

Laboratory and Measuring and Observing and Testing Equipment ; 41											GeM 3.0		
Measuring and observing and testing instruments ; 4111													
Land surveying instruments ; 411142													
Digital Automatic Level ; 41114297													
S. No.	Parameter	Field Type	Field Category	LOV							Unit	Comment	
<b>TELESCOPE</b>													
1	Magnification (in X)	Numeric	Golden	20, 24, 28, 30, 32, 36, 40								Higher is Better	
2	Telescope Image	Enumerable	Mandatory	Erect									
3	Gas - filled Telescope	Enumerable	Mandatory / Filter	Yes	No								
4	Objective Lens Aperture	Measurable	Golden	25	30	32	36	40	42	45	mm		
5	Field of View (at 100 m)	Enumerable	Golden	1°15'	1°20'	1°25'	1°30'	1°35'					
6	Minimum Focus Distance from the center of the Instrument	Measurable	Golden	0.3, 0.5, 0.6, 0.7, 0.75, 0.8, 1.0, 1.1, 1.25, 1.5, 1.6, 1.75, 2.0							meter	Lower is Better	
<b>PERFORMANCE</b>													
1	Height Measurement Accuracy, Electronic measurement (Standard Deviation per 1 km double - run levelling) using standard bar-coded staff	Measurable	Golden	1.0	1.3	1.5	2.0				mm	Lower is Better	
2	Height Measurement Accuracy, Electronic measurement (Standard Deviation per 1 km double - run levelling) using bar-coded INVAR staff	Measurable	Golden	0.2	0.3	0.4	0.5	0.6	0.7	0.8	mm	Lower is Better	
3	Height Measurement Accuracy, Optical measurement (Standard Deviation per 1 km double - run levelling) using standard bar-coded staff	Measurable	Golden	1.0	1.5	2.0	2.5				mm	Lower is Better	
4	Distance Measurement Accuracy, Electronic measurement at 30 m sighting distance, using standard bar-coded staff	Measurable	Golden	15	20	25	30				mm	Lower is Better	
5	Minimum measurement distance (electronic)	Measurable	Golden	1.5	1.6	1.8	2.0				meter		
6	Maximum measurement distance (electronic)	Measurable	Golden	80	100	105	110				meter		
7	Minimum brightness	Measurable	Golden	20	30						Illuminance / Lux		
8	Circular Vial (Bubble) Sensitivity (per 2 mm)	Measurable	Golden	6	8	10				Plane Angle / minutes			
9	Multiplication Constant	Enumerable	Mandatory	100									
10	Additive Constant	Enumerable	Mandatory	0									

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				Yes	No						
11	Reticle Illumination	Boolean	Golden	Yes	No						
12	Measurement Modes	Enumerable	Golden	Single; Repeat; Average; Tracking; Wave - and - Read							Multi Select
13	Typical Measurement time	Numeric	Mandatory	Range: 0 to 5						Seconds	
14	Graduation on Horizontal Scale / Circle (hint:- Gon = Gradian)	Enumerable	Golden	360 degree		360 degree / 400 gon selectable					
15	Graduation interval	Enumerable	Golden	1°	1° / 1 gon						
<b>COMPENSATOR</b>											
1	Compensator	Enumerable	Golden	Magnetic - damped Compensator with Automatic compensation							
2	Compensator Range (±)	Measurable	Golden	9	10	12	15			Plane Angle / Minutes	Higher is Better
3	Compensator Setting Accuracy	Measurable	Golden	0.2	0.3	0.35	0.4	0.5		Plane Angle / seconds	Lower is Better
<b>OVERVIEW CAMERA</b>											
1	Equipped with Overview camera	Boolean	Golden	Yes	No						
2	Auto Focus	Boolean	Golden	Yes	No						
3	Frame Rate upto (fps)	Numeric	Golden	20	25						Higher is Better
<b>DATA STORAGE / INTERFACE</b>											
1	Data Storage / Internal memory (measurement points)	Numeric	Golden	1000, 2000, 3000, 5000, 6000, 8000, 10000, 20000, 30000, 50000, 100000							Higher is Better
2	Interface	Enumerable	Golden	RS 232; USB, Mini - USB, Bluetooth, Wi-Fi, Combined LEMO							
3	External / Removable Storage Slot	Enumerable	Mandatory / Filter	SD	Mini SD	Micro SD	SDHC	Memory stick	PCMCIA Card	NA	Multi Select
<b>DISPLAY / KEYBOARD</b>											
1	Type of Display	Enumerable	Golden	LCD		LED		TFT			
2	Display device Type	Enumerable	Golden	Dot Matrix (Graphical)		Segmental					
3	Display Colour	Boolean	Golden	Monochrome		Colour					
4	Touch Screen Display	Boolean	Golden	Yes	No						
5	With backlit / illumination	Boolean	Golden	Yes	No						
6	Display Resolution	Ordinal	Golden	128 x 16 (Two lined) (1); 128 x 32 (Four lined) (2); 128 x 64 (Eight lined) (3); 240 x 160 (HQVGA) (4); 320x240 (QVGA) (5)							

