ADVANCE LIFE SUPPORT & BASIC LIFE SUPPORT

AMBULANCES

(1): SCHEDULE OF REQUIREMENTS

No	Item	Quantity
1	**Advance Life Support Ambulance Wide Body & High Roof**	10
2	**Basic Life Support Ambulance**	90

(2) TECHNICAL SPECIFICATIONS

General Vehicular Design and Floor Plans

This ambulance should be either of international designated testing authority approved Monocoque design manufacturer.
The ambulance should be designed, built and complete with operating accessories as specified herein. The assembly, sub-assembly and equipment should be integrated in such a way so as to enable the vehicle function in a reliable way and in a sustained fashion with durability and ensuring safety and comfort to patient and team.

The design of the vehicle and the specified equipment shall permit accessibility for servicing / replacement and adjustment of components / parts and accessories, with minimum disturbance to other components and systems. Also, the bidder shall ensure that sufficient reinforcement is provided to protect the components, assemblies, pipelines, tubing, wirings, etc. which are susceptible to damage / hazards encountered during on-road, off road operations of ambulance.

The emergency medical care vehicles, including base vehicle, equipment, devices, medical accessories and electronic equipment should be brand new standard commercial products, tested and certified to meet or exceed the these specifications. The bidder should enclose all necessary brochures, certifications and proofs in this regard along with the technical bid. The technical bid evaluation committee shall base its opinion on the enclosed documentary proofs with regards to compliance with the specifications asked for and may summarily reject the technical bid if adequate supporting documents are not enclosed with the technical bid or any of the furnished documents are found to reflect factually incorrect information. The technical bid evaluation committee reserves the right to ask for additional information if necessary.

Vehicle Operation, Performance and Physical Characteristics

To provide for maximum safety, the manufacturer shall locate vehicle mounted components, equipments and supplies in such a way so as to provide a vehicle that is laterally balanced and has front / rear loading that is proportional to axle loading.

A tolerance of ±5% shall be permissible in all dimensions / values mentioned in this document except in case of statutory requirements or parameters critical for patient care.

Transmission: Manual, 5 speed,
Power assisted side mirrors
Brake Front: Disc: Brake Rear: Drum or Disc
Front suspension: Coil springs Rear suspension: leaf springs
Tank Capacity: 90 litres+ sub tank 40 Litres (Basic Life Support Ambulance)
: 70 Litre (Advance Life Support Ambulance)
Air bags (D+P).

Overall Dimensions

The overall length of the ambulance should **not exceed 5500mm**, excluding rear steps and bumper guard.
The overall width of the ambulance should **not exceed 2000mm**, excluding mirror, lights and safety accessories.
The overall height of the ambulance should **not exceed 2800mm** including roof mounting equipment (viz. A/c etc) and excluding Radio Antenna.

Engine:
Mount: Front Longitudinal
Fuel Type: **Diesel**
It should be possible to maintain a sustained speed of 90 km/hr for the complete homologated ambulance with air-conditioning on & all equipment, fitments & occupants loaded over dry, hard surfaced, level roads. It should produce minimum 75BHP power and should be able to accelerate the complete homologated ambulance from 0 km/h to 70 km/h within 40s, when tested in accordance with International Standards, Water cooled,

Steering:
Ambulance should be fitted with power assisted steering system, for easy and comfortable steerability of the vehicle at low and high speeds.
Left Hand Drive Power Assisted Steering, Rack and pinion

Tyres:
The tyres fitted on the ambulance as per the type approval of the designated testing agency at the time of homologation, appropriate for the finished vehicle's load, speed performance and durability. A spare wheel should be housed at appropriate place and indicated. The access to the spare wheel should be from outside the patient compartment. In case the spare wheel is located below the ambulance floor, a suitable mechanism should be provided to enable quick access without removing the rear footstep.

Suspension:
The suspension should be suitably reinforced if required to provide adequate ride comfort for the occupants.

Wireless & GPS System:
Suitable provision to be made for fitment of wireless and GPS equipment on all the vehicles including electrical requirements. The purchaser will provide the wireless and GPS instruments to be mounted on the prototype.

Body Structure:
Ambulances of Monocoque or chassis ladder design.

