/4" Flexible Extension 100mm- 1/4"(M)x1/4"(F) Hexagonal Bits: 2, 3, 4, 5, 6, 7mm Tri-Wing Bits: 1, 2, 3, 4 Posidrive Bits: PZI, PZ2, PZ3 TORX Bits: T10, T15, T20, T25, T27, T30, T40 Adapter (2 parts) Philips Bits: PH0x2, PH1x2, PH2x2, PH3x2 square bits: s1, s2 and s3 40 Bits Slotted Bits: 3.5x2, 2x4, 5.5, 6.5, 8mm

		1 Pc Bit Adapter Ratcheting Screwdriver 2 Pieces Phillips Screwdriver: PH1x75 MM, PH2x100 MM 2 Pcs Slotted Screwdrivers: 5.5x75mm to 6.5x100mm 1 Pc Groove Joint Pliers 10" 1pc Long Nose Pliers 8" 1 Pc Diagonal Cutting Plier 6"
2.	Additional Details	number of tools: 110

64. CORD DETONATING CORDEX (1 REEL-150 MTR)

S.N.	Features	Specifications
1	Application	As Shock wave Carrier
2.	Length	150 m/reel

65. SAFETY FUSE NO. 11 MK-1 (1 TIN-3X30=90 MTR)

S.N.	Features	Specifications
1	Application	As flame carrier to non-electric detonator
2	Length	30x3= 90 m/tin box

66. DETONATOR N.33 ELECTRIC MK-1

S.N.	Features	Specifications
1	Application	As Shock wave producer for initiate high explosive charges
2	Quantity in a box	10 NOS/BOX

67. DETONATOR N.27 NON-ELECTRIC MK-1

S.N.	Features	Specifications
1	Application	As Shock wave producer for initiate high explosive charges
2	Quantity in a Box	25 NOS/BOX

68. P.E.K. 1ST (1 COTTON =2.5 KG)

S.N.	Features	Specifications
1	Application	Use as making of Demolition charges and other special charges.
2	Quantity in a Box	100g x 25= 2.5 kg/box

69. RDX: WAX (88:12)(In-KG)

S.N.	Features	Specifications
1	Application	Use as making of Demolition charges and other special charges.
2	Quality	1 kgs/CAKE

70. C.E. TNT (1 Box=20 SLAB)

S.N.	Features	Specifications
1	Application	Use as making of Demolition charges
2	Quality	450g x20 slabs=9 kg /box

71. BLASTING CAP CRIMPER

S.N.	Features	Specifications
1	Application	Use for crimping non-electric detonator to safety fuse

72. PRIMER C.E. No. GRS (BOOSTER)

S.N.	Features	Specifications
1	Application	Use for Boosting shock waves
2	Weight	28gm & 35gm

COMBAT DRESS (TECHNICAL SPECIFICATION)

1. COMBAT UNIFORM

Black Shirt	
Pockets	Two front Pockets
Size	According to commando size (40/42/44)
Other Feature	Collared shirt, Two shoulder flap, Sleeve cuffs, Velcro's for attachments
Black Pant	
Pockets	2 side, 2 side lowers & 2 backside
Other Feature	Good quality zipper, A hook button

2. BLACK CARGO

Material	220 gsm cotton ripstop fabric black (2.5 mtr approx.)
Pocket	2 insert back pocket with flap, 2 standard side pockets, 2 angled patch thigh pockets with flap and half bellows
Pocket depth	7-8 inches
Stitching thread	Stitching with high quality black thread
Other Feature	2 Inch waist elastic, 2.7 Inch/1 Inch side bell loop, 2.7 Inch/3 Inch back belt loop, Polyacetal D ring on front belt loop, Brass Crotch zipper (approx. 6 inch), Reinforced bar tack on all stress points (contrast colour), Single nylon zipper on left thigh pocket (approx. 6 inch), Double layered fabric knee reinforcement, Knee tucks for knee mobility, Nylon Velcro + snap button retention on all pocket flaps, Reinforced groin patch, Adjustable nylon Velcro ankle strap, Triple stitch on inseam and groin reinforcement patch, Double buttoned extension waistband.

3. BLACK T-SHIRT (SPOT LOGO)

Material	Cotton poly single jersey fabric 180 GSM 1.5 mtr. (approx.).
Stitching thread	Stitching with high quality black thread
Other Feature	Crew neck with 1x1 rib., Double needle flat lock stitch on shoulder, bottom and sleeve hem, Side seams overlocked, Shoulder seam reinforced with mobilon elastic.

4. TACTICAL SHOES

Material	Leather and nylon upper
Colour	Black
Weight	862 Grams (Approx.)
Other Feature	Aggressive slip and oil resistant carbon rubber outsole, Lightweight fiberglass shank, EVA midsole is light and cushioned, Contoured, removable sock liner, Slip-Resistant

5. TACTICAL SOCKS

Material	Poly cotton fabric
Colour	Black
Sole	should be flat knitted with full terry.
Size	athletic tube shall come in one size regular. The regular size relaxed flat length shall measure 42cm +- 1.5 cm.
Other Feature	The sock shall be knitted in tubular pattern. The cuff should be 3 by 1 mock rib with the elastic spandex. The toes should be closed and automatic toe closing system on the sock knitting machine.

6. TACTICAL CAP

Material	Air mess base nylon fabric 220 GSM approx
Inner Fabric	Cotton
Colour	Black
Back Side	Commando word in arch shape – 9 cm & adjustable strip with steel buckle
Front Side	UP Police monogram (6*5 cm)
Other Feature	3 Inch front visor, 2 Eyelet left & right side total 4 for Ventilation.

7. TACTICAL BELT

Material	Heavy duty 0.5 inch thickness nylon webbing
Size	50 inches length (approx.) 2 inch width
Colour	Black
Buckle	Heavy duty aluminium reinforced buckle for adjustment (Black).
Tensile strength	2000 kg.
Other Feature	Molle compatible loops, 4 Row stitching for rigidity, Parachute grade buckle and adapters.

8. TACTICAL BAG

Material	Nylon
Size	Long
Capacity	105 L
Number of Compartments	3
Number of Pockets	5
Waterproof	Yes
Shoulder Strap	Double padded shoulder strap, Alpine cut shoulder strap, adjustable
Padding Features	Back Adjustment Carry style to suit male body shape. padded shoulder straps and breathable back mesh. VENTILATION back ventilation through double breathable foam BACK mesh

	providing thermal comfort, Padded Shoulder strap, Padded Hip Belt
Other Body Features	Padded Shoulder strap, Multiple Zipper Pockets, Rain Cover Included

9. UPPER WINTER JACKET

Colour	Black & Grey
Other Body Features	<p>Wadding lining-150g/sqm on the body and 100 g/sqm on the arms Fleece back.</p> <p>Water proofing coating (2000 mm Schmirler) fully taped seams. Hood and cuff adjusted with rips-taps. Jacket hem tightened with a draw cord.</p> <p>Two Fleece lined hand pocket press studs one inside chest pocket.</p> <p>The Jacket is designed to be worn top of a warm second layer such as a Fleece or light down jacket.</p> <p>Outer: Two lined pockets with a flap and press studs' closure, very soft and very warmed Fleece lining for the hands inside one pocket with a rip tap closure.</p> <p>Elastic draw codes toggles.</p> <p>Nylon Velcro tab fastener.</p> <p>Padding 100 % polyester (PES) lining, 100 % polyester (PES) main fabric, 100 % polyester (PES) yoke (General): 100 % polyamide coating, 100 % polyurethane (PU).</p> <p>Patch pocket with flap and Velcro on sleeve.</p> <p>Foldable hood with draw codes.</p> <p>Size 8 primary zipper.</p> <p>Shoulder flaps for Insignia marking with press stud.</p> <p>Single chest insert pocket with size 5 zipper.</p> <p>Padded Elbow patches.</p>

10. BERET CAP BLACK

Material	Woollen
Colour	Black
Pattern	Plain
Other Features	Light and breathable, sun protection, Warm and cold safe and environmentally friendly, Head Round Strip is made of strong nylon fabric

11. TAJ UP POLICE (KADHAI WALA)

As approved for UP Police

12. DIVE SINE (SPOT LOGO)

Monogram	Black Silk Thread
Background colour	Silver
Pattern	Circular Alphabets, Both Circles (Inner & Outer) with Tiger
Other Features	Outer Diameter- 2.75 inches, Inner Diameter- 2 inches With Velcro

13. COMMANDO BATCH VELCRO PAIR

Pattern	Embroided with SILVER silk thread
Background colour	Black
Other Features	Upper length - 3.95 inches , Lower length - 2.95 inches, Height - 1.95 inches With Velcro

14. ATS FLAP BATCH PAIR

Pattern	Embroided with SILVER silk thread
Background colour	Black
Other Features	Alphabet height- 1.75 inches Total length- 2.95 inches

15. NAME PLATE (JARI WALA)

Pattern	Embroided with SILVER silk thread
Background colour	Black
Other Features	Length- 4.5 inches, Height- 1 inch, Name with Blood Group With Velcro

16. BLACK WHISTLE LANYARD

Material	Stripes are made with nylon fabric material
Colour	Black
Quality	Fine

17. WHISTLE

Material	Steel
Colour	Silver

18. SHOTS

Material Composition	80% Cotton, 20% Polyester
Colour	Black
Other Feature	Super combed Cotton rich fabric

	Comfortable ribbed waistband with drawstring Convenient side pocket with zipper for added security
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19. ROUND NECK T-SHIRT

Material	Cotton poly single jersey fabric 180 GSM 1.5 mtr. (5pprox..).
Colour	Grey
Other Feature	Crew neck with 1x1 rib. Double needle flat lock stitch on shoulder, bottom and sleeve hem Side seams overlocked. Shoulder seam reinforced with mobilon elastic. 1.5 UP ATS label to be stitched on left chest.

20. TRACK SUITS

Material	100% Polyester
Colour	Black with grey
Other Feature	Kitted cuff TRACK PANT 100% Polyester Good quality zipper Contrast Trim at the bottom of pant

21. TRAINING SHOES

Material	Synthetic
Sole material	Rubber
Colour	Black
Heel Type	Flat
Other Feature	Closure Type - Lace-Up Shock absorber - Two-layer cushion Anti skid – one hard shole layer at bottom

22. SPORT SOCKS

Material	Made with breathable pure cotton material, soft and comfortable, denser needle tech fine stitching makes the advanced socks become softer, denser and more durable. Suitable for most intense exercises. Also, with better sweat absorption the sporty socks are perfect for any of your casual or sport sneakers
Size	Full size
Other Feature	ANTI-SLIP RUBBER DOTS BOTTOM

23. BALA CLAVA

Material	Fleece
Colour	Black
Other Feature	Independently adjustable face panel, Light weight and breathable construction, 4 ways stretchable with breathable mesh function, quick dry that allow the user to have proper circulation, Additional removable hoodie.

24. ANKLET

Material	Cotton
Colour	Black
Other Feature	water resistant and never lose their shine despite continues use

25. WATER BOTTLE

Material	Water Bottle (Plastic), Mug (Aluminium) and Pouch (Polyester)
Colour	Army Green
Weight	450 Gram (Approx.)
Capacity	1 Ltr. (Approx.)
Other Feature	Aluminium mug with butterfly handles, The belt mountable pouch has been lined with polyester for improved insulation, The water bottle can be stored inside the mug and both units placed in the pouch.

