Gautam Buddha University

Greater Noida – 201 310

Website : www.gbu.ac.in

BID FORM

FOR THE SUPPLY OF EQUIPMENTS FOR

SURVEYING LABORATORY

OF

SCHOOL OF ENGINEERING

Gautam Buddha University

Greater Noida – 201 310

TENDER FOR SUPPLY OF EQUIPMENT FOR SURVEYING LABORATORY

SCHOOL OF ENGINEERING

Tender	**Supply of Equipment for Surveying Laboratory**
Opening Date	31st May, 2011
Closing Date	29th June, 2011 upto 3.00 p.m.
Last date of Bid Submission	29th June, 2011 upto 5.00 p.m.
Technical Bid Opening Date, Time & Place	30th June, 2011 on 3.00 p.m. Venue : Conference Room of the Registrar Office, 1st Floor, Administrative Building, G.B.U., Gr. Noida.
Earnest Money Deposit	2% of the offered cost
Completion Period	Within 4-6 weeks from the date of Purchase Order issued
Bid System	Two Tier : 1) Technical Bid 2) Financial Bid
Technical Bid Shall Contain	i. Technical specifications of each equipment quoted ii. All documents in support of commercial terms & conditions and eligibility criteria. iii. Bidders Proforma iv. EMD & Tender Fee demand drafts / pay orders.
Financial Bid	The Financial Bid shall contain rate schedule only. The price shall be in words as well as in numeric numbers.

"TECHNICAL BID (BIDDER'S PROFORMA)"
(To be submitted in separate envelope)

1. Name of the firm: ……
2. Date of incorporation……..
3. Name of the company – Government / Public Ltd. / Private Ltd. / Partnership / Proprietorship : ……
4. Specify the number of years in this line of activity by the company:……..
5. Sales Tax/VAT registration No. (please attach certificate) : ……
6. Experience (in year) of supplying & installation for similar software to IITs, NIT's or Central Universities or any Academic Institute of National Repute (please attached certificate/P.O.) : ……..
7. Turnover in the last three financial years (Figures should be in Indian Rupees in Lakhs; please attach the certified copies of balance sheet with trading, profit & loss account) : (if the figures for 10-11 are not available then they may furnish balance sheet of year 07-08)

2008-09	2009-10	2010-11

8. Provide the postal address, telephone & fax numbers, and email address of the nearest service center : ……
   ……..
9. Mention delivery period from the date of the placement of an official purchase order : ……..
10. Enclose the list of customers to whom you have supplied /serviced during the last 3 years ending 31/03/2011 with full postal address and name of the contact person with phone, FAX numbers, and E-mail-id, billing amount etc. Certificate regarding satisfactory performance from the minimum three end users should be furnished.
11. Are you the manufacturer / authorized dealer / distributor/ reseller for the product quoted (please attached relevant certificate): ……..
12. Was there any lapse or delay in supplying the goods ordered or any service related issue during the warranty period for the products supplied by your firm to different Institutes/Universities during last three years? If yes, provide details.
13. Deviations in specifications, if yes, please mention in separate sheet.
14. Whether technical specification are attached with Technical Bid or not. Yes/No

DECLARATION

1. The rates quoted in financial bid are inclusive of all taxes, packing, handling and installation charges.
2. The information given in the financial bid by the undersigned is correct.

(SIGNATURE OF THE BIDDER)
WITH SEAL

NAME : ……

ADDRESS : ……

: ……

: ……

Tel./Mobile No. : ……

Note: The financial bid is required to be submitted separately in a sealed cover super scribing as 'Supply of Equipments for Surveying Laboratory of School of Engineering.