In case of ambulances built on chassis based vehicles, the exterior construction of patient compartment should be of joint less single panel and the driver cabin should be fully integrated with the patient compartment. Ambulance body, as a unit, shall be designed and built to provide impact and patient compartment penetration resistance and shall be of sufficient strength to support the entire weight of the fully loaded vehicle on its top or side, if overturned, without separation of joints or permanently deforming roof bow or reinforcements, body posts, doors, string- ers, floor,

inner linings, outer panels, rub-rails, and other reinforcements. The exterior of the body shall be finished smooth with symmetrically radius corners and edges. Wood, or wood products, shall not be used for structural framing.

Patient Compartment:

Patient Compartment volumetric space shall be sufficient in size to transport occupants and accommodate / store all equipment & fitments specified.

The length of the patient compartment measured from partition to the inside edge of the rear loading door at the floor level shall be at least 3100 mm.

The minimum width of the compartment when measured at the centre point of the patient compartment shall be not be less than 1500mm and should provide 460 ± 150mm clear aisle walkway between stretcher / cot and the base of squad bench, with the cot located in the street side (non-centred) position.

An access window between Driver's Cabin and Patient Compartment should be provided at appropriate location for visual checks and voice communication between the cabin and patient compartment. This window should be latch able from the patient cabin side and should be transparent, shatter proof and shall have adjustable opening.

The interior panelling of the patient compartment including sidewalls, partition between patient cabin and driver cabin, roof, door panels and all other surfaces in the patient compartment should be made from long life superior quality. There should be PUF / PU insulation, minimum 12 mm thick between the outer and inner panels of these vehicles for reduction of heat and noise within the patient compartment. The insulating material should be non-toxic, non-settling type, vermin proof, mild dew proof and non-hygroscopic.

Adequate provision for storage of medicines/consumables/equipment should be made by providing lockable cabinets & drawers. These should be made from non-wood & non-ferrous fire retardant material in sync with the ambulance's internal look and feel. The drawers should be on guide ways &should be provided with appropriate self-restraining mechanism to arrest the inadvertent opening of the unlocked drawers unless pulled while the vehicle is in motion. One number of drugs storage console with at least 40 individual bins should be provided in easy reach of paramedic when seated. These bins must permit the user to take out the drugs without removing the bin & should be secured firmly to avoid drugs or bins from falling when the ambulance is in motion.

The floor (except the wheel humps) should be flat, anti-static & should be finished with minimum 2mm thick two component PU coating with anti-scratch treatment or 2mm thick Anti-skid PVC vinyl matting or FRP / ABS with Anti-skid coating.

Door: There shall be a 'two leaf' divided rear door or 'flap type' rear door at the rear end of the patient compartment for entry and exit of personnel as well as loading and unloading of the ambulance cot. This door shall not be less than 1170mm in height with minimum width of 1120mm and the door opening should be side-ways or bottom to top. Each door should be hinged at least at two places and should have firm latching provision. It shall be capable of being positively restrained in the open position. A "Door-Open" warning device shall signal (indicate in the cab) when doors are not closed. Each door shall have effective compression or overlapping seals to prevent leakage of exhaust fumes, dust, water, and air.

The opening of the door should be possible from inside and outside at all times. Under no condition, during travel mode, this door should open on its own.

The doors of the patient's compartment shall be fitted with an appropriate mechanism to enable the following:

- lock and unlock from inside without use of a key;
- lock and unlock from outside with use of a key;
- unlock from the outside using a key when the door is locked from the inside

Windows: In the patient's compartment, there shall be a minimum of two external windows. There shall be one on each side or one on the side and other at the rear. The windows shall be positioned or screened to ensure patient's privacy when required. Windows shall be fitted with safety glasses complying with the requirements of international standards.

Ambulance Cot as per specifications detailed in this document should be provided for the primary patient.

A foldable seat for the Doctor/Paramedic should be installed facing towards the rear of the patient compartment & it should be near to the primary patient's head for easy accessibility. This seat should have adequate restrains for the passenger and should be fitted with foldable arm rests.

A Squad bench with backrest suitable to accommodate minimum four sitting patients or folding/scoop stretcher shall be installed along the side wall. The squad bench should be upholstered with waterproof washable cover and should have adequate restrains for the sitting patients as well as the stretcher.

Grab Rail made of stainless steel pipe with proper support / fixing, for ease in entering shall be installed in the ceiling. Minimum two IV hooks or holders to be provided at suitable locations to ensure proper patient care.

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Dust Bin
Concealed portable dust bins for waste disposal should be provided at suitable locations.

