DEPARTMENT OF GEOGRAPHY

Ref. No. Geog./………………..

Dated ………………..

Phone: 091-172-2534258 Fax: 091-172 -2727714

PANJAB UNIVERSITY, CHANDIGARH 160014 (INDIA)
(Established under the Panjab University Act VII of 1947 - enacted by the Govt. of India)

E-mail: geogdept@pu.ac.in

From	To
Chairperson, Department of Geography, Centre of Advanced Study Panjab University, Chandigarh.	

Notice Inviting Quotations

No Geog/986
Dated : 12.09.14

Dear Sir,

Please quote Technical and Financial bid (in two separate envelopes) for the supply of **PROFESSIONAL GRADE HANDHELD GPS 10 NOS.WITH EQUIVALENT QUANTITY OF FIELD SOFTWARE AND OFFICE SOFTWARE INCLUDING A BASE STATION FOR POST PROCESSING THE DATA** to the Department of Geography, Panjab University, Chandigarh as per specifications **A B and C**.

The payment shall be made within seven days after the supply of material. The quotations must reach in a sealed cover by 22.09.2014 at 3.00 pm along with your other terms and conditions of supply, if any.

LAST DATE OF RECEIPT OF QUOTATIONS 22.09.14 AT 3.00 PM

OPENING OF QUOTATIONS: 23.09.14 AT 10.30 AM

Note :
1. The quotation must reach by Registered Post or Speed Post on or before 22.09.2014 at 3.00 p.m. on the following address

   Chairperson
   Department of Geography
   Panjab University
   Chandigarh-160014

2. Panjab University does not take any responsibility for any postal delay in delivery by Registered/ Speed Post or lost in transit of quotation. No quotations will be entertained by hand/ courier/ Ordinary post.
3. Rate should be quoted both in words and figures in **financial bid only**.
4. Conditional and unsigned quotation will not be accepted.
5. The supply be commenced/ made within 7 days of the issue of supply order.

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6. All quoted rates should be FOR Panjab University and firm should quote the rate of all taxes.
7. No payment will be made on the Performa invoice.
8. The quotation shall not contain corrections, erasers and overwriting.
9. Please mention Name of work and due date on the Envelope.
10. The undersigned reserves right to accept or reject any quotation without assigning any reason.
11. Quote the discount rate of MRP of each item.
12. Quotations will be opened on 23.09.2014 at 10.30 am and you may depute your representative at the time of opening of quotations.

Chairperson
Department of Geography
Panjab University
Chandigarh.

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A. Technical Specifications

Specification		Yes/No
Processor, Operating System & Memory	At least 800 MHz processor or better. Windows embedded 6.5 professional OS or better, 256 MB RAM or higher 2 GB flash memory with at least 32 GB expandable memory slot	
GPS point Accuracy	Real time accuracy of 2 to 5 meters with SBAS or better. Code accuracy should be 1-3m in post processing.	
SBAS	Device must support real time corrections through SBAS	
Antenna	Inbuilt single frequency high sensitivity GPS L1 receiver and antenna.	
Camera	Built in 3 MP with Auto focus or better	
Geotagging	Device camera must be capable of Geotagging.	
Communication	Bluetooth, Communication ports like USB client etc.	
Screen	Should have at least 3 inch QVGA (240 x 320 pixel) or VGA sunlight-readable color touch screen or better	
Battery Power & operating Temperature	Integrated Li-ion re-chargeable battery which provide operating time for at least 10 hours or more, Subzero to maximum of plus 55 degree Celsius.	
Device weight	350 gram including battery or less	
Features	The field data collection software should be capable of directly exporting Data in the Format of .shp, .kml, UTM, Geo-coordinates, .dxf with attributes.	
Device Housing	IP54, Drop 1 mtr. height or better	
Accessories	Suitable Indian AC Power Adaptor, USB Data Cable, Wrist Lanyard, Stylus, Li-ion re-chargeable battery	
Base Station	**Positional Accuracy (HRMS) with Internal Antenna** 10 cm + 1 ppm meter post processed with min 2 minutes of carrier data 1 cm + 2 ppm post processed accuracy with 45 minutes of carrier data < 1 m real time with SBAS **GNSS receiver specification** Channels – 200 or more GPS – L1, L2 & L2C GLONASS – L1, L2 SBAS – WAAS/EGNOS/MSAS **Memory** 256 MB RAM (minimum) 2 GB flash Memory (minimum) Support SD/SDHC card up to 32 GB **Battery** Min 8 hours with GNSS on Removable & Rechargeable Li-Ion Battery **Communications** Integrated Bluetooth Integrated Wireless LAN USB client port for data transfer	