TACTICAL / PROTECTION EQUIPMENT (TECHNICAL SPECIFICATIONS)

1. TACTICAL GLOVES

S.N.	Features	Specifications
1	HALF FINGER GLOVES	Lightweight and hard wearing tactical fingerless gloves Short cuff design Comfortable and soft goatskin leather Polystyrene knuckles protection with EVA foam cushioning Padded palm for extra comfort Extra anti-slip tab on the middle finger for easy put off Hook and Loop adjustable wrist support Material: 100% Goatskin Leather
2.	GLOVES LEATHER	Tactical combat gloves Comfortable, breathable and hard-wearing Removable, plastic knuckle protectors secured with Hook and Loop closure Top quality goatskin leather with double stitching on the palm Additional EVA foam padding to protect palm and knuckles Reinforced finger joints Hook and Loop adjustable cuffs with soft lining for custom fit and long-time wearing Perfect for combat activities and outdoor games Palm material: 100% Goatskin Leather Back material: 100% Aramid Kevlar

QUALITY REQUIREMENT

1. Material - Palm material: 100% Goatskin Leather & Back material: 100% Aramid Kevlar
2. Colour – Black
3. Gloves - Wrist tight type with Velcro.
4. Individual should be able to tire while wearing the gloves.
5. Should be a thin material glove and be able to withstand wear and tear.
6. It should have separate entry for each finger and thumbs so as to facilitate proper gripping.
7. The grip on the gloves should tighten after the gloves get wet.
8. The inner portion of the gloves should be made of split leather and breathable and help in gripping.
9. The material should be washable to maintain glove performance.

2. SLEEPING BAG

S.N.	Features	Specifications
1	Net Weight	650-710 grams
2	Shell Material	100% Nylon
3	Size	Extra Large (XL)
4	Light Weight Sleeping Bag as per QR/ specification approved by MHA vide letter No. U.II-23/2010-11 - Prov (CoBRA) 9534, Dated: 05/11/2014	

3. TACTICAL DUFFLE BAG

S.N.	Features	Specifications
1	Features	<ul style="list-style-type: none">● Made out of 1000% nylon● Large duffel construction● Eva lined sides and bottom for impact resistance● 80 ltr capacity● Dual chain top open flap with mesh lined pockets
2	Dimensions	Large detachable external gun storage compartment with padded top and bottom(35inches12Inches)

4. THIGH HOLSTER

S.N.	Features	Specifications
1	Conformity to technical requirements	Specification for Tactical Pistol Holster approved by MHA vide letter No. - U.II-98 (spec)/ 2014-15- Prov (PP/ Holster) 607 dated 28-04-2016
2	Weight	180-200 grams
3	Item (Type)	Tactical Pistol Holster, without Holster Drop leg strap (Tactical Holster Only) (Part- 2 of MHA approved specification)
4	Colour/ Print	Dyed Black as per governing MHA approved

5. TACTICAL ASSAULT VEST

Essential Features

Modular Approach.

Ergonomic design to carry weight with comfort

Heavy duty design,

Simple system to ensure smooth operation.

1.Pouches can be customized, changed or added as needed

(D) Black in color incl certain qty required in camouflage color also

(F) Be capable of being worn over all existing bullet proof Jacket and body armor,

Description.

Fabric.

(a) The Tactical vest should be made from 1000 D Cordura x

2, WR (Black) as the main fabric.

(b) It should have EVA padding.

Thread TKT-40 Bonded nylon.

Buckle Heavy duty Delrina Buckle.

Weight It should be of Light weight.

Locking Modular System.

This is patented system, which forms the basis of the modular system. Each Pouch has two vertical tapes which are doubled and reinforced with flexible fiber sheet, two heavy duty buttons at the ends, The vertical tapes slip in through the vest first at whatever location the user wants it to be in, then slip in through one buttons are snapped shut. The redoubles are as follows

- | | |
|--|-------|
| a) Tactical IT Harness | -One |
| b) 5 Liter combat pack with Velcro USG reflector insignia. | -One |
| c) Triple magazine pouch MP•5 | -One |
| d) Triple magazine pouch Glock-Pistol | -One |
| e) Single magazine pouch Glock-Pistol | -One |
| f) Stun Grenade (CS) pouches | -Two |
| g) Gas mask Canister pouch | -One |
| h) HE Grenade pouches | -Two |
| i) Universal radio pouch | -One |
| j) Multi purpose pouch | -One |
| k) Utility glove pocket slithering, with NSG reflector insignia. | - One |
| l) Friction Fit Pistol Drop | -One |
| m) Small tapes with buttons for Carabiner | -Two |
| n) Pouch for Commando Dagger | -one |
| o) Compass Pouch | - One |
| p) Mini flare and ammunition | -One |
| q) Map sheet folded 81. GPS pouch | -One |
| r) Maglite Torch Pouch | -One |

(a) **BAP-5Mag& Pouch x 2 Pouches.**

(i) Length 16.5 cm

(ii) Width 4.0 cm

(iii) Height 3.0 cm

(b) **Pistol Mag Pouch x 1 Pouches.**

(i) Length 11.0 cm

(ii) Width 4.0 cm

(iii) Height 3.0 cm

(c) **Stun Grenade Pouches x Quantity.**

(i) Length 14.0 cm

(ii) Width 9.0 cm

(iii) Height 4.0 cm

(d) **Water Bottle Pouch x 01 Quantity,**

(I) Length 15.0 cm

(II) Width 15.0 cm

(III) height 6 cm

Gas Face Canister Mask Pouch x 1 Quantity.

(i) Length 10.5 cm

(ii) Width 7.5 cm

(iii) Height 3.0 cm

No. 36 Hand Grenade Pouch X 02 quantity.

(i) Length 9.0 cm

(ii) Width 7.5 cm

(iii) Height 6.0 cm

(1-) **Small tapes with buttons for carehinear x 02 Quantity.**

(i) Length 4.5 cm

(ii) Width 8.0 cm

Pouch for cdo Dagger.

(i) Length 29.0 cm

(ii) Width 3.0 cm

(iii) Height 1.3 cm

(k) **Miniflare & Aron Pouch x 02 Quantity,**

(i) Length 15.5 cm

(ii) Width 2.0 cm

(iii) Height 3.0 cm

(l) Compass Pouch x 01 Quantity.

(i) Length 9.0 cm

(ii) Width 8.0 cm

(iii) Height 6.0 cm

(m) Radio Set Pouch x 01 Quantity.

(i) Length 11.0 cm

(ii) Width 6.0 cm

(iii) Height 5.0 cm

(n) Pistol Holster Pouch pc 01 quantity.

W Length 19.5 cm

(i) Width 8.0 cm x 5 cm (Centre and Bottom)

(ii) Height 6.0 cm

(o) 5 Litre Combat _pack x 01 Quantity.

(i) Length 19.5 cm

(ii) Width 12.0 cm

(iii) Height 7.0 cm

(p) Triple Magazine pouch SIG 5.56MM x 02 Quantity.

i. Length 18.5 cm

ii. M Width 6.5 cm

iii. Height 4.0 cm

(q) Multi Purpose Pouch x 01 Quantity.

(i) Length 16.0 cm

(ii) Width 8.0 cm

(iii) Height 10.0 cm

Utility Glove pocket Slithering x 01 Quantity.

(i) Length 28.2 cm

(ii) Width 14.0 cm

(iii) Height 5.3 cm

Map Sheet folded lb GPS Pouch x 01.

(i) Length 25.0 cm

(ii) Width 25.0 cm

(iii) Height 4.0 cm

Mazlite Torch Pouch.

- i. Length 26 cm
- ii. Width 5.5 cm
- iii. Height 5.5 cm

6. PISTOL LANYARD

S.N.	Features	Specifications
1	Material	High Density nylon, plastic, metal
2	Compatibility	Almost any pistol
3	Normal Length	55±5 cm
4	Stretch Length	Minimum 125 cm

7. TACTICAL B.R. JACKET

B.R. JACKET

Jacket Style	-	Police
Service Ability	-	10 Years
Guarantee	-	The outer carrier along with trauma padding shall be guarantee for a period of 2 Years against all manufacturing defects.
Temperature	-	-50° c to +50°c (operating Temperature)
Humidity	-	95% at 40°c
Storage	-	Normal room Temperature
Total weight	-	6.31kg – 6.62kg
Size of Armour Panel-		305mm x 254mm

Ballistic Protection.

The basic Bullet proof jacket should meet NIJ (National Institute of Justice) Level III according to NIJ STD 0101.06. The basic Jacket should defeat following ammunition from 10 m distance.

Construction.

The bullet proof jacket **should provide 360 degree all round upper torso body protection.** The system should be flexible and allow complete freedom of movement without compromising the ability to acquire and neutralize threats from any firing position including when wearing a ballistic helmet. The full body armor should have throat protector & upper arm protector as add on.

Flexibility.

BPJ should ensure snug fit that exactly fits the body contour. It should have hard armor panel flexible enough to follow the body contour thus ensuring that it does not hinder body movement and use of arms.

Emergency Release.

In case of emergency situation, the jacket should have a special provision for instantaneous discard in one swift pull. It should be easy to open the vest in a sitting position and the jacket must split in two parts to get fast access to wounds.

Emergency Evacuation:

The jacket must have minimum two pull out/buddy straps.

Wearer Comfort.

The design and fitment of the BPJ should provide weight distribution over the waistline and shoulders instead of only shoulders, to enhance the wearer's comfort. Self suspending Ballistic system to keep ballistic panels in place, prevent sagging and/or bunching that can expose vulnerable areas.

FHAH Design

The BPJ should have Flexible Harness Attachment System (FHAH) that facilitates attachment of various pouches. Multipurpose side wings to secure the vest around the waist, to provide adjustment and allow quick break away, Offers load attaching point's for the sides of the vest and to hold the side plate pouches which should be adjustable both vertically and horizontally.

Ventilation and heating/Cooling Pack

The BPJ Should Have Provision of Ventilation System enhanced wearer comfort through use of **3-13** fabric in the inner part for sweat absorption and breathability with good air circulation. The BPJ should have one cooling / heating pack located at the back for use in very cold or very hot ambient conditions.

Height Adjustment system.

BPJ should be designed to ensure proper height adjustment for the wearer. The Jacket should stay in position even when shoulder straps are off and wearer is jumping.

Outer Carrier.

The outer carrier of BPJ should be made of heavy duty, long lasting and high abrasion resistant CORDURA or equivalent fabric that is water resistant.

8. SPECIFICATIONS OF TACTICAL B.P. HELMET

B.P. HELMET

QRs/specifications of the Bullet Proof Helmet (Ballistic) for Ground Troops

OPERATIONAL CHARACTERISTICS

Level- V

Ergonomy:- It should be possible to wear, adjust and remove the helmet with ease even with gloved hands. It should be provided with a three point chin strap with cotton chin cup.

Shape:- The helmet should adequately cover the neck and ears of the wearer and its design should be on the lines of the US Personal Armour System Ground Troops (PASGT). The shape of the helmet should facilitate the use of hand sets of in-service communication equipment. Helmet should desirably have provision to mount a display system, hands free communication equipment and fix electro-optical devices as and when required.

Surface Finish and Camouflage- The proposed helmet should be of crinkle mat finish, in the following colours:-

(a) Disruptive IA pattern.

(b) Black

Protection- The ballistic helmet should be able to defeat / velocity 9mm KF, 7.62x39 mm ammunition fired from 20 metres. The deformation in the helmet should not exceed 13mm, the min gap necessary between the harness and inner surface of the helmet.

Climatic Condition- The helmet must withstand repeated and sustained exposure to climatic conditions as under:-

(a) Temperature - -50°C to + 50°C.

(b) Relative Humidity - upto + 80%.

Use of Optical Instruments- The design of the helmet should be such that it should not obstruct the use of binoculars (day and night), optical sights fitted on the weapons, range finders and Artillery optical instruments like director etc.

Compatibility- The design of the helmet should preferably be compatible to wear along with respirators and chemical hoods. This may be considered as a desirable feature for subsequent improvement and development.

Comfort- The helmet should not cause any undue discomfort even after prolonged wearing by an individual for more than six to eight hours.

Ability to absorb IR Radiation- It is desirable that the helmet should be able to absorb 60 to 100 percent of IR radiations from an active IR source and should not reflect any such radiations.

Weight - The weight of the helmet should be as under:-

(a) Medium Size helmet - Not more than 1.20 Kgs.