Fire extinguisher
Two numbers of multipurpose fire extinguishers of ABC Type duly filled should be provided. One fire extinguisher shall be placed in the Driver's cabin and the second in patient's compartment, at appropriate location, where it is easily visible and symbolized.

All fitments/equipment/outlets/switches/storage spaces, etc in the patient compartment should be permanently& clearly labelled in English. The font used should be easily readable and in contrasting colour of the background.

Oxygen Delivery System

The ambulance shall have piped medical oxygen system (manifold) capable of storing and supplying medical grade oxygen. The manifold should have two oxygen cylinders which should be at least B-type. All oxygen cylinders being used in the ambulance including the portable cylinders.

The cylinders attached to the manifold should be individually changeable from outside the patient compartment and a cylinder changing wrench should be housed at an appropriate location. The manifold should be so designed that it shall ensure proper fixation of cylinders during travel and should ensure easy cylinder changing and positioning.

Minimum two medical oxygen outlets for the primary patient, flush with right side wall (distance between patient head and oxygen outlets to be less than 890mm) to be provided.

The oxygen outlets should be universal in design to be able to accommodate the probe of the oxygen flow-meter and the probe of the driving gas hose of the ventilator directly in one single action without any intermediate connectors and adapters.

Noise

Noise testing of patient compartment will be as per international standards.

Air-Conditioning

The AC unit should be installed at a suitable location in the patient cabin to ensure there is no congestion in the driver/patient cabin. With all windows & doors closed, the system should be capable of lowering the cabin temperature to a maximum of 26 degrees Celsius within 30 minutes from 35 degrees Celsius ambient temperature. The gas used for Air conditioning should be environment friendly as per International regulatory requirements. The engine idling rpm should be so designed and tuned to fulfil the requirements of AC Unit.

Siren

All siren loudspeakers have to be mounted on the front of the vehicle. Hidden installation is allowed. The main sound direction must be in driving direction. The frequency range must be at least one octave and should be between 500Hz and 2.000Hz. An additional electronic air horn can be used. Further there should be a public address system that can be worked at all times ergonomically from the driver's seat. The siren switch can only be used if the warning lights are on.

Exterior Special Lighting and Illumination

The ambulance should have the following lighting fitments (12V):

- LED based flashing lights with top red lens having minimum four LED flashers visible on both sides of the ambulance (integrated or enclosed in a light bar) mounted on the roof top. The LED flashers should flash cyclically using appropriate flashers.
- At least two LED flashers & one spot lamp on both sides of the ambulance as well as two flashers & a rear loading lamp on the rear wall of the ambulance mounted at the highest position feasible. (The rear loading light shall automatically be activated when rear doors are opened.)

Interior Patient Compartment Illumination:

There should be diffused flicker free automotive grade (12V, minimum 4000 deg Kelvin) lighting in the patient compartment. All interior lighting shall be flush mounted and should not get loose or fall down during vehicle movement or vibration. Normal white illumination within the patient compartment without outside ambient light shall not be less than 100 Lux (lx) when measured along the centreline of the clear floor; and 150 lx on at least 90% of the surface area of the primary patient cot. At least one patient compartment light and rear loading lamp shall be automatically activated when the patient compartment rear doors are open.

Electrical System

The electrical system should be of uniform specification across all Advance Life Support & Basic Life Support Ambulances. There shall be two independent forward electrical circuits in the ambulance: the Original Equipment Manufacture-Base Vehicle Circuit and the non- Original Equipment Manufacture-Base electrical circuit. At no point shall the forward Original Equipment Manufacture-Base base vehicle circuit be tampered with to provide for any non- Original Equipment Manufacture-Base electrical load requirements.

Each ambulance should have additional 'supplementary battery(s)' sufficient enough to power the non- Original Equipment Manufacture-Base electrical load requirements of the homologated vehicle. These batteries should be located at a suitable location outside the patient compartment and should be automatically charged by the vehicle alternator while the vehicle is on and via 220V external AC supply if connected when stationary. The alternator of the base vehicle should have the current rating which is at least 10% higher than the peak current consumption of the fully equipped ambulance. (Including current for charging of the batteries, running of air conditioning system as well as all the medical and non- medical devices, etc.)

A permanently fitted automotive grade battery charger should be provided to enable charging of the supplementary batteries via external 220V AC supply whenever connected.