Annexure : 'A'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: SURVEYING LABORATORY

Sl. No.	Name of Equipments with specification
1	Survey Chains; Conforming to IS : 1492, Made of 8 SWG Wire
2	Distance Measuring Tapes conforming to relevant BIS code.
	(A) Freeman's make or equivalent
	(B) Steel tape
	(C) Invar Tape
3	Wooden Pegs – conforming to relevant BIS code
4	Chaining Arrows : Made of hardened round steel, painted red and white. 7/32" Dia., 14"L; Conforming to relevant BIS code.
5	Ranging Rods : Made of steel conduit pipe. Alternatively painted black and white or red and white. Fitted with strong shoe at the bottom; conforming to relevant BIS code.
6	Plumb bobs made of brass, conforming to relevant BIS code
7	Cross staff, conforming to relevant BIS code
8	Optical square round type complete with wooden box, conforming to relevant BIS code
9	Prism square complete with wooden box, conforming to relevant BIS code
10	Offset rod, conforming to relevant BIS code
11	Survey umbrella; 62" Diameter. 1-1/4" x 83" pole, 2 vinyl
12	Plane table with tripod stand conforming Is:2539 1963 BIS code
13	Alidade (Telescopic) conforming to relevant BIS code
14	Clinometer conforming to relevant BIS code
15	Trough Compass conforming to relevant BIS code
16	Spirit level conforming to relevant BIS code

Sl. No.	Name of Equipments with specification
17	Plumbing fork conforming to relevant BIS code
18	**Prismatic Compass** Prismatic compass with coloured glasses and aluminium stand in waterproof cover; 112 mm dia., full non–magnetic metal body, arrangement for lifting and locking of needle when not in use. Hermetically sealed against moisture and dust, foldable and portable aluminium stand, aluminium floating circle graduated to read 30', sliding prism fitted with coloured glasses; High Quality and Robust, Accurate to within 30 Minutes / 10 Mils, x 24 Magnification through prism, Tritium illumination (5 s). Less than 0.25 degrees or 5 Mils. Friction Robust Brass constructions for longer life. Conforming to IS-1957-1961.
19	**Surveyor's Compass** Made of gun metal with metal circle graduated to full degree with two bubble and bar needle fitted with real agate stone to give very accurate bearing, supplied in fiber case with Aluminium stand having ball and socket head. Confirming to relevant BIS code.
20	**Hand Levels** Complete with canvas cover; 1 11/16" radius arc graduated 0 to 90 degrees in both directions and 6ocusin reading to 10 minutes. Also includes percent scale reading 0 to 100 percent in both directions. Other features include 1:100 stadia, easy-slide focusing motions for objective and eyepiece and durable enamel finish. Instrument is 7 3/4" on extending to 8 5/8".
21	**Dumpy Level** Internal focusing telescope having 3 foot screws leveling base with locking arrangement, diaphragm etched on glass with Stadia 1:100, screw focusing eye piece, highly sensitive spirit bubbles, aperture not less than 3.76 cm. Magnification 38 X, fitted with magnetic compass having prismatic reader, longitudinal bubble with folding reflector. Kept in wooden box with Aluminium Folding Stand.
22	**Tilting Level** Telescope magnification 25 X or better, Objective aperture 40mm, Minimum focus 1.8m, Accuracy (Standard deviation) for 1km double-run 6ocusing 2.0 mm without micrometer. Main level sensitivity 40" / 2mm, Horizontal circle graduation 1" (1gon).
23	**Auto Level** Telescope: Magnification – 28 X or better, Aperture – 30 mm, erect image, field of view – $1^{o}20'$, shortest focusing distance 0.60 m; Accuracy: +/- 1.5mm or better; Leveling Accuracy 1.5mm @ 60 m or better; Compensator: Air Dampened.
24	**Staves** 4M Satff-4sec, Telescopic, Iodized coated
25	**Digital Compass** Digital compass, three-axis tilt-compensated digital compass capable in provide three-dimensional absolute magnetic field measurement and full 360 degree tilt compensated bearing, pitch, and roll. Supplied with suitable algorithm for 3-D and 2-D algorithm for fast, accurate, in-field, on-equipment calibration, Selectable baud rates (up to 115,200 Baud or better), digital filter. Compass should have automatic heading stabilization under motion conditions. It should have capabilities of declination corrections.

