

QRs / SPECIFICATIONS OF ALL TERRAIN VEHICLE

S.No	PARAMETERS	SPECIFICATIONS	REQUIREMENTS
1	<u>ENGINE</u>	Petrol/Diesel engine, CRDI, Turbo charged, intercooler, Water cooled, EURO/BS III or Higher (Suitable to deliver the rated output). Capacity of engine should be min.2.5 ltrs (2500 CC). The no. of cylinders should be min.4.	Engine should be of min.BS III/EURO III variant with capacity minimum 2.5Ltrs (2500 CC), fitted with Turbo charger, Intercooler and liquid type cooling system. Should be capable of delivering desired horse power.
2	<u>Horse power</u>	Not less than 160 hp	Engine should be capable of delivering desired horse power which is not less than 160 HP.
3	<u>Torque</u>	Not less than 300 Nm	At the rated horse power the vehicle to produce Torque not less than 300 Nm
4	<u>Kerb weight</u>	Minimum 2000 - 3500 kgs	The kerb weight of the vehicle should not be more than 3500 Kgs.
5	<u>Payload</u>	500 - 800 Kgs	Should accommodate Min.07 soldiers (X100) with their luggage.
6	<u>Gradability</u>	Min. 26 Deg (Fully Laden)	Vehicle should be capable of negotiating the 26 Deg. Slope (fully laden) easily.
7	<u>Side Slope Capability</u>	Min. 17 Deg	Vehicle should be capable of negotiating the side slope of min.17 Deg. Easily.
8	<u>Turning Radius</u>	Less than 6.5 mtrs	Should be less than 6.5 mtrs to negotiate the sharp corners

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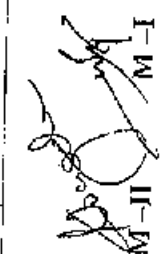
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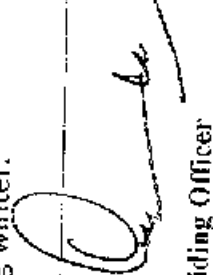
9	<u>WEIGHT</u>	2500 - 4000 kgs	The weight (Kerb weight + Payload) should be in the range of 2500 - 4000 kgs.
10	<u>Seating Capacity</u>	Minimum 07 persons	The vehicle should accommodate min. 07 soldiers (including driver) comfortably.
11	<u>Fordability</u>	Min 500 mm	The vehicle should have fordability of Min. 500 mm to negotiate the water level.
12	<u>Fuel Tank Capacity</u>	Min. 60 Ltrs.	Fuel tank capacity to be min. 60 ltrs.
13	<u>POWER TRANSMISSION</u>	Automatic or Manual Transmission with min. 05 forward and one reverse gears. Drive should be selective both 4X2 & 4X4 (Low & High). Shifting mechanism should be of electronic.	Should be either automatic or Manual transmission with min 05 forward and one reverse gears and the selection drive i.e 4X2 and 4X4 should be as per requirement. The vehicle transmission should be capable of negotiating the height of 15000 ft and above.
14	<u>SUSPENSION</u>	<u>Operating Capability:</u> AT the height of 15,000 ft and above . Front : Double wishbone or independent Suspension with coil spring. Rear : Multi link with coil spring or Independent suspension.	The suspension should be comfortable to ride on all terrains.
15	<u>Wheels/Tyres</u>	Tubeless tyres of appropriate size corresponding to the ground clearance, Suitable for metallised road and cross country movement on hills. One spare wheel to be provided. Provision to fit anti skid chains during winters.	Tyres should be strong enough to travel on both metallised surface and cross country movement on hills. There has to be a provision to fit anti skid chains during winter.