Adequate number of power receptacles / connections should be provided in the patient compartment to simultaneously power all the equipment's & fitments asked for in this document. The mountings of all electrical outlets shall be sturdy enough to handle wire/plug pressure and vibrations during transit. There should be at least one free automotive grade 12V DC receptacle provided in the patient & driver compartment each at an easily accessible location.

All switches, connectors, end-wiring should be rated to carry out minimum 125 % of their maximum ampere load. All wiring should confirm to international standards specification.

Electrical panels that are accessible to accidental contact shall have a protective cover, shield, and so forth, to prevent shorts that can result in injury, fire, or damage to the electrical system.

Electrical wiring and components shall not terminate in the oxygen storage compartment except for the oxygen controlled solenoid, compartment light, and switch plunger or trigger device. Wiring necessarily passing through an oxygen compartment shall be routed in a metallic conduit.

Radio Frequency Interference (RFI)

The ambulance electrical / electronic and mechanical equipment in running mode / on condition, should meet the Radio Frequency Interference standards.

Emblems, Marking & Colour Scheme

Complete body exterior should be uniform white in colour. All external marking should be retro-reflective in nature and materials used for the same should meet or exceed the requirements of international standards.

Guidelines in regards to Emblems and Markings for Ambulances issued by the Government from time to time shall be applicable. However, the quality parameters of the markings indicated above shall remain constant.

Operating Manuals, etc.

Comprehensive User Manual/s written in simple English with detailed parts description, operating instructions, service contact numbers, etc for the Base Vehicle, Patient/Driver Compartment Equipments, Fittings, etc shall be provided. These should be printed on high quality paper and housed in water-resistant pouches.

Laminated sheets, clearly showing the Patient and Driver Cabin Layout with location of equipment, fittings, switches, consumables, etc suitably depicted should be fixed in the patient and driver cabin at suitable locations. Laminated sheet showing the non-Original Equipment Manufacture electrical wiring diagram complete with location of various fuses and circuit breakers should be displayed in the vehicle at a suitable location.

Layout Drawings

Sample drawing showing the layout of patient cabin for Advance Life Support / Basic Life Support Ambulance is attached along with. This drawing is indicative of an ideal ambulance layout

and the bidders should adhere to this guidance in consonance with the above detailed specifications as regards the location and positioning of various medical equipment & patient care ergonomics while adapting the remaining fitments to their vehicle dimensions. Any dimension/fitment/equipment depicted in the sample drawing and not asked for in this tender document maybe ignored.

The bidders **MUST** provide 2D & 3D rendered drawings for all types of quoted ambulances showing location of various components, sub-assemblies for structure, interior layouts, fitment of oxygen system components, layout of seats & furniture, medical equipments, non- Original Equipment Manufacture electrical system layout, etc along with the technical bid.

Equipment for Advance Life Support & Basic Life Support Ambulance

All equipment & accessories being used in the ambulance including those in the Oxygen Delivery System should be US Food and Drug Administration (FDA) or European CE certified (where ever mentioned in the Technical Specification & Copy of the certificate to be enclosed along with the technical bid).

Ambulance Equipment List:

No	Requested equipment	Ambulance Type
1	Ambulance stretcher	Advance & Basic
2	Spine Board	Advance & Basic
3	Scoop Stretcher	Advance & Basic
4	Wheel Chair	Advance & Basic
5	Defibrillator / Monitor with Recorder	**Advance Only**
6	Pulse Oximeter	Advance & Basic
7	Semi-automatic External Defibrillator	Advance & Basic
8	Transport Ventilator	**Advance Only**
9	Oxygen Flow Meter with Humidifier	Advance & Basic
10	Suction Pump (Manual & Handheld)	Advance & Basic
11	Suction Pump (electronic)	Advance & Basic
12	Self-inflatable Resuscitation Bags	Advance & Basic
13	Mouth to Mask ventilation device	Advance & Basic
14	Oxygen Cylinder	Advance & Basic
15	Laryngoscope with blades	Advance & Basic
16	Syringe Infusion Pump	**Advance Only**
17	Nebulizer	Advance & Basic
18	Handheld Glucometer	**Advance Only**
19	Stethoscope	Advance & Basic
20	BP Apparatus (Manual)	Advance & Basic
21	Pupillary Torch	Advance & Basic
22	Needle Sharp Container	Advance & Basic
23	Thermometer (Digital)	Advance & Basic
24	Pneumatic Splints	Advance & Basic
25	Cervical Collars	Advance & Basic
26	EMT Shears	Advance & Basic
27	Artery Forceps 6"	Advance & Basic
28	Toothed Forceps 6"	Advance & Basic
29	Magill's forceps	Advance & Basic
30	Kidney Tray	Advance & Basic
31	First Aid Kit Bag	Advance & Basic
32	Search Light	Advance & Basic
33	Rescue Equipment	Advance & Basic