(b) Large size helmet - Not more than 1.30 Kgs.

Inner Lining/Harness- The helmet should be provided with harness which should be adjustable to head size. The minimum distance between the harness and the inner surface of the helmet should be 13mm. It should be comfortable to wear and ensure air circulation.

Chin Strap- Adjustable chin strap with three point support must be provided. The material of the chin strap should be suitable to Indian weather conditions and should be rugged enough to withstand rough handling in the field. The buckle of the chin strap should be easy to engage/disengage and its position on the cheek should not hinder aiming during firing. The material of the buckle should be harmless to skin in all types of climate temperatures.

Size- The helmet should be provided in two sizes, viz medium and large size. The circumference of the helmet should be adjustable as under:-

(a) Medium size - 48 to 57 cms.

(b) Large size - 58 to 62 cms.

Shelf Life- Shelf life of helmet to be minimum 10 years in field conditions.

Provision for Visor- Suitable provisions should exist in the helmet for attaching plastic visor, to provide limited protection against blast and splinters, without increase in weight of the helmet. An additional weight of upto 500 gms for the visor is acceptable. The visor is, however, required on selective basis.

LABELLING-

Must be labeled as per NIJ standards giving the following details.

Name of manufacturer

Name of product

Date of manufacturer

Date of Issue

Threat Level

Size

Serial no.

NIJ standard

Strike face of helmet should be clearly marked.

OPERATION AND MAINTENANCE

Packing - The helmet should be packed individually preferably in a water proof carry bag.

User Evaluation- The approval for introduction into service of the proposal helmet will be based on the test procedures as laid down in NIJ Standard 0106.01.HP White Laboratory, UK and the standards set in this GSQR (General Staff Qualitative Requirement). However, in case, where different standards have been specified in the GSQR/NIJ/HP White Laboratory, the specifications set out in the GSQR will be considered.

Literature- Literature giving details of the equipment, functioning and handling should be provided at the time of trials. It must also give out details of maintenance requirements.

9. SPECIFICATIONS OF TACTICAL BALLISTICS SHIELD

1- Should be able to provide protection of NIJ level VI (NIJ.0101.04) The ballistic shield should provide protection against all types of 7.62mm NATO, Ball / AK-47 ammunitions fired from Assault Rifles from min 10 meters of distance.

2- Should be of the dimensions

(a) Width : Minimum 50 cms maximum 60 cms

(b) Height : Minimum 80 cms maximum 130 cms

(c) Weight : maximum 16kg

- 3- Should have provisions for handle/straps on the back side. The handle should be made of high-quality tube which allows to handle the shield with left/right/both hands. Thick soft sponge for comfortable carriage should be provided.
- 4- The external edge of the sheet should be dressed with rubber strap of the same colour and fasten to surrounding of shield.
- 5- Should have bullet proof view port (one) Size should be 11cms x 17cms+- 0.5 cms.
- 6- Should be ergonomically designed for easy carriage so as not to hamper combat effectiveness.
- 7- One weapon slot rest should be provided on the equipment's.
- 8- Complete equipment should be fire resistant.

10. TECHNICAL SPECIFICATIONS OF TACTICAL ELBOW & KNEE PADS

1	<u>Tactical Application</u> <ol style="list-style-type: none"> a. Provide effective padding / cushioning to knees and elbows. b. Should be effective on various surfaces including indoor and outdoor operations.
2	<u>Effect</u> <ol style="list-style-type: none"> a. Adequate durability and ease of use. b. Should facilitate normal movement of knees and elbows.
3	<u>Usage</u> <ol style="list-style-type: none"> a. Adjustable braces for different width girth. b. Tough abrasion resistant material. c. Replacement / customized padding for varied usage.
4	<u>Maintenance.</u> <ol style="list-style-type: none"> a. Washable and anti-skid material. b. Fast colour, should not fade after prolonged use. c. Waterproof material. d. Light in weight.

12. SPECIFICATIONS OF BALLISTIC PROTECTIVE EYEWEAR

The specifications covers the requirement of "LIGHT WEIGHT BALLISTIC PROTECTIVE EYEWEAR AGAINST GRENADE BLAST" to Provide protection or resistance against shrapnel, stone pieces, dust and other such material flying out consequent on blast at speed upto 220 ± 20 meters per second.

CLASSIFICATION: The lenses shall be of the following classes as specified:

Clear: Lenses should Maximize light transmittance. To be used indoors or at in dim light conditions or at night.

Solar: Reduce extreme glare and squinting. For outdoors use or t in bright light conditions.

Yellow: Contrast: Provide wisp definition in low-light conditions to be used during cloudy or hazy conditions.

REQUIREMENTS:

System Definition: Eyewear shall consist of one complete set of spectacles with spatula temples (side arms), size regular or large, with clear, high impact resistant polycarbonate lens, one eyewear retaining strap, one pair of interchangeable cable temples in polybag, one instruction booklet and one belt case.

Environmentally preferred materials: Environment friendly material should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements.

Design and Construction: Eyewear should provide resistance against ballistic impact and UV protection. The ballistic protection is provided by a size regular or large, one-piece lens with integrally molded side shields for lateral protection. The lens snaps fit into a multi-component frame with adjustable temples (side arms). The frame should be highly flexible so that it can sustain all the abusive 'handling in battle conditions. Solar protection is provided by interchangeable lenses that replace the standard clear lens.

Special protective eyewear cylindrical lens: The eyewear shall allow binocular and peripheral vision and provide impact resistance. The finished parts shall be free of sharp edges which could result in discomfort or abrasion to the face. The eyewear shall permit a soft snug and smooth operating fit with use of adjustable cable temples. The same lenses shall be interchangeable within the frame assembly.

Temples (Side Arms): The two components temples shall be interchangeable e with a provision of length adjustment. The temple end pieces shall be provided in an interchangeable spatula and cable-type configuration to provide a comfortable and secure fit depending upon user preference e or level of activity.

Nasal piece: The nasal piece shall lock securely to the eyewear lens. It shall have a means to maintain adjustments made during initial fitting. It shall be soft, smooth and flexible to enable fitting on nose bridge

Belt case: a hard vertical carrying case, which' shall have good performance characteristics between -20°F to +140°F, shall be mildew resistant, and shall incorporate ultraviolet inhibitors. The carrying case shall minimize dirt infiltration and scratching of lenses. Carrying case should be opaque olive green or black in colour and shall be non- reflective: it shall attach to a soldier's equipment belt, and shall not exceed 4 ounces in weight. It shall carry one complete spectacle, one spare lens with nasal piece, and one pair of interchangeable temples.

Instruction's booklet: An instructions booklet having detailed information about the eyewear including the method to assemble and disassemble the spectacle and maintenance shall be given along with the eyewear. It shall be small enough to enable packing in the eyewear belt case.

Communication gears and equipment's-compatible arms: Extendable arms or temples shall guarantee utmost comfort, equipment compatibility and stay-put fit. These must not hinder the wearing or use of communications equipment's and helmets.

Requirements of eyewear

S.No.	Characteristics	Specifications
1	Material (Military Grade Polycarbonate)	i- High quality military grade. ii-Meet or exceed ballistic military performance with impact resistance of at least 200 meters per second.
2	Lenses	i- One piece lens, which allows binocular vision. ii-Made of optical grade polycarbonate that can be "interchanged quickly for various light conditions and provide protection from harmful UV-A & UV-B radiations.
3	Design	Spectacle type with comfortable temple arms and an 'additional eyewear retaining strap. The frame should be highly flexible to sustain all the abusive handling in the battle ops.
4	Optics	Flawless optics, distortion free vision, full side impact protection and anti-fog performance
5	Size	Regular or large.
6	Tough (Abrasive resistant)	Scratch- resistant coating on both sides (i.e., front and rear) of lens.
7	Arms	1- Should not interfere with the placement of communication devices (like Bluetooth, etc). Should be flexible, strong, comfortable and firm. 2- Helmet compatible.
8	Weight	Light weight — weight should be 50 grams or below.
9	Color of frame	Black or Olive green or as per organizational requirement
10	Accessories	Interchangeable lenses, Cleaning Kit, Protective storage case, Instruction's booklet.

13. GAS MASK

The Standard for Gas Mask has been enacted as follows conforming to and in order to enforce the Industrial Safety and Health Law (Law No. 57 of 1972).

Contents

Article 1	Scope of application
Article 2	Type of gas mask
Article 3	Materials
Article 4	Test on strength
Article 5,6	Structure
Article 7	Performance tests

Supplementary Provisions

(Scope of application) Article 1

The standard issued in the Ministry of Health, Labour and Welfare Notification is applied to the gas masks which are categorized into those described in the left column of the following Table, according to the kinds of hazardous materials (including particulates which coexist with these gaseous materials) described in the right column of the same Table, among the gas masks to be used at the places where gases, vapors and particulates mixed with these gases or vapors may harm the human body by inspiring them. However, this standard is not applied to those gas masks used in places where oxygen concentration is below 18% or the concentrations of gases or vapors exceeds 2% (in case the gas is ammonia, the concentration exceeds 3%).

Category	Hazardous materials
Gas masks for halogens	Halogen gases or
Gas masks for organic	Organic compound
Gas masks for carbon monoxide	Carbon monoxide
Gas masks for ammonia	Ammonia
Gas masks for sulfur dioxide	Sulfur dioxide

(Type of gas mask) Article 2

Gas masks shall be categorized into the types described in the left column of the following Table, according to the form and the scope of application described in the right column of the same Table.

Type	Form and scope of application
Front or back mounted type gas	It is composed of a canister, a breathing tube, inhalation valve(s), a facepiece, exhalation valve(s), and head harness. Clean air filtered by the canister is inhaled from the inhalation valve(s) through the breathing tube, and exhaled air is exhausted from the exhalation valve(s) to outside atmosphere, and is used in the atmosphere where the concentration of the gases or vapors is less than 2 % (3 % for ammonia).

Chin-style gas mask	It is composed of canister(s), inhalation valve(s), a facepiece, exhalation valve(s) and head harness. Clean air filtered by the canister(s) is inhaled from the inhalation valve(s), and exhaled air is exhausted from the exhalation valve(s) to outside atmosphere, and is used in the atmosphere where the concentration of the gases or vapors is less than 1 % (1.5 % for ammonia).
Chemical cartridge respirator	It is composed of chemical cartridge(s), inhalation valve(s), a facepiece, exhalation valve(s) and head harness. Clean air filtered by the cartridges(s) is inhaled from the inhalation valve(s), and exhaled air is exhausted from the exhalation valve(s) to outside atmosphere. It is used in the atmosphere where the concentration of the gases or vapors is less than 0.1 %, and is not used for emergency.

2. Facepiece of gas masks shall be categorized into the types described in the left column of the following Table, according to the form described in the right column of the same Table.

Type	Form
Full-face	It covers whole face.
Half	It covers only nose and around mouth.

3. Gas masks shall be categorized into types with and without the function to filter particulate contaminants, and the gas masks with the function to filter particulates shall be categorized into S1, S2, S3, L1, L2, and L3, according to its performance.

(Materials)Article3

The materials to be used for each part of gas masks shall conform to the requirements described in the following each item.

1. The material used at the part tightly contacted with face must give no harm to the skin.
2. The inside of the gas filter must be composed of the material which is not corroded by filter material or must be surface-treated enough so that it is not corroded by filter material.
3. The filter material must give no harm to human body.
4. The material used must be strong enough not to be defected to give tear or distortion by ordinary application.

(Test on strength)

Article 4

The individual part of gas masks shall conform to the requirements described in the right column of the following Table, when it is submitted to the tests described in the middle

column of the same Table, according to the parts described in the left column of the same Table.

Parts	Tests	Requirements
Head harness and its mounting base of the facepiece Breathing tube of front or back mounted type gas mask and its mounting base of the facepiece	(Pulling Test) Each combination of head harness and its mounting base of the facepiece is pulled with tension force of 50 Newton for full-face type facepiece, with tension force of 25 Newton for half mask facepiece, and investigated whether breakage or separation is caused.	Breakage or separation on both parts must not be caused.