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16	<u>Steering</u>	Right hand drive with Power steering.	Should be right hand driven and easily steerable on all kind of terrains.
17	<u>Body Configuration</u>	Body of vehicle should be of Hard top shell, all weather resistant viz. Hot & Cold temperatures and Severe rain. With sufficient reinforcement under the body. Should have 03 door/05 door concept	The body should be strong and sturdy with hard top to withstand harsh weather conditions of hot & cold temperatures. The body should have 03/05 doors concept depending on the seating arrangements, with proper windows for visibility on the doors.
18	<u>Power To Weight Ratio</u>	More than 25 kw/Ton	Should be more than 25 kw/Ton
19	<u>Range of Operation</u>	400 Kms on Highways 250 Kms on Hilly terrain	Vehicle should at least cover 400 Kms on highways and 250 Kms on Hilly terrain.
20	<u>Brake System</u>	<u>Front & Rear</u> : Hydraulic / Air with dual circuit with Disc on front and Disc/Drum on rear wheels. Parking brake on rear/ front.	The vehicle should have dual circuit hydraulic/air brake system with Disc on front and Disc/Drum on rear wheels. Should stop at nearest possible distance. Parking brake should be effective enough to hold the fully laden vehicle at 30 deg. slope.
21	<u>Heating/Cooling of passenger compartment</u>	Heating arrangement should be provided with either HVAC (Heating, Ventilation & Air Conditioning) system or equivalent arrangement to be provided.	The system should provided at least 22 ± 5 when the ambient temperature falls below (-) 20°.

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22	<u>Vehicle operating Temperatures</u>	Vehicle to operate in the range of min. (-) 20° and below to max. (+) 45°. Cold starting aid to be as a standard fitment. Altitude range is 15000 ft and above.	Vehicle to operate in the given temperature range. The vehicle to start easily in the lowest temperature of (-) 20 and below, the cold starting to be standard arrangement. Vehicle to negotiate the altitude of 15000 ft and above.
23	<u>Length</u>	4700 – 5200 mm	Length should be in the range of 4700 – 5200 mm
24	<u>Width</u>	1800 – 2500 mm	Width should be in the range of 1800 – 2500 mm
25	<u>Height</u>	1900 – 2300 mm	Height should be in the range of 1900 – 2300 mm
26	<u>Ground clearance</u>	Min. 220 mm	Ground clearance not less than 220 mm.
27	<u>Wheel base</u>	2800 – 3200mm	Should be in the range of 2800 – 3200mm
28	<u>Track</u>	1500 – 1900mm	Should be in the range of 1500 – 1900mm
29	<u>Vehicle information System</u>	Provision of informing vehicle Engine temperature, speedometer, odometer, hand brake engaged warning etc. Provision of wind screen wiper, Side view mirrors remotely adjustable from inside cabin. Rear view camera.	All the information should be available on the dash board in front of driver. Windscreen wipers to have intermittent with low and high speeds. Rear view camera for better reversing.
30	<u>Battery</u>	Battery should be of Gel type 90Ah or more corresponding to the lighting arrangement of vehicle.	Gel type Battery should have protection from over charging, over current, over voltage and short circuit. One spare battery may be provided for emergency.

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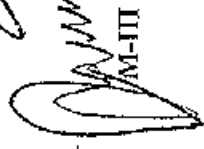



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31	<p><u>Lighting arrangements</u></p>	<p>a) Two/Four head lamps at the front. b) Turn signal indicators both at front and rear. c) Reverse light. d) Light for map reading (location as per requirement). e) Inspection lamp in engine compartment.</p>	<p>The head lamps so provided should have sufficient lighting during night. Sufficient lighting inside the body compartment should be provided easy to operate.</p>
32	<p><u>GPS facility</u></p>	<p>GPS facility for vehicle navigation. (Optional as per requirement of indenter).</p>	<p>There has to be GPS facility for navigation purpose.</p>
33	<p><u>Tow Hooks</u></p>	<p>Tow hooks at front and rear.</p>	<p>Provision of tow hooks at front and rear</p>
<p><u>Miscellaneous</u></p>			
34	<p><u>Training</u></p>	<p>Supplier to impart training to ITBP personnel for operation and maintenance of the vehicle. Work shop repair manual, Illustrated parts catalogue, operation and maintenance manual (Hard & soft copy) to be provided.</p>	
35	<p><u>After Sale Service</u></p>	<p>After sale service to be provided on requirement along with regular supply of spare parts, maintenance parts should be readily available for at least 10 years from the date of purchase.</p>	
36	<p><u>Warranty</u></p>	<p>Supplier vehicle warranty for at least one year with further extended warranty for 02 or more years or best available warranty scheme from the firm should be provided.</p>	