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B. Specification for Field data collection software

Sr. No.	Specification	Yes /No
1	Data logging software should be capable of	
2	Provide second by second global display of the number of satellites tracked, satellite geometry and differential GPS position status including current estimated accuracy and predicted post processed accuracy	
3	Provide audio and visual warnings and alarms for loss of GPS position	
4	Provide in field mission planning module for daily planning of GPS data collection schedule	
5	Provide a counter indicating the number of positions logged to the current feature.	
6	Log data from external sensors output in ASCII format including Laser rangefinders for distance and bearing measurements.	
7	Display map of collected features and GPS coordinates in UTM and other standard coordinate system.	
8	Provide easy to use zoom in, zoom out, pan, auto pan, select, query, measure, search, and filter capabilities for flexible and powerful map display.	
9	Provide clear map symbology and coloring, including GPS position, navigation targets, and start points.	
10	Display background layers including JPEG, JPEG 2000, TIFF, MrSID, ECW, BMP, SHP etc.	
11	Display multiple background layers concurrently in the map window.	
12	Collecting point, line, and polygon with attribute	
13	Support customized user interfaces allowing field workers to see the overview of a data form more clearly, avoiding confusion and guiding them through only required form sections, speeding up form completion without sacrificing accuracy.	
14	Support point offsets including distance-bearing, bearing-bearing, triple bearing, distance-distance and triple distance offset types.	
15	Include time saving features for attribute entry including repeat functions, default values, menu pick lists, auto-incrementing, and auto generation of date and time attributes.	
16	Support for digitizing of points, lines or areas for simple feature capture when GPS is not available.	
17	Should collect raw data for post-processing the data for improving GPS accuracy.	
18	Support for logging data directly to a removable storage card	
19	Allow configuration of navigation information including distance, bearing, heading, velocity, go east, go north, go up, go down, ETA and time to go, cross track error, altitude and turn direction.	
20	Provide easy to follow arrow or guidance indicators for intuitive navigation to a target.	
21	Support for waypoint upload and display.	
22	Should be able to save the file in shape file format inside the device .	

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C. Specification for Office software

Sr. No	Specification	Yes / No
1.	Support post processing differential correction of collected GPS data to improve accuracy and consistency of data.	
2.	Provide automated GPS reference data selection and download from the internet.	
3.	Support the Hatanaka (Compressed RINEX), RINEX, and self-extracting executable or Zip compression reference station data formats and compression types for post processed differential correction of GPS data.	
4.	Allow display, selection, query and editing of GPS positions that underlie a point, line or area.	
5.	Provide automated batch processing including file download, post processed differential correction and exporting the data to GIS formats	
6.	Allow direct import of AutoCAD 2000 ASCII DXF, dBASE, ESRI file geodatabase, ESRI shape files for display in the Office and for upload to field computers for GIS data maintenance.	
7.	Allow export of data to AutoCAD 2000 ASCII DXF (with or without blocks), dBASE, ESRI file geodatabase, ESRI shape files, GRASS, IDRISI Vector, MapInfo MIF, MGAL, Microsoft Access MDB, Microstation version 7 DGN, PC-ARC/INFO Generate, PC-MOSS, configurable ASCII, Google Earth KML/KMZ etc	
8.	Allow import and export of data in UTM coordinate system	
9.	Allow automated filtering of GPS data based on position quality metadata at time of export to GIS to ensure only data that meets accuracy requirements are added to the database.	
10.	Provide summary report of accuracies obtained during post processed differential correction.	
11.	Support the creation of data schema or data dictionary to match the requirements of the target GIS database, in order to limit data collection to only data compatible with the GIS data schema.	
12.	Support the creation of password controlled configuration files that can be used to lock settings of field software to ensure field data is collected with a standard configuration.	
13.	Display background layers including JPEG, JPEG 2000, TIFF, MrSID, ECW, BMP, SHP etc.	
14.	Display multiple background layers concurrently in the map window.	
15.	Allow simple connection with professional GPS data loggers or handheld GPS receivers to upload or download data easily.	