(Structure)Article 5

The structure of gas masks shall conform to the requirements shown in the following each item.

1. It must be not easy to break.
 2. It must be easy to wear, and not to give a pressed feeling or pain when being worn.
 3. The dead space must not be too large.
 - 4 It must not remarkably narrow the visual field of the wearer
- It must not remove narrow to visual ie. o t e wearer.
5. The gas mask having full-face type facepiece should not be dimmed at eyepiece(s) by exhalation.
 6. Those gas masks having replaceable canister(s) or cartridge(s), inhalation valve(s), exhalation valve(s) or head harness should be so designed that those replaceable parts are easily replaced.
 7. The air tightness between face and facepiece can be easily checked anytime by wearers themselves.

Article 6

The structure of individual part of gas masks shall conform to the requirements described in the right column of the following Table, according to the parts describe in the left column of the same Table.

Part	Requirements
Gas filter (Canister and Chemical cartridge)	<ol style="list-style-type: none"> 1. Filter material must be packed tightly and not exposed to outside. 2. It must be provided with filter material to capture particulates, if the gas mask has the function to prevent wearer's exposure to particulates.
Inhalation valve	It must work reliably and quickly even for weak breathing.
Exhalation valve	<ol style="list-style-type: none"> 1. It must work reliably and quickly even for weak breathing, at both wet and dry conditions of the valve and the valve seat. 2. When the inside and outside pressures of the gas mask is in equilibrium, the exhalation valve must be kept close tightly, whichever the facepiece is directed to. 3. It must be protected by cover or alike measures so that damage is not caused by forces given from outside.
Head harness	<ol style="list-style-type: none"> 1. It must have appropriate length and elasticity, and the length of harness must be easily adjusted.

Breathing tube	<ol style="list-style-type: none"> 1. It must have appropriate elasticity for expansion and contraction of length, and must cause no inconvenience in airflow when it is bent into variety of forms. 2. It must cause no problem in airflow when it is pressed by chin or arm. 3. The length must be long enough to cause no restriction of head movement.
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(Performance tests)Article7

The performance of gas mask (except canisters and cartridges) shall conform to the requirements described in the right column of the following Table when it is tested by the test procedures described in the left column of the same Table.

Test procedures	Requirements
(Test of air tightness)	No leakage shall be detected.
The air tightness of front or back mounted type gas masks, chin-style gas masks and chemical-cartridge respirators, is tested as follows. First, the exhalation valve(s) and the other end of a breathing tube connecting to the facepiece are closed for a front or back mounted type, or the exhalation valve(s) and the connection port(s) of a facepiece for canister(s) or cartridge(s) are closed respectively by putting a sealing piece(s), and then the facepiece is mounting onto a dummy head of the tightness test equipment. The facepiece is covered with a cloth wetted with an alcohol solution of phenolphthalein. Then, by sending air containing ammonia into the facepiece until the inside pressure reaches at 980 Pascal, color change of the cloth into red is investigated to find the parts where the air tightness is broken on the facepiece.	
(Test of inhalation resistance) This test measures the difference between inner and outer pressure of the facepiece putted on a dummy head during passing airflow at the rate of 40 liters per minute in the direction of inhalation. In this test, the canister(s) or cartridge(s) (involving inhalation valve(s) when the inhalation valves are attached to the canister(s) or cartridges(s)) are removed from the facepiece. When the gas mask has a breathing tube, the pressure difference is measured with the tube bent at 180 degree.	The pressure difference shall not exceed 70 Pascal for front or back mounted type gas masks, and 50 Pascal for chin-style gas masks and chemical cartridge respirators, respectively.
(Test of exhalation resistance) This test measures the difference between inner and outer pressure of the facepiece putted on a dummy head during passing airflow at the rate of 40 liters per minute in the direction of exhalation. In this test, the air passes for inspiration should be closed.	The exhalation resistance shall not exceed 80 Pascal
(Test of air tightness of exhalation valve at work) First, the exhalation valve with the valve seat is mounted on an air tightness test equipment, and then the decrease of the inner pressure of the valve is confirmed by drawing the inside air by a drawing pump at the rate of 1 liter per minute. Next, the inner pressure is adjusted at -1,470 Pascal against the atmospheric pressure, then the evacuation of the inner space of the valve is stopped, and then the time for the inner pressure to recover to the atmospheric pressure is measured. The capacity of the inner space of the exhalation valve seat shall be 50 cubic centimeters.	<ol style="list-style-type: none"> 1. The inner pressure must quickly decrease when the inner air is drawn. The time required for the inner pressure to be restored up to normal pressure must be longer than 15 seconds.

<p>(Test of carbon dioxide concentration increase in inspired air)</p> <p>In the atmosphere of $25 \pm 5^{\circ}\text{C}$, the facepiece is put on a dummy head with the dimensions described in the following picture, and the connected artificial breathing apparatus is driven at the rate of 15 times a minute and 2.0 ± 0.1 liters per stroke (The artificial breathing apparatus supplies exhalation air with 5.0% carbon dioxide.). During this procedure, the carbon dioxide concentration in the inspired air is measured until the concentration reaches a constant concentration. The same procedure is performed with the dummy head without a facepiece.</p> <p>Dummy Head (in mm)</p>	<p>The difference of carbon dioxide concentrations in the inspired air at the two conditions with and without the facepiece must be lower than 1.0%.</p>
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<p>(Test of inhalation resistance)</p> <p>This test measures the difference between inner and outer pressure of the facepiece put on a dummy head during passing airflow at the rate of 40 liters per minute in the direction of inhalation. In this test, the canister(s) or cartridge(s) (involving inhalation valve(s) when the inhalation valves are attached to the canister(s) or cartridges(s)) are removed from the facepiece. When the gas mask has a breathing tube, the pressure difference is measured with the tube bent at 180 degrees.</p>	<p>The pressure difference shall not exceed 70 Pascal for front or back mounted type gas masks, and 50 Pascal for chin-style gas masks and chemical cartridge respirators, respectively.</p>
<p>(Test of exhalation resistance)</p> <p>This test measures the difference between inner and outer pressure of the facepiece put on a dummy head during passing airflow at the rate of 40 liters per minute in the direction of exhalation. In this test, the air passes for inspiration should be closed.</p>	<p>The exhalation resistance shall not exceed 80 Pascal</p>
<p>(Test of air tightness of exhalation valve at work)</p> <p>First, the exhalation valve with the valve seat is mounted on an air tightness test equipment, and then the decrease of the inner pressure of the valve is confirmed by drawing the inside air by a drawing pump at the rate of 1 liter per minute. Next, the inner pressure is adjusted at -1,470 Pascal against the atmospheric pressure, then the evacuation of the inner space of the valve is stopped, and then the time for the inner pressure to recover to the atmospheric pressure is measured. The capacity of the inner space of the exhalation valve seat shall be 50 cubic centimeters.</p>	<p>2. The inner pressure must quickly decrease when the inner air is drawn. The time required for the inner pressure to be restored up to normal pressure must be longer than 15 seconds.</p>
<p>(Test of carbon dioxide concentration increase in inspired air)</p> <p>In the atmosphere of $25 \pm 5^{\circ}\text{C}$, the facepiece is put on a dummy head with the dimensions described in the following picture, and the connected artificial breathing apparatus is driven at the rate of 15 times a minute and 2.0 ± 0.1 liters per stroke (The artificial breathing apparatus supplies exhalation air with 5.0% carbon dioxide.). During this procedure, the carbon dioxide concentration in the inspired air is measured until the concentration reaches a constant concentration. The same procedure is performed with the dummy head without a facepiece.</p> <p>Dummy Head (in mm)</p>	<p>The difference of carbon dioxide concentrations in the inspired air at the two conditions with and without the facepiece must be lower than 1.0%.</p>

14. SWISS KNIFE

S.N.	Features	Specifications
1	Material	ABS/Stainless Steel
2	Dimension	9.1x2.6x2.1 cm
3	Weight	110±30 grams
4	Colour	Red or black
5	Included Components	1 Piece of 15-in-1 Multitool Pocket Knife
6	Strength Packaged into a Small Size: The Makers of the Original Swiss Army knife presents a Swiss made pocket knife with 15 functions.	

	Functions: 15 Tools include a large blade, small blade, can opener, screwdriver 3 mm, bottle opener, screwdriver 6 mm, wire stripper, reamer, punch and sewing awl, corkscrew, scissors, multipurpose hook, toothpick, tweezers and a key ring rolled into one. From a kit to use in emergency, to a tool that can fix any issue, here is a multi-utility Swiss knife
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15. TACTICAL EXPANDABLE BATON HARDEND STEEL BLACK

S.N.	PRODUCT NAME	Origin	COLOUR	SIZE	DIAMETER	MATERIAL	WEIGHT
1	Anti Riot Telescopic expandable baton with welding ring black	CHOWEY(China)	Black	26 closed position is 250mm Opened Position is 630mm	Handle- 9mm Middle tube- 17mm Small tube- 10mm	Steel Alloy	630 gm
2	Expandable baton / Telescopic baton	JIANGSU ECVV (CHINA)	Black grip. True Color of metal	Smallest length-200mm Extended length- 530mm	Grip-28mm mid tube- 16mm Front tube- 11mm	Steel	350 gm
3	Police Baton Anti Riot Telescopic Expendable Baton for Self Defence	SENKEN GROUP(CHINA)	Black Grip color of Metal	Smallest length-200mm Extended length-525mm	22mm	Steel	460 gm
4	Alloy Steel Police Truncheon Telescopic Baton Anti Riot Control Knot short Stick	YUANFAR INTERNATIONAL (CHINA)	Black	Smallest length-224mm Extended length-508mm	Grip-26.5mm mid tube- 20.5mm Front tube- 16mm	Alloy Steel	350gm

QUALITATIVE REQUIREMENTS FOR ANTI RIOT TELESCOPIC BATON

1. It should be compact & slim

2. Dimension:-(i) Length-Closed position-250 mm (+ or- 10%), Opened Position-630mm (+ or- 10%) (ii) Diameter- Handle-29 mm, Middle tube- 17mm, Small Tube-10mm
3. Should be light, maximum weight not to exceed 600gm (+ or- 10%)
4. It must have a safety locking mechanism to keep extended/retracted baton in place.
5. It must have a good quality rubber grip on handle and a wrist strap.
6. The body must be made of non corrosive metal alloy.
7. It should be non reflective and rust resistant.
8. It must be provided with a good quality holster with straps for carriage.
9. Minimum one piece is required for technical evaluation.

16. TACTICAL HANDCUFF

Double locking Mechanism

A mechanism which locks a handcuff pawl in an engaged position, and prevents the ratchet from advancing further in the closing direction.

Handcuff

A ring-shaped shackle for the wrist, usually one of a pair connected by a short chain or linked bar.

Pawl

A spring-loaded, pivoted bar which engages the teeth of a ratchet, permitting it to advance in the closing direction only.

Ratchet

A bar with inclined teeth designed to engage with a pawl. The ratchet is free to advance past the pawl in one direction of motion only.

REQUIREMENTS

User Information

The following items of information shall be among those supplied to the user by the manufacturer or distributor:

- a. Operating instructions
- b. Type of finish
- c. Weight
- d. Materials of construction
- e. Certification of compliance with this standard

Marking

All handcuffs shall be permanently and legibly marked as follows:

- a. Manufacturer's name or trademark and model number
- b. Serial number

Workmanship

The handcuffs shall be free from defects.

Weight

The weight of the pair of handcuffs shall not exceed 425 g (15.0 oz).