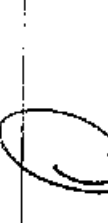
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37	<u>Field Trial</u>	<p>Field trial: Procurement of special purpose vehicle would be considered subject to successful field trial of technically qualified vehicle in the areas of deployment of ITBP. Vehicle should be readily available for trial by the bidder. Trial will be carried out by a senior technical officer.</p>
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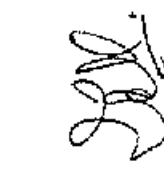
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TRIAL DIRECTIVE IN RESPECT OF ALL TERRAIN VEHICLE

S.N	PARAMETERS	SPECIFICATIONS	PROCEDURE	RESULT EXPECTED
1	<u>ENGINE</u>	Diesel engine, CRDI, Turbo charged, intercooler, Water cooled, EURO/BS III or Higher (Suitable to deliver the rated output). Capacity of engine should be min.2.5 Ltrs (2500 CC). The no. of cylinders should be min.4.	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specifications.
2	<u>Horse power</u>	Not less than 160 hp	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specification.
3	<u>Torque</u>	Not less than 300 Nm	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specification.
4	<u>Keib. weight</u>	Minimum 2000 - 3500 kgs	Will be checked physically by weighing	Should be within the desired specification.
5	<u>Payload</u>	500 - 800 Kgs	Will be checked physically by weighing	Should be as per the desired specification.
6	<u>Gradability</u>	Min. 26 Deg (Fully Laden)	Will be checked physically by driving the veh. on 30' slope, or the certificate provided by the firm will be verified.	Should be as per the desired specification.
7	<u>Side Slope Capability</u>	Min. 17 Deg	Will be checked physically by driving the veh. on 17' slide slope, or the certificate provided by the firm will be verified.	Should be as per the desired specification.

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8	<u>Turning Radius</u>	Less than 6.5 mtrs	By steering the wheel extreme Left/Right of the vehicle and driving the vehicle in same condition will form a circle (Chalk powder or any other colour may be used on the wheels for marking). The inner circle may be measured to get the Turning radius or the certificate provided by the Firm may be verified.	Should be within desired specification.
9	<u>WEIGHT</u>	2500 - 4000 kgs	Will be checked physically by weighing the vehicle with full pay load.	Should be within the desired specification.
10	<u>Seating Capacity</u>	Minimum 07 persons	Will be checked physically by placing the soldiers with their luggages.	Should comfortably accommodate min. 07 soldiers with arms & amns.
11	<u>Fordability</u>	Min 500 mm	Driving the vehicle in 500 mm water covered pond.	Should easily pass through the water without any hindrance.
12	<u>Fuel Tank Capacity</u>	Min. 60 Ltrs.	Will be measured physically.	Should accommodate 60 ltrs of fuel.


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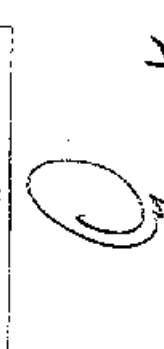

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13	<p><u>POWER TRANSMISSION</u></p> <p>Automatic or Manual Transmission with min.05 forward and one reverse gears. Drive should be selective both 4X2 & 4X4 (Low & High). Shifting mechanism should be of electronic.</p> <p><u>Operating Capability:</u> AT the height of 15,000 ft and above .</p>	<p>Will be checked Physically by driving the vehicle on different kinds of terrain (plain/hilly/metalled / Cross country). The 4X4 (Low & High) application will also be checked by driving. Vehicle will be driven at the height of 15000 ft and above.</p>	<p>Should consist of Min. 04 forward and one reverse gear. The drive (4X2/4X4) will be checked by physically engaging and disengaging. Shifting 4X4 (High) should be on the go where as for 4X4 (Low) should engage while the vehicle is completely halted. At the height of 15000 ft and above the shifting of gears and 4X2/4X4 operation in case of manual transmission should be easy and smooth. In case of automatic transmission the vehicle should negotiate the height smoothly either with 4X2 or 4X4.</p>
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14	<u>SUSPENSION</u>	<p>Front : Double wishbone or independent Suspension with coil spring. Rear : Multi link with coil spring or independent suspension.</p>	<p>Will be checked physically by driving the vehicle on rugged terrain.</p>	<p>Suspension should be as per desired specification with comfortable ride on any kind of terrain.</p>
15	<u>Wheels/Tyres</u>	<p>Tubeless tyres of appropriate size corresponding to the ground clearance, Suitable for metalled road and cross country movement on hills. One spare wheel to be provided. Provision to fit anti skid chains during winters.</p>	<p>Will be checked physically for the tyres by driving on metalled and cross country movement on hills. The anti skid chains will be checked by fitting on tyres and driving the vehicle in snow.</p>	<p>The driving with these tyres should be smooth to steer the vehicle on corners. The fitment of anti skid chains should be easy.</p>
16	<u>Steering</u>	<p>Right hand drive with Power steering.</p>	<p>Will be checked physically by driving.</p>	<p>Should be as per specification.</p>
17	<u>Body Configuration</u>	<p>Body of vehicle should be of Hard top shell, all weather resistant viz. Hot & Cold temperatures and Severe rain. With sufficient reinforcement under the body. Should have 03 door/05 door concept</p>	<p>Will be checked physically.</p>	<p>Should be as per specification.</p>