Price list of all consumables, accessories & spares valid for a period of 2 years must be furnished along with the technical bid. (These prices will not be taken into account during the technical or financial bid evaluation)

Unless specified otherwise, all the following equipment have to be supplied in both Advance Life Support & Basic Life Support Ambulances. If multiple makes & models are quoted in the technical bid for any item, all makes & models must be fully compliant with the tender specifications.

1. **Ambulance stretcher**
    - Roll-in Self Collapsing Ambulance stretcher
    - The Ambulance stretcher including all accessories should be international standards.
    - The stretcher should be supplied with an fixation system.
    - The stretcher assembly excluding the mattress & other accessories should be less than or equal to 50kg in weight.
    - The stretcher should load seamlessly and no manual intervention vis-a-vis the locking mechanism, wheels, etc should be required after loading in the ambulance to close the rear doors.
    - Should have at least three strap-type restraining devices (chest, hip, and knee) to prevent longitudinal or transverse dislodgment of the patient during transit.
    - Should be supplied with suitable accessories to fix the supplied portable oxygen cylinder
    - One number of folding IV Poles should be provided
    - The stretcher mattress should be water proof and upholstered with fire proof material.
    - The stretcher should be able to be guided in and out of the ambulance without any part of the stretcher (including the legs) striking any part of the ambulance body including the rear footstep. The loading angle of the stretcher should not be more than 16 degrees. If required, a suitable loading platform (not necessarily be made of ABS) may be provided to ensure the same.

2. **Scoop Stretcher**
    - Net weight: <10 Kgs
    - To be supplied with a mountable & detachable ‘Double Head Immobilizer’

3. **Spine Board**
    - Should be X ray & MRI compatible

4. **Foldable Carrying Chair (Wheel Chair cum Stair Chair)**

    - Net weight : less than 10 Kgs
    - Pull through, telescoping long handles built in to lift patients & carry them through narrow passages.

5. **Bi-Phasic Defibrillator cum Cardiac Monitor with Recorder (Advance Only)**
    - Wall Mounted, Transport defibrillator cum Cardiac Monitor
    - It should be supplied with an international certified fixation system.
    - Manual & AED Capabilities.
    - Minimum 6.5 inches Colour LCD Display
    - Should be able to deliver shock from 2-200 joules through biphasic technology.
    - Should have charging time up to 200J in less than 6 seconds with a new fully charged battery
    - Should have 12 lead interpretative ECG and synchronized cardio version built in.
    - Integrated Multi Parameter Monitor with the following parameters:
    - NIBP -Adult and Paediatric
    - SpO2 - Adult & Pediatric (Masimo or Nelcor or FAST SpO2 Sensors).
    - EtCO2
    - Heart Rate
    - 12 Lead ECG
    - The ambulance wall mount should be EN 1789 Certified and should have a built in charger with integrated DC charging module to directly charge the internal batteries of the device from the 12V ambulance batteries as soon as the device is placed on the bracket.
    - Should have an integrated battery backup of at least 30mins
    - Should be supplied with all adult and paediatric accessories & cables
    - At least 10 units of all consumables like electrodes, paper rolls, etc. must be supplied along with.
    - Should be European CE or US FDA certified

6. **Pulse Oximeter**
    - Fingertip pulse oximeter with integrated colour OLED Screen
    - Screen should display SpO2 & Pulse Rate
    - Should be suitable for Paediatric & Adult use
    - Should have built in Alarms for low saturation, low battery, etc.
    - Should be powered with standard AA or AAA batteries
    - Should have auto power down feature when not in use.
    - Should be supplied with appropriate batteries and storing case.