Dimensions

Each handcuff of each pair shall have a minimum opening of 50 mm (2.0 in) for insertion of the wrist. The inside perimeter of the handcuff shall be a minimum of 200 mm (7.9 in) when the ratchet is engaged at the first notch entering the locking mechanism. The inside perimeter of the handcuff shall be a maximum of 165 mm (6.5 in) when the ratchet is engaged at the last notch entering the locking mechanism. The maximum overall length of the pair of handcuffs shall be 240 mm (9.4 in).

Mechanical Strength

Each pair of handcuffs shall withstand a tensile force of 2200 N (495 lbf) for a period not less than 30 s when tested in accordance with paragraphs 5.6.1 and 5.6.2. The handcuffs shall not open under load, shall show no sign of permanent distortion or fracture and shall function in a normal manner* following these tests.

Salt Spray Corrosion Resistance

The handcuffs shall be subjected to salt spray for 12 h in accordance with paragraph 5.7. While the handcuffs may show some evidence of minor corrosion or discoloration as a result of the test, they shall show no substantial corrosion and shall continue to function in a normal manner.*

[*It is permissible for the ratchet and/or pawl to bind immediately following the test. provided that no more than 10 complete revolutions of the ratchet around the pivot eliminate the binding.]

Cheek Plate Tamper Resistance

Each handcuff having cheek plates shall be subjected to cheek-plate torque not to exceed 23.0 N m (204 lbf/in) in accordance with paragraph 5.8. If a cheek plate separates from the pivot pin of the handcuff, it shall not be possible for the ratchet to be removed from the pivot pin, by hand or with the aid of a screwdriver, and either disengaged from the pawl or displaced such that the locked handcuff may be placed on a person's wrist through the opening.

Technical Specification of VHF 50 Watt Mobile/ TURBO Repeater

Sl.	Particulars	Desired Specification
A	GENERAL	
1.	Frequency Range	136-174 MHz (full band)
2.	Indication	Separate LED indication of TX & RX and standby mode
3.	Protocol	TDMA digital technology to provide twice the calling capacity (02 slot)
4.	Channel capacity	16 or more
5.	Channel spacing	12.5 KHz/ 25 KHz for two voice slots in digital mode
6.	Frequency Stability	+/- 0.5 PPM or better
7.	Operating selection	Fully automatic for analog & digital in stand along & compatible analog /digital radio
8.	Operating Voltage	12 Volt DC (10.8 to 15.6 Volt DC)230V AC \pm 10%,50 \pm 1% Hz with float charger. Automatic switch over from AC to DC during mains failure.
9.	Interface	The IP site connect digital solution uses the internet to extend coverage of TRBO communication system, provides easy migration from analog to digital with the ability to operate in both analog and digital mode and utilizing the dynamic mixed mode
10.	Antenna Impedance	50 Ohm
11.	Duty Cycle	100%
12.	Weight	Less than 15kg
13.	Display	Indicator for transmission & receiving
14.	VSWR	Better than 1.5
15.	Protection	Battery reverse polarity, Negative ground & protection against VSWR
16.	EMI/EMC	TEC GR No. TEC/EMI/TEL-001/01/Feb 09 or equivalent international standard
17.	Types of operation	Repeater mode (semi duplex operation)
18.	TX/Rx Separation	5MHz minimum
19.	Output impedance	50 Ohm
B	TRANSMITTER	
1.	RF Power output	25 to 50 W (Programmable)
2.	FM modulation	11KOF3E
3.	Digital Modulation	4FSK
4.	Frequency deviation/modulation	\pm 2.5 KHz maximum for 12.5 KHz

	limiting	
5.	FM Hum& noise	-40db or better
6.	Adjacent channel power	-60db or better
7.	Audio Response	+1, -3db
8.	Digital Vocoder	AMBE+2
9.	Modulation/Audio distortion	<3%
10.	Spurious& harmonic response	Better than 70db
C	RECEIVER	
1.	Sensitivity	Analog : 0.30 micro V (12 db better SINAD) or better Digital : 0.30 micro V @ 5% BER or better
2.	Audio output	Minimum 500 m watt
3.	Adjacent Channel Selectivity	60 db or better as per TIA603A-1T
4.	Image Rejection	65db or better
5.	Inter Modulation distortion	70db or better
D	ENVIRONMENTAL	
1.	Operating Temperature range	-30°C to +55°C
2.	Storage Temperature	-30°C to +60°C
3.	Humidity	95% non-condensing (-20°C to +60°C)
4.	VRI	Dedicated Repeater

TECHNICAL SPECIFICATION

- (i) 6 db High Gain Antenna with 45 mtr co-axial feeder RG-217 with connectors for VHF Digital Repeater Set .

Sl.	Parameter	TECHNICAL SPECIFICATION
1	VHF 50 Watt Digital Repeater Radio	a) 6 db Antenna Metallic of reputed brand, OEM test certification to be attached b) Standard RG-217 Co-axial cable 45 mtr with connectors of reputed brand : Defense certification issued by any Govt. approved laboratory/U.P. Govt. approved laboratory.

- (ii) 12 Volt 15 Amp SMPS cum charger suitable for Digital VHF Repeater Set

12 Volt Power Supply for VHF Bi-Directional (Double) Repeater		
Sl.	Parameter	TECHNICAL SPECIFICATION
1	DC Current Capacity	15Amp: Max. output current 15 Amp

2	Type of Power Supply	SMPS/Linear
3	Input Voltage	230 Volt AC \pm 10% at 50Hz
4	Out Put Voltage	13.5 Volt DC \pm 5% on 80% load or better
5	Operation	Continuous Duty
6	Charging	Float and Boost
7	Protection	a)Short circuit protection b)Reverse Polarity protection
8	Efficiency	More than 80% for SMPS and more than 50% for Linear power supply
9	Weight	Less than 5 Kgs
10	Changeover	Automatic changeover to battery in case of mains power supply failure. Maximum charging current of 8 Amp for power supply with float charging facility along with float charging facility
11	Battery cable	Should be provided with power supply

Technical Specification for 25/50W Synthesized Digital Repeater Sets with Duplexer semi Duplex operation

Sl.	Particulars	Desired Specification
A	GENERAL	
1.	Frequency Range	136-174 MHz(full band)
2.	Indication	Separate LED indication of TX & RX and standby mode
3.	Protocol	TDMA digital technology to provide twice the calling capacity (02 slot)
4.	Channel capacity	16 or more
5.	Channel spacing	12.5 KHz/ 25 KHz for two voice slots in digital mode
6.	Frequency Stability	+/- 0.5 PPM or better
7.	Operating selection	Fully automatic for analog & digital in stand along & compatible analog /digital radio
8.	Operating Voltage	12 Volt DC (10.8 to 15.6 Volt DC)230V AC \pm 10%,50 \pm 1% Hz with float charger. Automatic switch over from AC to DC during mains failure.
9.	Interface	Ethernet port IP connectivity
10.	Antenna Impedance	50 Ohm
11.	Duty Cycle	100%
12.	Weight	Less than 15kg
13.	Display	Indicator for transmission & receiving

14.	VSWR	Better than 1.5
15.	Protection	Battery reverse polarity, Negative ground & protection against VSWR
16.	EMI/EMC	TEC GR No. TEC/EMI/TEL-001/01/Feb 09 or equivalent international standard
17.	Types of operation	Repeater mode (semi duplex operation)
18.	TX/Rx Separation	5MHz minimum
19.	Output impedance	50 Ohm
B	TRANSMITTER	
1.	RF Power output	25 to 50 W (Programmable)
2.	FM modulation	11KOF3E
3.	Digital Modulation	4FSK
4.	Frequency deviation/modulation limiting	± 2.5 KHz maximum for 12.5 KHz
5.	FM Hum& noise	-40db or better
6.	Adjacent channel power	-60db or better
7.	Audio Response	+1, -3db
8.	Digital Vocoder	AMBE+2
9.	Modulation/Audio distortion	<3%
10.	Spurious& harmonic response	Better than 70db
C	RECEIVER	
1.	Sensitivity	Analog : 0.30 micro V (12 db better SINAD) or better Digital : 0.30 micro V @ 5% BER or better
2.	Audio output	Minimum 500 m watt
3.	Adjacent Channel Selectivity	60 db or better as per TIA603A-1T
4.	Image Rejection	65db or better
5.	Inter Modulation distortion	70db or better
D	ENVIRONMENTAL	
1.	Operating Temperature range	-30°C to +55°C
2.	Storage Temperature	-30°C to +60°C
3.	Humidity	95% non-condensing (-20°C to +60°C)
4.	VRI	Dedicated Repeater

TECHNICAL SPECIFICATION

- (i) 6 db High Gain Antenna with 45 mtr co-axial feeder RG-217 with connectors for VHF Digital Repeater Set

Sl.	Parameter	TECHNICAL SPECIFICATION
1	VHF 50 Watt Digital Repeater Radio	a) 6 db Antenna Metallic of reputed brand, OEM test certification to be attached b) Standard RG-217 Co-axial cable 45 mtr with connectors of reputed brand : Defense certification issued by any Govt. approved laboratory/U.P. Govt. approved laboratory.

- (ii) **12 Volt 15 Amp SMPS cum charger suitable for Digital VHF Repeater Set**

12 Volt Power Supply for VHF Bi-Directional (Double) Repeater		
Sl.	Parameter	TECHNICAL SPECIFICATION
1	DC Current Capacity	15Amp: Max. output current 15 Amp
2	Type of Power Supply	SMPS/Linear
3	Input Voltage	230 Volt AC \pm 10% at 50Hz
4	Out Put Voltage	13.5 Volt DC \pm 5% on 80% load or better
5	Operation	Continuous Duty
6	Charging	Float and Boost
7	Protection	a) Short circuit protection b) Reverse Polarity protection
8	Efficiency	More than 80% for SMPS and more than 50% for Linear power supply
9	Weight	Less than 5 Kgs
10	Changeover	Automatic changeover to battery in case of mains power supply failure. Maximum charging current of 8 Amp for power supply with float charging facility along with float charging facility
11	Battery cable	Should be provided with power supply

TECHNICAL SPECIFICATIONS

Specification of Digital Transceiver VHF Static/ Mobile Set and accessories

Digital VHF Static/ Mobile Transceiver 25 Watt Synthesized		
Sl.	Particulars	Desired Specification
A	GENERAL	
1	Frequency Range	136-174 MHz (full band)
2	Protocol	TDMA (02 slot)
3	Channel capacity	255 or more
4	Channel spacing	12.5 KHz
5	Frequency Stability	+/- 1.5 PPM or better
6	Operating Voltage	12 Volt DC (10.8 to 15.6 Volt DC) 230V AC \pm 10%, 50 \pm 1% Hz with float charger. Automatic switch over from AC to DC during mains failure.
7	Interface	Ethernet/ USB/ RS232
8	Antenna Impedance	50 Ohm
9	Weight	Less than 2 kg
10	Display	Multifunction alphanumeric LCD display with back light/ LED display. Readable in day light, sun light and in night. Minimum Three rows or more.
11	Warranty	Standard warranty for 02 years
12	Compatibility	With all types of existing digital/ analog radios (i.e. Motorola, Kenwood, Icom, Vertex etc.)
13	Encryption	1- High grade 40 bit or higher Digital Encryption module built in/ plug in type for secrecy. 2- Programmable key management facility.
B	TRANSMITTER	
1	RF Power output	25 W \pm 0.5 dB as Programmable
2	Digital Modulation	4FSK
3	Modulation limiting	\pm 2.5 KHz
4	FM Hum noise	-40dB or better
5	Adjacent channel power	-60dB or better
6	Audio Response	+1, -3dB, as per TIA 603D
7	Digital Vocoder	AMBE+2
C	RECEIVER	
1	Sensitivity	Analog : 0.30 micro V (12 dB SINAD) or better Digital : 0.30 micro V @ 5% BER or better
2	Audio output	Minimum 3 watt with built in speaker
3	Adjacent Channel	60 db or better as per TIA603A-1T
4	Audio distortion	3% or better
5	Inter Modulation	70db or better