Annexure : 'B'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: SURVEYING LABORATORY

Sl. No.	Name of Equipments with specification
1	Digital Planimeter Measuring range: 325-600 mm vertical; 30 m horizontal, Accuracy: within ±0.2% (within ±2/1000 pulses).
2	**Vernier Theodolite** 20" least count with diaphragm extractor, sun filter, ray shade, cleaning brush etc. with telescopic aluminium stand in waterproof cover ; IS 2988, 178 mm internal focusing telescope, 20 sec accuracy with optical plummet, full metal body, Hermetically sealed against moisture and dust, erect image, 25 X magnification, effective aperture 38 sec, field of view 2.6m at 100m, short focus 1.5m, range 700', stadia ratio 1:100, zero stadia constant, horizontal circle diameter 113mm, vertical circle diameter 100mm, graduation and Vernier reading 20 sec, vertical circle level sensitivity ½" mm and vertical circle level 45/2" mm.
3	**Electronic Theodolite** Telescope : Image erect, magnification – 30 X or better, Aperture – 40 mm, Focus distance – 1.35 m or better, Field of view – $1^{o}30'$, Stadia ration/constant – 100/0, Optical plummet : erect image, 3X magnification, focusing rage 0.50 m, Reticle type cross hairs; Angle measuring system: least count – 1" or better, precision – 2" or better, Display – dual, large character, backlit LCD; Tilt Sensor: Automatic compensator - +-3" range, user set on/off; Vials: Tubular – 30"/2 mm, Circular 8'/2 mm; One touch button functions; Dust –water proof.
4	**Digital Level** Electronic Measurement: Invar precision bar code staff – 0.7 mm; Standard bar code staff – 1.3 mm; Visual measurement – 2.0 mm; Distance measurement with a 20 m sighting distance , visual measurement – 25 mm, Standard bar code staff – 30 mm, visual measurement – 0.30 m. Range : Electronic measurement – 1.5 m to 100 m, visual measurement from 1.30 m, Resolution height measurement – 0.1 mm, Resolution distance measurement – 10 mm, Measurement time – 2 sec. Horizontal Circle : Type of graduations – 360 degrees, graduation interval – 1 deg estimation to 0.1 deg; Single measurement with and without stationing, stakeout, line focusing with intermediate sight and stakeout, Levelling method - BF, BFFB, aBF, aBFFB; Environment : Operating temperature - –20 °C to +50 °C, Dust and water proof – IP55. Telescope : Magnification – 26 X or better, Aperture – 40 mm or better, Field of view – 2.2' or better, Electronic measurement field – 0.30 m; Compensator : Inclination range - ±15' or better, Setting accuracy - ±0.5" or better, Circular level – 8'/2 mm with illumination; Display – graphical 240 x 160 pixels, monochrome with illumination; Keyboard – 19-key alpha-numeric and 4 way arrow key for navigation; Recording – Internal memory – up to 30 000 data lines, External memory – USB Flash Drive support; Data transfer – USB Interface for data transfer between DL and PC (means two way communication); Power supply : Internal battery – Li-Ion, 7.4 V / 2.4 Ah, Operating time – 3 days working without illumination, Weight including battery – approx 3.5 kg.