7. **Semi-automatic External Defibrillator:**

- Should have the ability to analyse rhythm automatically and shock should be delivered manually after due warning.
- Should have voice prompts in English
- Should be supplied with long life non-rechargeable battery having capability to deliver at least 100 shocks without replacing and should have a shelf life of at least three years
- Should be supplied with all accessories & carrying case
- At least 10 Nos of Disposable pads must be supplied along with.
- Should be European CE or US FDA certified

8. **Transport Ventilator (Advance Only)**

- Wall Mounted Pneumatic/Turbine based Transport Ventilator
- Suitable for adults, children and infants up to 5 kg
- Modes of ventilation:
- ACMV or CMV
- PEEP
- Power source : Compressed air / oxygen
- FIO2: 100% oxygen & air mix mode (with approx. 45% to 100 %)
- Equipment should be supplied complete with integrated carrying bracket for ambulance mounting as well as on ambulance cot, patient circuit, driving gas hose, PEEP Valve and breathing valve. (Transport Ventilator Kit)
- Should have airway pressure monitor& disconnect/low pressure / high pressure alarms.
- Should be European CE or US FDA certified

9. **Oxygen Flow Meter with Humidifier**

- Dial setting type without any floats, needles or moving parts to indicate the flow level.
- Pressure compensated for inlet pressure range of 3 to 5 bar, be able to regulate the flow from 0 to 15 litres per min and should show the actual oxygen flow rate.
- Installed vertically so as to not interfere with the other outlets and should be easily readable from the Doctor's/Paramedic' seat.
- The inlet probe should be fully adaptable to the terminal outlet in the ambulance as well as to the outlet adapter of the portable oxygen cylinder specified below in the list of medical equipments
- The outlet of the flow-meter should be universal in design to accept the humidifier, the flow selector switch or a direct connector
- Should have a humidifier made up of an impact resistant polycarbonate bowl with cap and inlet outlet nipples
- Should include a flow selector switch to bypass the flow of the oxygen through the humidifier and allow nebulization to the patient directly using the flow of the oxygen

- Should be supplied with a direct connector to provide oxygen therapy without humidifier, insufflation kit and nasal prong

10. Suction Pump (Manual & Handheld)

- Portable & Lightweight
- Vacuum (max): 550mmHg.
- Non disposable and autoclavable container of minimum 250 ml connecting jar made out of polycarbonate with overfilling valve.
- Maximum Weight: <1Kg

11. Suction Pump (electronic)

- Electronic Suction device with ambulance mount
- Control knob for continuously adjustable vacuum level up to at least 550 mm. Hg starting from zero
- Suction capacity of minimum 30 litre per minutes
- Minimum 500ml capacity secretion bottles with efficient over-flow protected
- Ambulance Wall / floor mounted
- Rechargeable Battery with minimum capacity of 30 minutes
- The ambulance wall mount should have built in charger with integrated DC charging module to directly charge the internal batteries of the device from the 12V ambulance batteries as soon as the device is placed on the bracket.
- Should be supplied with Wide – bore tubing, rigid pharyngeal curved suction tip;
- Tonsillar and flexible suction catheters, 5F – 14F

12. Self-inflatable Resuscitation Bags

- Should be made of silicon
- Hand operated, self-re-expanding bags (2L, 1L & 500ml sizes) or minimum (1500 ml, 500 ml, 200 ml), with oxygen reservoir/accumulator, clear mask (adult, child, infant and neonate sizes); valve (clear, disposable, operatable in all weather conditions)
- To be supplied in proper Carrying case

13. Mouth to Mask ventilation device

- Suitable for Adult, Child & Infant/Neonate

14. Oxygen Cylinder (Portable) with Oxygen Pressure Reducer

- Should be made of Aluminium/Aluminium alloy
- Should be manufactured as per international and Sudanese standards.
- Max. Working Pressure at 15O C: 150kgf/cm2
- Water capacity: min 1L
- Built in / attached with Pressure gauge, regulator and cylinder wrench/key
- Pressure regulator with plug-in type outlet port capable to accommodate the probe of the driving gas hose of ventilator or the inlet probe of the oxygen flow-meter directly in single action without any intermediate connectors or adapters etc.
- Adequate length tubing, mask (adult, child and infant sizes), transparent, non-rebreathing, venturi, and valveless, nasal cannulas (adult, child and infant sizes)

15. Laryngoscope with blades

- Standard Laryngoscope
- With Mckintosh blade (1,2, 3 & 4)
- Handle should have comfortable grip
- Light source should be fibre optic

16. Syringe Infusion Pump (Advance Only)

- Wall Mounted
- Flow rate programmable from 0.1 to 200 ml/hr or more in steps of 0.1 ml/hr till at least 5ml.
- Should have user selectable flow set rate option.
- Display of Drug Name with a provision of memorizing 10~15 names
- Should have Keep Vein Open (KVO) option
- Must Work on commonly available ISI/CE/FDA approved/certified 20, 50/60 ml Syringes with accuracy of minimum of +/-2% or better.
- Automatic detection of syringe size & proper fixing.
- Anti-bolus system to reduce pressure on sudden release of occlusion
- Rechargeable Battery of at least 30 mins
- Should be suitable for use in ambulance
- Should be ambulance wall / pole mountable and should be supplied with an appropriate mount.