D	ENVIRONMENTAL SPECIFICATION	
1	Operating Temperature range	-30°C to +55°C
2	Storage Temperature	-30°C to +60°C
3	Humidity	95% non-condensing (-20°C to +60°C)
4	Applicable MIL standard	MIL standard 810 C/D/E/F/G
5	Applicable IP standard	IP 54/ IP57/ IP67
E	FEATURES	
1	Mode of Operations	Analog conventional, Digital conventional simple press to talk
2	GPS capability	<ul style="list-style-type: none"> • Inbuilt GPS with : TTFF Cold start<2 minutes TTFF Hot start<20 sec • Horizontal accuracy< 10 meters • GPS data access methods (a) by polling (b) by fetching (on request) • Vendor should mention-coordinate file Format Compatible with free map. Google map will be preferred for receiving and extracting GPS data/ information for the use of location tracking purpose. (PC required for GPS tracking is not part of BOQ.)
3	Status message and SMS text message facility	<ul style="list-style-type: none"> • Status messaging facility • Short and long data message facility • Messaging facility using PC's one to many radios
4	Data transmission facility	Text messaging (file transfer) facility must be demonstrated, using PC's through accessory connector. (PC required for GPS tracking is not part of BOQ.)
5	Protection	Reverse polarity protection. Protection against high VSWR
6	Radio Programming	PC programmable
7	Hand set with Mike	DTMF Front panel keypad with backlight
8	Signal Strength indicator	Receiver signal strength indicator or digital readout
9	OTAR	Should have provision for over the air frequency re-programming (wirelessly)
F	OTHER FEATURE	
1	Simple press to talk	
2	Alpha numeric list of 256 users for sending SMS & for selective calling	
3	Alpha numeric channel alias	
4	Alpha numeric PTT ID alias	
5	Facility to assign network access code, CTCSS (Continuous Tone Coded Squelch System)/ CDS (Digital Coded Squelch)	

6	Channel scan & priority channel scan
7	Call alert
8	Talk around mode
9	Transmitter Time Out Timer (TOT) operation
10	Emergency call Facility (SOS)
11	Selective call, group call
12	Late entry
13	Busy channel lock out
14	Capable to kill- unkill, disable –enable
15	Automatic number identification
16	Externally accessible accessory connector.(For connecting programming kit. Repeater interface, Data interface etc.)
17	Vendor shall mention other manufacturer's models of the radios which are inter portable for voice & data communication to the system offered.

12 Volt Power Supply for VHF Static/ Mobile radio		
Sl.	Parameter	TECHNICAL SPECIFICATION
1	DC Current Capacity	10Amp: Max. output current 10 Amp
2	Type of Power Supply	SMPS/ Linear
3	Input Voltage	230 Volt AC± 10% at 50 Hz
4	Out Put Voltage	13.5 Volt DC± 5% on 80% load or better
5	Operation	Continuous Duty
6	Charging	Float and Boost
7	Protection	a)Short circuit protection b)Reverse Polarity protection
8	Efficiency	More than 80% for SMPS and more than 50% for Linear power supply
9	Weight	Less than 5 Kgs
10	Changeover	Automatic changeover to battery in case of mains power supply failure along with float charging facility. Maximum charging current of 8 Amp for power supply with boost charging facility and 3 Amp for power supply with float charging facility
11	Battery cable	Should be provided with power supply

Antenna arrangements & Feeder for VHF radio		
Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver VHF Static radio, 25 Watt Synthesized	i) Standard 0dB GP Antenna, of reputed brand: OEM test Certification to be attached . ii) 6dB Antenna (Metallic) of reputed brand, OEM tests Certification to be attached.

		iii) Standard RG – 213 Coaxial cable, 30 meter with connectors of reputed brand: Defence certification issued by any Govt. approved laboratory UP Govt. laboratory to be attached.
2	Transceiver VHF Static radio, 25 Watt Synthesized	Standard 0dB gain ¼ wave mobile metallic antenna with 3 mtrs. Cable, connector with magnetic base of reputed brand: OEM test certification to be attached.

TECHNICAL SPECIFICATIONS

Specification of Digital Transceiver VHF Hand Held and accessories

Digital Transceiver VHF Hand Held Set		
Sl.	Particulars	Desired Specification
A	GENERAL	
1	Frequency Range	136-174 MHz (Split or full band)
2	Protocol	TDMA (02 slot)
3	Channel capacity	255 or higher (For display)
4	Channel spacing	12.5 KHz or better
5	Frequency Stability	+/- 1.5 PPM or better
6	Battery capacity	Preferably Li-ion/ Li-polymer rechargeable battery of 2000 mAh or higher capacity. Vendor shall mention DC Voltage. During capacity test, battery shall give 100% of its rated capacity if discharged by C/5 rate
7	Communication Interface	Ethernet/ USB/ RS232
8	Antenna Impedance	50 Ohm
9	Weight	Light in weight preferably less than 500 gm. Including accessories
10	Display	Multifunction alphanumeric LCD display with back light/ LED display. Readable in day light, sun light and in night. Minimum Three rows or more.
11	Warranty	Standard warranty for 02 years
12	Compatibility	With all types of existing digital/ analog radios (i.e. Motorola, Kenwood, Icom, Vertex and GPS of existing digital sets with department.)
13	Encryption	1 High grade 40 bit or higher Digital Encryption module built in/ plug in type for secrecy. 2 Programmable key management facility.
B	TRANSMITTER	
1	RF Power output	1 Watt to 5 Watt ± 0.5 dB Programmable
2	Type of Emission	Analog-11K OF 3E Digital-4 FSK or equivalent technique complying with open

		standards/ non proprietary digital protocol as define by international standard body like ETSI/FCC etc.
3	Digital Modulation	4FSK
4	Modulation limiting	± 2.5 KHz
5	FM Hum noise	-40dB or better
6	Adjacent channel power	-60dB or better
7	Audio Response	+1, -3dB, as per TIA 603D
8	Digital Vocoder	AMBE+2
C RECEIVER		
1	Sensitivity	Analog : 0.30 micro V (12 dB SINAD) or better Digital : 0.30 micro V @ 5% BER or better
2	Audio output	Minimum 500 mW
3	Adjacent Channel Selectivity	60 dB or better
4	Audio distortion	3% or better
5	Inter Modulation	70 db or better as per TIA603A-IT
D ENVIRONMENTAL SPECIFICATION		
1	Operating Temperature range	-30°C to +55°C
2	Storage Temperature	-30°C to +60°C
3	Humidity	95% non-condensing (-20°C to+60°C)
4	Applicable MIL standard	MIL standard 810 C/D/E/F/G
5	Applicable IP standard	IP57/ IP67
E FEATURES		
1	Mode of Operations	Analog conventional, Digital conventional simple press to talk
2	GPS capability	<ul style="list-style-type: none"> Inbuilt GPS with : TTFF Cold start<2 minutes TTFF Hot start<20 sec Horizontal accuracy< 10 meters GPS data access methods (a) by polling (b) by fetching (on request) Vendor should mention-coordinate file Format Compatible with free map. Google map will be preferred for receiving and extracting GPS data/ information for the use of location tracking purpose. (PC required for GPS tracking is not part of BOQ.)
3	Status message and SMS text message facility	<ul style="list-style-type: none"> Status messaging facility Short and long data message facility Messaging facility using PC's one to many radios

4	Data transmission facility	Text messaging (file transfer) facility must be demonstrated, using PC's through accessory connector. (PC required for GPS tracking is not part of BOQ.)
5	Protection	Reverse polarity protection. Protection against high VSWR
6	Radio Programming facility	PC programmable
7	Front panel Key pad	DTMF Front panel keypad with back light
8	Battery Strength indicator	Battery Strength bar indicator or digital readout, Beep alert for low battery
9	Signal Strength indicator	RSSI-Receiver signal strength indicator bar or digital read out
10	OTAR	Should have provision for over the air frequency re-programming (wirelessly)
11	Networking	Should be IP based for automatic roaming etc.
F	OTHER FEATURE	
1	Simple press to talk	
2	Alpha numeric list of 256 users for sending SMS & for selective calling	
3	Alpha numeric channel alias	
4	Alpha numeric PTT ID alias	
5	Facility for locking the channel or keypad (programmable)	
6	Facility to assign network access code, CTCSS (Continuous Tone Coded Squelch System)/ CDS (Digital Coded Squelch)	
7	Channel scan & priority channel scan	
8	Call alert	
9	Talk around mode	
10	Transmitter Time Out Timer (TOT) operation	
11	Emergency call Facility (SOS)	
12	Selective call, group call	
13	Late entry	
14	Busy channel lock out	
15	Capable to kill- unkill, disable –enable	
16	Any one of 2 tone/ 5 tone/ DTMF signaling	
17	Text message & pre defined messages	
18	Automatic number identification	
19	Vendor shall mention other manufacturer's models of the radios which are inter portable for voice & data communication to the system offered.	

BATTERY FOR VHF HAND HELD RADIO		
Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver VHF Hand Held, 1/5 Watt Synthesized	<p>i)Rechargeable Battery pack (original from OEM) of minimum 2000 mAH capacity, Li-ion or Li-polymer suitable for offered VHF hand held radio set ; Certificate from OEM to be attached.</p> <p>ii)All batteries should be mechanically and electrically interchangeable with the corresponding Transceiver model.</p> <p>iii)The battery capacity should not be less than the rated capacity when discharge at C/5 rate and at least 90% or better of the rated capacity when discharge at C rate.</p> <p>iv)Month & year of manufacture and the Logo / Trade mark of the OEM to be embossed / heat stamped. This Logo/ Trade mark is to be indicated in the offer .</p> <p>v)The sleeve of the cells used should preferably indicate the following:</p> <p>(a) Part Number</p> <p>(b) Month & year of manufacture</p> <p>(c) Voltage of cell</p> <p>(d) Capacity</p> <p>(e) Country of Origin</p> <p>vi)One battery pack may be cut open(generally 1 out of 500) at the time of inspection. Sample battery will not be part of BOQ.</p> <p>vii)Supplier should submit complete BIS test report as per IS 16046: 2012 or IS 16046: 2015 from authorized Govt. laboratory in reference of hand held batteries.</p> <p>viii)Enclose manufacturer certification in reference of part number of offered battery.</p>

Charger for battery pack of VHF Hand Held Radio set	
Sl.	TECHNICAL SPECIFICATION
1	Single Unit Battery charger from OEM of offered radio: Certificate from OEM to be attached
2	Input voltage: 230 Volt AC \pm 10% at 50 Hz
3	Output Voltage: As per the set rechargeable battery pack for which charger is supplied
4	Capable of charging battery packs of 7.2 V/ 7.4 V Li-ion or Li-polymer up to 3000 mAh capacity or better
5	Visual indication for all modes of charging status
6	Reverse polarity protection (DC input) should be provided
7	Reverse polarity protection (Battery terminal) should be provided
8	Short circuit protection should be provided
9	Battery Charging Rate at constant current: The battery charger should be standard type or rapid type. In case of standard type charger, the charging current shall not exceed 400 mA and for Rapid type it shall be within 1 Amp. The charging time shall be 6 to 14 hours for standard charger and 1 to 3 hours (for charging batteries up to 1800 mAh) or 2 to 4 hours (for charging batteries from 2000 to 3000 mAh) respectively for rapid chargers.

Supplier should submit complete BIS test report as per IS 16046 : 2012 or IS 16046 : 2015 from authorized Govt. laboratory in reference of Hand Held Batteries.

Enclose manufacturer certification in reference of Part number of offered battery.