Sl. No.	Name of Equipments with specification
5	**Hand Held GPS** GNSS handheld mapping device suitable for GIS data collection and mapping. It should have open operating system, built-in communication facility; It should have Extended Connectivity and multimedia features, Windows Mobile standards for full 3rd party software compatibility, Ancillary sensors interfacing, GNSS scalability: GPS or GPS/Glonass configurations, Compatible with 3rd party networks (VRS, FKP, MAC). Windows Mobile 6.5 operating system. Capable in collection of GIS/GPS points and maps via the GIS application any third party GIS software such as ESRI® ArcPad® etc., Integrated speaker and microphone, Audio jack. **Constellation :** GPS, GLONASS, SBAS, **Channels :** 24 or more, **Frequency :** L1, L2, **Update Rate :** 0.05 sec or less, **Data format :** RTCM 3.1, ATOM, CMR(+), NMEA, **Real-time Accuracy - RTK mode (HRMS) :** 1 cm or less, **Real-time Accuracy - DGPS mode (HRMS) :** < 30 cm or less, **Real-time Accuracy - SBAS mode (HRMS) :** < 50 cm or less, **Post-Processed Accuracy (HRMS) :** < 30 cm down to 1 cm or less, **Time to first fix :** 15 sec or less, **Initialization range :** Below 10 kms or more in L1, **Processor :** 806 MHz, **Operating system :** Windows Mobile 6.5, **Communications :** GSM/GPRS, BT, WLAN, **Unit size:** handy, Light Weight, **Display :** 3.5“, **Memory :** 256 MB SDRAM / 2 GB NAND / SDHC, **Temp Min (°C) :** -20°C / -4°F, **Temp Max (°C) :** 60°C / 140°F, **Waterproof, Shock & vibration :** ETS300 019 & MIL-STD-810, **Power (type - lifetime) :** 6600 mAh Li-Ion / > 8 hrs, **Antenna Type :** Internal / External With all Standard Software: Microsoft Office Mobile, includes Excel Mobile, Word Mobile, Internet Explorer Mobile, Outlook Mobile, and PowerPoint® Mobile, Adobe Reader, Transcriber (handwriting recognition). All required software for surveying and mapping applications. Standard Accessories: AC Power supply with international adapter kit, USB data cable, Stylus (2-pack), Wrist lanyard, Rechargeable Li-ion battery, Quick Start Guide, Getting Started CD, containing User Guide.
6	**Laser Distance Meter** The versatile laser distance meter, Equipped with a digital Point finder with 4x zoom, high-resolution 2.4“ colour display, 360° tilt sensor and Bluetooth ® technology, Measuring range of 0.05 m up to 200 m (0.16 ft up to 650 ft), typical accuracy ± 1.0 mm / ± 0.04 in. AutoCAD plug-In capability for drawings.

Annexure : 'C'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: SURVEYING LABORATORY

1	**Robotic Total Station** Robotic total station with 2" or better angular accuracy, Optical Measurement system shall be capable of measuring angles and distance with inbuilt memory as well as external memory support by USB Memory device or Compact Flash Card Drive and detachable Tribrach with built in optical centering plummet & Colour Graphical Display on both sides; Main unit should be capable of positioning itself on its own as per parameters set by user, it should have automatic pointing correction to monitor as well as correct the effect of Tilt axis & Collimation; It should have automatic level compensator centered dual axis type with a accuracy of 0.5" or better and with a range of ±5' or more. The instrument should be able to measure accurately even after vibration and sinkage – it should actively correct errors for unwanted movements; It should be able to track prisms automatically upto 2500 meters; it should incorporate both active as well as passive tracking capabilities; Distance measurement range without reflector shall be upto 2200 m or better on white surface & upto 5500 m or better with single prism under average atmospheric conditions; The unit shall be capable of automatically search & lock on to the prism within a distance range of upto 800 meters or better. Accuracy of the system shall be 2" (Angular) or better, Accuracy in prism mode: standard 2 mm + 2 ppm or better, standard deviation according to ISO17123 should be 1 mm + 2 ppm or better, Measuring time – prism mode: standard – 1.2 s or less, tracking – 0.4 s or less. , (Distance with & without Prism), and with the least Count of 0.1" (Angular) & 0.1 mm (Distance); The unit should be operational in Robotic mode (from the Prism end) by connecting the control unit on the Rod; it should be possible to perform all the functions in Robotic mode as well, Autolock and Robotic range – passive prism 500-700 m, Autolock pointing precision at 200 m: Passive prism < 2 mm, Shortest search distance should be – 0.20 m or less, Angle reading least count – standard – 1", Tracking – 2", averaged observation 0.1", Search time – 2-10 sec. Servo system should have latest technology with integrated servo angle sensor, electromagnetic direct drive with rotation speed 110 degrees /s or better, rotation time face 1 to face 2 – 2.6 s or less, positioning speed 180 degrees 2.6 s or less. Telescope magnification shall be 30 X or better; Display on both faces; Display shall be illuminated colour Graphical LCD of minimum 320 x 240 pixels or better capable of displaying points, lines and polygons with point id's on the instruments display; Zoom in and Zoom out facility should also be available; Display should have status icons to indicate parameters like battery status, memory status, instruments face, measurement type etc. should be touch sensitive & with Latest Windows Mobile Operating system. Memory shall be minimum 128 MB SDRAM, 1GB Internal non-volatile storage memory & 2GB or higher external using Memory stick/compact flash card; Battery of the instrument shall be Re-chargeable Lithium-ion battery, capable of continuous operation of 6 hours or more. Two spare batteries are also to be supplied along with the instrument, without any extra cost. Provision for connecting 12 V car battery should also be provided, Onboard Programs display for all the survey e.g. automatic monitoring with defined time interval,