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7	Display Size (inch)	Ordinal	Golden	2.0 to 2.4 (1), 2.5 to 2.9 (2), 3.0 to 3.4 (3), 3.5 to 3.9 (4), 4.0 to 4.4 (5), 4.5 to 4.9 (6), 5.0 to 5.4 (7), 5.5 to 5.9 (8), 6.0 to 6.4 (9), 6.5 to 6.9 (10), 7.0 to 7.4 (11), 7.5 to 7.9 (12), 8.0 and above (13)					Higher is Better
8	Keyboard	Enumerable	Golden	Alpha-Numeric Keyboard		Function Keyboard			
<b>BATTERY</b>									
1	Power Source	Enumerable	Golden	Internal - Rechargeable Battery		Internal - Alkaline (non-rechargeable) Battery			
2	Supports 12 V External Battery	Enumerable	Golden	Yes	No				
3	Chemistry of Battery	Enumerable	Golden	Li-ion	Ni-MH	Alkaline			
4	Capacity of internal Battery (mAh)	Numeric	Madatory / Filter	Range: 0 to 12000					
5	Battery operating Time	Measurable	Golden	8, 10, 12, 15, 16, 20, 24				hours	Higher is Better
6	Number of Batteries required for operation	Numeric	Golden	1	2	3	4		
7	Number of Batteries Supplied	Numeric	Golden	1, 2, 4, 6, 8					
8	Battery Charger for Rechargeable Batteries inclusive in the scope of supply	Enumerable	Golden	Yes	NA				
<b>SALIENT FEATURES / ON-BAORD PROGRAMS</b>									
1	Salient Features (hint:- Select whichever are Applicable)	Enumerable	Golden	Not Applicable; Horizontal fine motion screws with Double-sided endless drive for fast and easy aiming; With parallel plate micrometer with measuring range of 10 mm; In-built Real-time clock and temperature sensor; Integrated Digital Compass; With Electronic level bubble (Longitudinal and Transversal tilt);					Multi Select
2	On-board programs (hint:- Select whichever are Applicable)	Enumerable	Golden	Height measurement; Height difference; Elevation; Line adjustment; Setting-out distance; Cut and Fill Stakeout; Stakeout; Inverse Staff Measurement; Single measurement with and without stationing; Tilt Check functionality; Line levelling with intermediate sight and stakeout; Error checking and adjustment					Multi Select
3	Software Features (hint:- Select whichever are Applicable)	Enumerable	Golden	Viewing, Exchanging, Managing, Post Processing of Data					Multi Select
4	Subscription license for software	Enumerable	Golden	Inclusive in the scope of supply		Subscription license - Not required			
5	Validity of License period	Measurable	Golden	0, 1, 2, 3, 4, 5, 6, 7, 8				Year	

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<b>ACCESSORIES</b>									
1	Accessories inclusive in the scope of supply (hint:- Select whichever are Applicable)	Enumerable	Golden	Diagonal eyepiece; 40X exchangeable eyepiece with adopter; Lens Cap; Plumb Bob; Vinyl Rain Cover; Sunshade; Spare stylus; Cleaning Cloth; Allen keys; Hexagonal Wrench; Tool Kit; Adjustment Pin; Flexible bar coded Tape; Data Transfer Cable; Spare Batteries; Battery Charger; User Manual, Carrying Case					Multi Select
<b>GENERIC</b>									
1	Weight (including Battery)	Measurable	Mandatory					Kg	AKBNV
2	Dimensions (Size) (mm X mm X mm)	Text	Mandatory						AKBNV
3	Additional Features, If Any	Text	-						AKBNV
4	List of Items and Quantity of each Item Included in the Offer	Text	-						AKBNV
<b>ENVIRONMENTAL CONDITIONS</b>									
1	Minimum Operating Temperature	Measurable	Golden	0	-10	-15	-20	Temp / degree C	Lower is Better
2	Maximum Operating Temperature	Measurable	Golden	40	50	55		Temp / degree C	Higher is Better
4	Ingress Protection	Ordinal	Golden	NA (0), IP 53 (1), IP 54 (2), IP 55 (3), IP 56 (4), IP 57 (5)					
<b>WARRANTY</b>									
1	Warranty	Measurable	Golden	1, 2, 3, 4, 5				Year	Higher is Better
<b>CERTIFICATIONS</b>									
1	Availability of Test Reports from Central Govt / NABL approved / ILAC accredited Lab to prove conformity to the specification	Boolean	GOLDEN	Yes	No				
2	If Yes, Test Report to be furnished to the Buyer on demand	Enumerable	Mandatory / Filter	Yes	NA				
3	Test Report No. and Date (May indicate 'NA' if not applicable)	Text	Mandatory						AKBNV
4	Name of the Lab and Address (May indicate 'NA' if not applicable)	Text	Mandatory						AKBNV

**AKBNV: Allow Key But Not Value**

**Creator (s)**

**TA - Sumit Dhaka**

**AD - GRK Pillai**

**Modifier**

**DCEO - SK Jain**

**APProver (s)**

**ACEO - HRS / ACEO - PS**