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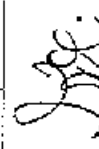
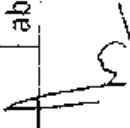





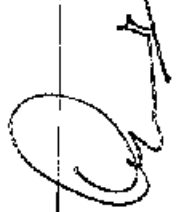

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18	<u>Power To Weight Ratio</u>	More than 25 kW/Ton	Will be verified by the certificate provided by the firm.	Should be as per specification.
19	<u>Range of Operation</u>	400 Kms on Highways 250 Kms on Hilly terrain	Will be checked physically by driving the vehicle.	The vehicle to cover 400 kms on highways and 250 kms on hilly terrain.
20	<u>Brake System</u>	<u>Front & Rear</u> : Hydraulic / Air with dual circuit with Disc on front and Disc/Drum on rear wheels. Parking brake on rear/ front.	Will be verified by the certificate of VRDE provided by the firm.	Should be as per specification.
21	<u>Heating/Cooling of passenger compartment</u>	Heating arrangement should be provided with either HVAC (Heating, Ventilation & Air Conditioning) system or equivalent arrangement to be provided.	Will be checked physically during winter when the temperature is below (-) 20°.	The HVAC or suitable system should maintain the temperature of 22 ± 5° when the ambient temperature is below (-) 120°.
22	<u>Vehicle operating Temperatures</u>	Vehicle to operate in the range of min. (-) 20° and below to max. (+) 45°. Cold starting aid to be as a standard fitment. Altitude range is 15000 ft and above.	Can be checked by conducting trial at various locations.	Should perform well in the given temperature range.

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<u>DIMENSIONS</u>					
23	<u>Length</u>	4700 – 5200 mm	Will be measured physically.	Should be within specified range.	
24	<u>Width</u>	1800 – 2500 mm	Will be measured physically.	Should be within specified range.	
25	<u>Height</u>	1900 – 2300 mm	Will be measured physically.	Should be within specified range.	
26	<u>Ground clearance</u>	Min. 220 mm	Will be measured from the lowest portion of the vehicle under chassis from the ground on a plain surface.	Should be as per desired specification.	
27	<u>Wheel base</u>	2800 – 3200mm	Will be measured physically.	Should be within the desired specification.	
28	<u>Track</u>	1500 – 1900mm	Will be measured physically.	Should be within the desired specification.	
<u>ELECTRICAL</u>					
29	<u>Vehicle information System</u>	Provision of informing vehicle temperature, speedometer, odometer, hand brake engaged warning etc. Provision of wind screen wiper, Side view mirrors remotely adjustable from inside cabin. Rear view camera.	All the parameter will be checked physically for proper functioning.	Should be as per the prescribed specification.	

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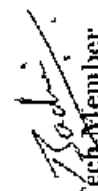



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30	<u>Battery</u>	Battery should be of Gel type 90Ah or more corresponding to the lighting arrangement of vehicle.	Will be checked physically and the certificate provided by the firm will be verified.	Should be as per specification.
31	<u>Lighting arrangements</u>	<ul style="list-style-type: none"> a) Two/Four head lamps at the front. b) Turn signal indicators both at front and rear. c) Reverse light. d) Light for map reading (location as per requirement). e) Inspection lamp in engine compartment. 	Will be checked physically by operating the mechanism.	Should be as per desired specification.
32	<u>GPS facility</u>	GPS facility for vehicle navigation. (Optional as per requirement of indenter).	Will be checked physically.	Should be as per the desired specifications.
33	<u>Tow Hooks</u>	Tow hooks at front and rear.	Will be checked physically.	Should be as per the desired specifications.

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