1. TECHNICAL SPECIFICATIONS OF DESKTOP

S.No.	Features	Specifications
1	Processor	Intel Core i7 (12 th Generation) or latest
2	Chipset	Intel H/Q Series
3	Motherboard	OEM
4	Memory	Minimum 16 GB
5	Ports	USB port - 5 HDMI - 1 VGA - 1 Serial Port – 1 Ethernet (RJ–45) Port - 1
6	Primary Hard Drive	500 GB minimum (SSD)
7	Monitor	Minimum 21.5 inch Monitor
10	Cabinet Form Factor	Any
11	Optical Drive	Yes
12	Internal Speaker	Optional
13	Audio-in	Yes
14	Audio-out	Yes
15	Headphone out	Yes
16	Microphone-in	Yes
17	Wireless/ Bluetooth Connectivity	Optional
20	Power Supply	Any
21	Keyboard	USB Keyboard
22	Mouse	USB optical mouse
23	Operating System	Windows 10 Pro or latest
24	Security	Software / Hardware
25	BIOS	Updated
26	Warranty	Minimum 3 Years On-site OEM Warranty.

2. TECHNICAL SPECIFICATIONS OF UPS

S.No.	Feature	Specifications
1	Rating in KVA	1 KVA
2	Inverter Efficiency	70 % or above
3	Minimum guaranteed battery backup	30 minutes
4	Battery capacity	7 Ah
5	No. of batteries	Minimum 2
6	Protection	Under voltage protection & Over voltage protection
7	Warranty for the battery	Minimum 2 Years
8	Warranty for Line Interactive UPS	3 Years

3. TECHNICAL SPECIFICATIONS OF LAPTOP

S. No.	Features	Specifications
1	Processor	Intel Core i7 (12 th Generation) or latest
2	Chipset	H/Q series
3	Motherboard	OEM
4	Memory	Minimum 16 GB
5	Ports	4 USB 1 headphone/microphone combo 1 AC power 1 RJ-45 1 HDMI
6	Primary Hard Drive	500 GB minimum (SSD)
7	Display	14 inch or higher
8	Availability of Webcam integrated with Display	Yes
9	Number of Ethernet Ports	1
10	Wireless Connectivity	Yes
11	Bluetooth connectivity	Yes
12	Camera	HD privacy camera
13	Internal Speaker (Dual)	Yes
14	Microphone-in	Yes
15	Carry Case	Yes (Back Pack)
16	Keyboard	Premium Keyboard
17	Pointing Device	Clickpad with multi-touch gesture support, taps enabled as default
18	Power Supply	OEM
19	Battery Type	Integrated
20	Battery Warranty	3 Years
21	Form Factor	Standard
22	Operating System	Windows 10 Pro or latest
23	Security	Software / Hardware
24	BIOS	Updated
25	Warranty	Minimum 3 Years On-site OEM Warranty.

4. TECHNICAL SPECIFICATIONS FOR PRINTER

S.No.	Feature	Specifications
1	Functions	Print, Copy, Scan (Multifunction Printer)
2	Print Technology	Laser Technology
3	Type of Printer	Mono Printer (Black)
4	Control Panel	2 Line LCD or higher
5	Duplex	Two sided printing/Duplex printing
6	Paper Input Capacity	Minimum 150-sheet paper tray
7	Paper Size	Minimum A4
8	Print Speed	More than 30 PPM
9	RAM	512 MB or Higher
10	Ethernet	10/100 Base TX or latest
11	Wi-Fi	Optional
12	Print Resolution	600 x 600 dpi or Higher
13	USB Port	Optional
14	Bypass Tray Facility	Yes
15	Scan to email	Optional
16	Mobile print	Optional
17	Time to First Print	7 sec or Less
18	Warranty	Minimum 3 Year Onsite Warranty

5. TECHNICAL SPECIFICATIONS FOR WHITE BOARD

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Purpose	Writing
3	Mounting type	Wall Mount
4	Frame (All round framing)	With
5	Writing board placed on	Core material and its backing material
6	Frame material	Anodized extruded aluminum alloy hollow section designation 63400 conforming to IS 1285 (With latest amendment)
7	Core material	MDF board grade-I conforming to IS 12406 (with latest amendment)
8	Suitable for writing with	Dry marker
9	Dimension (mm x mm)	1200 x 1800

6. TECHNICAL SPECIFICATIONS FOR WHITE BOARD MARKER

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service ProviderPrivate Service Provider
2	Purpose	White board dry marker
3	Refilling	Yes
4	Pocket Clip	Yes
5	Type of Ink used in Markers	Dry safe
6	Type of Markers Tip	2 mm thick bullet type
7	Writing Colour of markers	Black

7. TECHNICAL SPECIFICATIONS FOR DUSTER

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Purpose	White board dry marker Duster
3	Type of Duster	Magnetic
4	Material of the Frame	Unbreakable Plastic
5	Marker Holder	One
6	Hand gripper	2 mm thick bullet type
	Length in mm* Width in mm	150mm*50mm
7	warranty in years	1 year

8. TECHNICAL SPECIFICATIONS FOR BRIEFING STICK

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Purpose	White board Stick (Hand holding a pointing stick on a White board Stock)
3	Type of	Mattel/Wood
4	Dimensions:	6510 x 5616 px 55.1 x 47.5 cm 21.7 x 18.7 inches

9. <u>TECHNICAL SPECIFICATIONS FOR BRIEFING LASER POINTER</u>		
S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none"> ● Government Service Provider ● Private Service Provider
2	Type	Desktop/Projector
3	Technology	CMOS
4	Resolution(pixel)	HD (1280 x 720)
5	Video Frame Rates (fps)	100
6	Optical Zoom	12
7	Focussing Arrangement	Manual
8	Lens Focal Length (mm)	30 mm
9	Light Source	White LED
10	Life Of Lamp used (Years)	3 year
12	USB Port (Number)	1
13	Full Function Remote Control	Yes
14	Light Box	Yes
15	Standard Accessories to be provided	Yes
16	Dimensions (mm x mm x mm)	38x134x28
17	On Site OEM Warranty (Years)	1-year

10. TECHNICAL SPECIFICATIONS FOR CHAIR PORTABLE

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Locking mechanism	With sheet metal
3	Seat and backrest made up of	Filled Thermoplastic
4	Shoe / glide material	Rubber glides
5	Design	Without Arm
6	Backrest panel	Curved with fully curled edge and spot welded to frame
7	Colour	Black/White
8	Chair finishing	Smooth and free from all surface defects
9	Number of Leg braces	4
10	Dimension	Open size - 850 mm X 500 mm approx. Folded size -1075 mm X 150 mm approx. Seat dimension - 400 mm X 400 mm approx. Seat height -450 mm approx.
11	Weight	3-4 Kg approx.
12	Warranty period in number of years	1-year

11. TECHNICAL SPECIFICATIONS FOR TABLE PORTABLE

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Type	Light weight and portable
3	Table top made up of	PVC plastic
4	Table top support and leg frame made up of	25 mm (16 guage) steel tube
5	Foot caps	Plastic glides fitted to the bottom of table legs
6	Construction (designed to provide balance, stability and support the ends of table)	Tubular steel construction
7	Weight of each table	8 Kg
8	Table top made up of	PVC plastic
9	Open size (length X depth X height)	1200 mm X 600 mm X 750 mm
10	Folded size (length X depth X height)	1200 mm X 600 mm X 50 mm
11	Thickness of Table top	3 mm
12	Colour	Brown/ White
13	Weight bearing capacity	100 Kg
14	Warranty period in number of years	1-year

12. TECHNICAL SPECIFICATIONS FOR EXTENSION BOARD POWER PLUG

S.No.	Features	Specifications
1	Types of Service Providers	<ul style="list-style-type: none">● Government Service Provider● Private Service Provider
2	Description of store	Electrical Box Extension
3	Number of Switch/sockets	5 Nos., 3 Pins 5/15 Ampere
4	Length of cable with extension box (in Meter)	5 and above
5	Material of box	ABS
6	Plugs and sockets in the Electrical box extension	ISI Marked to IS:1293
7	Switches in the Electrical box extension	ISI Marked to IS:3854
8	Material thickness (in mm)	2

M.T. SECTION

1-BUS SPECIFICATION

SR. NO.	PARAMETERS	SPECIFICATIONS
1	SEATING CAPACITY	32+D
2	AIR CONDITION	YES
3	BODY OPTION	FULLY BUILT
4	SUSPENSTION	PARABOLIC SUSPENSTION
5	WHEELBASE	4200 mm
6	ENGINE	New GEN 497 TCIC CRDI
7	POWER	90 TO 100 KW @2500 TO 3000 RPM
8	TORQUE	350 TO 400Nm @ 900 TO 2300 RPM
9	EMISSION NORMS TYPE	BS-VI
10	DISPLACEMENT	3500- 4000 cc
11	FUEL TANK CAPACITY	100-200 L
12	WARRANTY	4YEARS / 4 LAKH KM

2-TRUCK

SR. NO.	PARAMETERS	SPECIFICATIONS
1	SEATING CAPACITY	-
2	AIR CONDITION	NO
3	BODY OPTION	OPEN BODY
4	SUSPENSTION	PARABOLIC SUSPENSTION
5	WHEELBASE	4530 MM
6	ENGINE	3.3L OF, BSVI
7	MAXIMUM POWER OUTPUT(IN KW)	155 KW @ 2600 R/MIN
8	MAXIMUM TORQUE (IN NM)	450 NM @ 1400-2200 R/MIN
9	EMISSION NORMS TYPE	BS-VI
10	DISPLACEMENT/ CUBIC CAPACITY	3300 CC
11	FUEL TANK CAPACITY	160L

3- 26 सीटर बस स्पेसिफिकेशन (BDDS)

SR. NO.	PARAMETERS	SPECIFICATIONS
1	SEATING CAPACITY	26+D
2	AIR CONDITION	YES
3	BODY OPTION	FULLY BUILT
4	SUSPENSTION	PARABOLIC SUSPENSTION
5	WHEELBASE	3400 MM
6	ENGINE	4SP CR
7	MAXIMUM POWER OUTPUT(IN HP)	99 HP @ 2600-2800 R/MIN
8	MAXIMUM TORQUE (IN NM)	300 NM @ 1400-2200 R/MIN
9	EMISSION NORMS	BS 6
10	DISPLACEMENT/ CUBIC CAPACITY	2956 CC
11	FUEL TANK CAPACITY	60 L

4- SUV (LMV) SPECIFICATIONS-

SR. NO.	PARAMETERS	SPECIFICATIONS
1	SEATING CAPACITY	7
2	AIR CONDITION	YES
3	BODY OPTION	FULLY BUILT
4	SUSPENSTION	Double Wishbone Suspension with Coil over
5	WHEELBASE	2750 MM
6	ENGINE	M HAWK
7	MAXIMUM POWER OUTPUT(IN HP)	170-175BHP @ 3000-4000 rpm
8	MAXIMUM TORQUE (IN NM)	370Nm@1500-3000 rpm
9	EMISSION NORMS	BS 6
10	DISPLACEMENT/ CUBIC CAPACITY	2198 CC
11	FUEL TANK CAPACITY	55-60 L