17. Nebulizer

- The oxygen flowmeter referred above should include a flow selector switch to bypass the flow of the oxygen through the humidifier and allow nebulization to the patient directly using the flow of the oxygen
- An insufflation kit with appropriate nebulizer attachment.

18. Handheld Glucometer (Advance Only)

- One unit with 100 units of disposable lancets/tips and Gluco Sticks
- The brand provided should have supplies easily available across the state
- Should be European CE or US FDA certified

19. Stethoscope

- Paediatric & Adult
- Tuneable diaphragm and bell
- Soft sealing ear tips

20. BP Apparatus (Manual)

- One Nos.
- Manual, Dial Type
- Supplied with regular/extra large and paediatric size cuffs

21. Pupillary Torch

- One Nos. with Spot illumination without peripheral ring of light

22. Needle & Syringe Destroyer and Sharp Container (Mechanical)

- To be securely placed at an appropriate location to allow easy disposal of needles
- Maximum weight 2.5 Kgs
- Motion Tolerant

23. Thermometer (Digital) – (Qty: Two)

- Battery operated
- with on and off audio alarm
- Measurable in Fahrenheit and Centigrade
- Memory of the last reading

24. Pneumatic Splints

- Set of 6 adult sizes (Hand & wrist, Half arm, Full arm, Foot and ankle, Half leg & Full leg) with carrying case
- X-ray through the splints

- Inflatory tubes' extension with closing clamp makes closing easy and quick after inflation
- Fixing of splint is by zipper or belt
- Distal end left open to expose toes
- Should be washable and reusable
- Should be supplied with the appropriate pump required to inflate the splints

25. Cervical Collars (Qty: One)

- Rigid and should be suitable for children aged 2 years or older, infant and adults
- Should be adjustable to 4 different sizes- Tall, Regular, Small & No neck
- Should have pre-moulded chin support, locking clips and rear ventilation panel, enlarged trachea opening.
- Should be high-density polyethylene and foam padding with one piece design enabling efficient storage where space is limited
- Should be X-ray lucent and easy to clean and disinfect

26. EMT Shears

- One Nos with Thermoplastic handles.
- Should be capable of cutting a one rupee coin.
- 6" made of SS with one edge round and other edge sharp
- Should be as per CE/FDA/BIS/ISI standards

27. Artery Forceps (Qty: Two)

- 6", high tensile stainless Steel

28. Toothed Forceps (Qty: Two)

- 6", high tensile stainless Steel

29. Magill's forceps

- Two sizes

30. Kidney Tray

- 18/ 8 Stainless Steel.
- 500 ml capacity

31. First Aid Kit Bag

- Resuscitation & First Aid Kit Bag made of Nylon/tougher material having space for Emergency Airway Management and Resuscitation including essentials drugs, equipment & a portable Oxygen Cylinder of with regulator, etc.

32. Search Light (Qty: Two)

- Light Source: Xenon Bulb or LED
- Light Output: minimum 145 lumen
- Construction: Super tough - chemical and heat resistant
- It should be Waterproof
- Portable with Spot beam of around 500 metres.
- Sealed Lead Acid/ NiCd battery operated
- Capacity of 60 minutes with full intensity
- Docking station style charging base which should be wall and vehicle mountable.
- Should be chargeable from 12V DC

33. Rescue Equipment

- Hammer, four pound with 15" handle
- One Axe
- Wrecking Bar, minimum 24-inch (bar and two preceding items can either be separate or combined as a forcible entry tool).
- Crowbar, minimum 48 inches, with pinch point.
- Heavy duty scissors for cutting clothes, belts and boots

DRUGS & CONSUMABLES FOR EACH AMBULANCE:

The bidder must ensure adequate and appropriate storage space to house the drugs and consumables securely during ambulance's day to day run as per international guidelines.