5- APC TECHNICAL SPECIFICATIONS

SR NO.	PARAMETERS	DESCRIPTIONS	COMPLIED/ NON- COMPLIED
1	SEATING CAPACITY	DRIVER + 5 PERSONNEL WITH THEIR COMBAT LOAD	COMPLIED
2	AIR CONDITION	YES	COMPLIED
3	BODY OPTION	MODIFIED	COMPLIED
4	TYPE	4WD LIGHT ARMOURED VEHICLE	COMPLIED
5	POWER PACK	140 HP DIESEL ENGINE WITH 6 FWD COMPLIED 1 REV TRANSMISSION	COMPLIED
6	STEERING	HYDRAULIC POWER STEERING, RIGHT-HAND DRIVE, RACK & PINION TYPE	COMPLIED
7	PAY LOAD CARRYING CAPACITY	600KG	COMPLIED
BALLISTIC PROTECTION			
1	ALL SIDES	WILL BE PROTECTED AGAINST 7.62 X 51 MM BALL, 5.56 X 45 MM & 7.62X39 MM AT A DISTANCE OF 10 MM AT AN ANGLE OF 90°	COMPLIED
2	ROOF	WILL BE PROTECTED AGAINST 7.62 X 51 MM BALL, 5.56 X 45 MM & 7.62X39 MM AT A DISTANCE OF 10 MM AT AN ANGLE OF 45°.	COMPLIED
3	BOTTOM UNDER CARRIAGE	OCCUPANTS/PASSENGERS WILL BE PROTECTED AGAINST BLAST OF 2 NOS. HAND GRENADE HE 36 OR EQUIVALENT DIRECTLY UNDER THE VEHICLE..	COMPLIED
4	GUN PORTS	07 NOS. GUN PORTS WILL BE PROVIDED	COMPLIED
5	RFS	04 NO'S RFS (50 KMS) WILL BE PROVIDED.	COMPLIED
6	ROOF HATCH	01 NO ROOF HATCH WILL BE PROVIDED.	COMPLIED
7	FUEL TANK PROTECTION	FIRE SUPPRESSION MATERIAL IN FUEL TANK WILL BE PROVIDED TO PREVENT IT FROM ACCIDENTAL FIRE.	COMPLIED
SAFETY FEATURES			
1	DUAL AIRBAGS (DRIVER + CO DRIVER)	PROVIDED	COMPLIED
2	ANTI-LOCK BRAKE (ABS)	PROVIDED	COMPLIED
VEHICLE SHOULD BE CERTIFIED AS PER GOV. OF INDIA CENTRAL MOTOR VEHICLE RULES (CMVR)			
IT IS ABSOLUTELY NECESSARY TO HAVE A GPS SYSTEM IN VEHICLE			

6- INCIDENT COMMAND POST VEHICLE SPECIFICATION

SR.NO	PARAMETERS	QUANTITY
1	TRAVELLER BUS (AC)	1
2	SEATING CAPACITY	14+D
3	AIR CONDITION	YES
4	POWER	110-120HP@2500-3000 RPM
5	TORQUE	300-400@ 1400-2200 RPM
6	NUMBER OF SCYLNDER	4
7	ENGINE	FM 2.6 CR-ED
8	ENGINE CAPACITY	2500-2800 CC
9	FUEL TANK CAPACITY	60-80 Ltr
10	EMISSION NORMS	BS-6
11	BODY FABRICATION	1
12	AIR CONDITION FOR CONF. CABIN	1
13	GPS SYSTEM	1
14	SHELTER/TENT	3
15	SIGN BOARDS	10
16	LAPTOP WITH ADAPTER	1
17	METALLIC CHOKES	4
18	FOLDABLE STRETCHER	3
19	FIRST AID BOX	1
20	TELESCOPIC MAST LIGHT	1
21	REVOLVING CHAIRS	4
22	WALKIE TALKIE WITH ANTENNA SET (MOTOROLA EQUIPMENT)	4
23	LED MONITOR 32"	1
24	LED TV WITH VIDEO CONFERENCING	1
25	TV SET UP BOX	4
26	PTZ DAY NIGHT CAMERA	1
27	IP DOME CAMERA 2MP	1
28	INTEGRATION RECORDING CAMERA DVR	1
29	EQUIPMENT RACK 19"	1
30	GENERATOR 7 KVA	1
31	UPS 3.5 KVA +6 BATTERIES 12V 42 AHC	1
32	FIRE EXTINGUISHER	2
33	GSM GATEWAY WITH SIM	1
34	DISH TV ANTENNA	1
35	DRINKING WATER CONTAINER	1
36	16 PORT DVR	1
37	FOLDING TABLE	1
38	POWER CABLE 100M	1
39	IRON BOX	1
40	ROOFTOP CARRIER THULE	1
41	IPAD TAB	2
42	WIFI-ROUTER	1
43	ICS CORNET WITH ACCESSORIES	1

44	ICS ZETRON WITH ACCESSORIES	1
45	I-SAT PHONE	1

मैस पात्र (तकनीकी विशिष्टियां)

1. एल्युमिनियम भगोना बड़ा मय ढक्कन (80ली.)

Material	Aluminium
Shape	Round
Weight	22 kg. (Approx.)
Colour	Silver
Capacity	80 Litre
Diameter	28 inches (Approx.)
With Handle	Yes

2. एल्युमीनियम भगोना मध्यम मय ढक्कन (50ली.)

Material	Aluminium
Shape	Round
Weight	18 kg. (Approx.)
Colour	Silver
Capacity	50 Litre
Diameter	24 inches (Approx.)
With Handle	Yes

3. एल्युमीनियम भगोना छोटा मय ढक्कन (30ली.)

Material	Aluminium
Shape	Round
Weight	10 kg. (Approx.)
Colour	Silver
Capacity	30 Litre
Diameter	20 inches (Approx.)
With Handle	Yes

4. एल्युमिनियम परात बड़ी

Material	Aluminium
Weight	4-5 kg. (Approx.)
Colour	Silver
Shape	Round
Diameter	25-28 inches (Approx.)

5. एल्युमिनियम परात मध्यम

Material	Aluminium
Weight	3-4 kg. (Approx.)
Colour	Silver
Shape	Round
Diameter	15-20 inches (Approx.)

6. परात स्टील

Material	Stainless Steel
Diameter	35 cm, Height – 5 cm(Approx.)
Shape	Round

7. गैस चूल्हा जम्बो सेट

Material	Stainless steel
Use	Roti making
No. of Legs	4
Size/Dimension	24x42X34 inches (Approx.)
Certification	ISI Certified

8. गैस भट्ठी

Material	Stainless steel
Power Source	LPG
Weight	13.5 kg. (Approx.)
Burner	Single
Certification	ISI Certified

9. इमामदस्ता मूसल

Material	Iron
size	12.7 x 12.7 x 20.3 cm (Approx.)
Weight	8 kg (Approx.)
Colour	Black

10. कढाई लोहा बड़ी (70ली.)

Material	Iron
Shape	Round
Capacity	70 ltr.

Thickness	4 mm (Approx.)
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11. कढ़ाई लोहा मध्यम (40ली.)

Material	Iron
Shape	Round
Capacity	40 ltr.
Thickness	3 mm (Approx.)

12. प्रेशर कुकर (22ली.)

Material	Aluminium
Colour	Silver
Capacity	22 Litre
Dimension	47.7x 31.5 x 39.2 Centimeters (Approx.)
Closure Type	Inner lid
Weight	6900 gm (Approx.)
Certification	ISI Certified

13. प्रेशर कुकर (5ली.)

Material	Aluminium
Colour	Silver
Capacity	5 Litre
Dimension	22.9 x 43.2 x 20.3 Centimeters (Approx.)
Closure Type	Inner lid
Certification	ISI Certified

14. कढ़कस

Material	Stainless Steel
Colour	Silver
Shape	Square
Weight	450 Gram (Approx.)

15. चकला-बेलन सेट

Material	Wooden
Size	10 Inch Brown Wooden Chakla With 12 Inch Wooden Belan
Chakla Weight	650 Gram (Approx.)

Belan Weight	200 Gram (Approx.)
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16. फ्राई पेन

Material	Aluminium
Capacity	1 Ltr. (Approx.)
Item Weight	1200 Gram (Approx.)

17. डब्बू स्टील

Material	Stainless Steel
Dimension	19x9x9 Cm. (Approx.)
Item Weight	400 Gram (Approx.)

18. बाल्टी स्टील मय ढक्कन

Material	Stainless Steel
Shape	Round
Item Weight	1600 Gram (Approx.)
Capacity	15 Ltr. (Approx.)

19. चिमटा लोहा बड़ा

Material	Iron
Shape	Round
Item Weight	500 Gram (Approx.)
Size	18 inches (Approx.)

20. झरना लोहा बड़ा

Material	Iron
Shape	Round
Item Weight	400 gm (Approx.)
Diameter	15 inches (Approx.)
Handel length	32 inches (Approx.)

21. झरना लोहा छोटा

Material	Iron
Shape	Round
Item Weight	300 gm (Approx.)
	24 X 8 cm (Approx.)
Diameter	9 inches (Approx.)
Handel length	24 inches (Approx.)

22. करछुल स्टील(चमचा)

Material	Stainless Steel
Shape	Round
Item Weight	200 gm (Approx.)
Diameter	4 inches (Approx.)

23. पलटा लोहा

Material	Iron
Shape	Square
Item Weight	400 gm (Approx.)
Dimension	6x5 inches (Approx.)

24. डिनर सेट

Material	Porcelain/ bone china
Item Weight	13 kg. (Approx.)
Net Quantity	6 - Piece Full Plate, 6 - Piece Mini Veg Bowl, 6 - Piece Veg Bowl, 6 - Piece Quarter Plate, 2 - Piece Serving Bowl, 2 - Piece lids (For Serving Bowl), 6 - Piece Spoons, 1 - Piece Multiutility Bowl Total 35 (Approx.)
Colour	White

25. टी कन्टेनर

Material	Stainless steel
Capacity	20 ltr. (Approx.)
Item Weight	3-4 kg. (Approx.)
Item Dimension (DxH)	12 x 20 inches (Approx.)

26. वाटर जग कैम्पर

Material	Plastic
Capacity	19 ltr. (Approx.)
Item Weight	2 kg 870 gram (Approx.)
Item Dimension	32.5 x 32.3 x 41.2 Centimetres (Approx.)

27. डस्टबिन 100 ली.

Material	Plastic
Capacity	100 ltr.
Item Weight	16 kg (Approx.)
Opening Mechanism	Open-top

28. कैश रोल 20 ली.

Material	Stainless Steel
Capacity	20 ltr.
Item Weight	5 kg 500 gram (Approx.)

29. चाकू

Material	Stainless Steel
Weight	75-100 Gram (Approx.)

30. इलेक्ट्रॉनिक वेट मशीन 50 कि.ग्रा. क्षमता

Material	Metal
Weight Limit	50 kg.
Item Weight	6.5 kg. (Approx.)
Dimension	36.8 x 35.4 x 22.2 cm (Approx.)
Special Feature	Backlit Display, Auto Calibration

31. मिक्सर

Material	Polycarbonate
No. of jars	3
Power	900W
Blade material	Stainless Steel
Capacity	1.5 Cubic Inches (Approx.)
Product Dimensions	23x49x36 Cm (Approx.)

32. गैस सिलेण्डर

Body Material	stainless steel and composite materials.
Gas Capacity	14.2 kg.

33. डीप फ्रीजर

Body Material	Metal
Capacity	805 Ltr. (Approx.)
Door	Double Door
No. of Baskets	2
Wheel	Yes
Temperature Range	<-18°C (freezer), 0-7°C (Cooler)
Energy Efficiency Rating	5 Star
Weight	93.5 kg. (Approx.)
Item Dimensions	85.7 x 184.8 x 96 Cm. (Approx.)

34. आटा गूथने वाली मशीन

Body Material	Stainless Steel
Capacity of bowl	50 - 70 kg
Arm Speed	1400±50 rpm
Power	1500 watt
Voltage	Single Phase 230 V
Arm shaft Motor location	Bottom
Dough Material Mechanism	Rotating arm only
Warranty	2 Years
Warranty of motor	1 Years

35. फ्रीज

Body Material	Stainless Steel
Capacity	345±5 Litres
Machine Weight	65±5 kg.
Energy Efficiency Rating	5 Star
Door	Double Door

36. आर.ओ. विद चिलर सिस्टम

Body Material	Stainless Steel
Cooling Capacity	70±10 Litres/Hour
Width	710±45 mm
Depth	530±45 mm
Height	1160±20 mm
Number of Taps	2
Water Capacity	100±20 Litres
Weight	55±10 kg.
Compressor	Rotary

37. थाली स्टील

Body Material	Stainless steel
Diameter	18 inch (Approx.)
Width	4 mm (Approx.)
Weight	350-400 grams
Type	Steel Partition Plate

38. ग्लास स्टील

Body Material	Stainless steel
Capacity	300 ml. (Approx.)

39. चम्मच स्टील

Body Material	Stainless steel
Type	Medium Spoon