	Traverse/Surveying with graphical display of Points, lines and polygons, Setting out/Stake out of points, Area computation as well as division in the field, COGO (Coordinate Geometry), for performing various coordinate geometry calculations like calculating direction, distances and coordinate differences between 2 known points or for calculation of coordinate from given distance and angle from known point. Intersection points between lines should also be possible; Program for automatic Monitoring should be available; The unit should be capable of measuring at least 30 points per minute in auto scanning mode; The instrument shall be capable of working in between the temperature range from -20 to 50 degree centigrade (Operation) and better in storage. It shall be capable of working in 95% Non-condensing Humidity; Software required for data acquisition and detailed surveying related analysis like contour generation, map preparation etc. shall be included in the offer.
2	**Total Station : Motorized, Semi Automatic** Angular Measurement accuracy, 2" or better; Least count for angular measurement 1" or better; Automatic level compensator – Dual-axis compensator + 5 (+ 100 mgon); Distance Measurement – accuracy (s. dev.) *w*ith prism mode (+ / - 2 mm + 2 ppm) mm, standard - + (+ / - 5 mm + 2 ppm) mm, tracking - + (3mm + 2 ppm), DR mode - + (10mm + 2 ppm); Shortest possible range to a prism – 1.5 m; Measuring time - prism mode – 1 to 2 sec or better, DR mode 1-4 sec or better; Range – prism mode, 1 prism – 2500 m, 3 prism – 5000 m or better, DR mode – 400 m or better; Control Unit – CU with touch screen operating system, processor with speed of 624MHz or more, Integrated Blue tooth communication, COLOURED Graphical display of the measured points, with numbers, lines etc., able to load DXF background map for viewing and checking for greater data control & confidence, Compatible for integrated survey using GPS receivers. Date transfer in the field using Compact flash and/or USB Memory stick directly plugged to the instrument for cable free downloading; 128MB Internal SD RAM, 128MB Flash Memory; Display – colour, readable in daylight with touchpad and resolution 320x240 pixels; Telescope Focusing – Servo driven (Motorized) focusing for easy operation; Power – 6 hours of continuous operation with single internal battery; Operating temperature - 20 Deg to + 50 Deg C; Light Source – Laser pointer coaxial (standard)- Pulsed laserdiode 660 nm, Laser class 1, Laser class 3R , Beam divergence – horizontal (4 cm/ 100 m), vertical (4 cm/ 100 m), Atmospheric correction - 130 ppm to 160 ppm continuously; Circular level in tribrach -8'/2 mm; Electronic 2-axis level in the LC-display with a resolution of 0.30 "; Servo system –integrated servo/angle sensor electromagnetic direct drive; Rotation speed – 85 degrees/sec, Rotation time Face 1 to Face 2 – 3.2 sec; Clamps and slow motions – Servo-driven, endless fine adjustment centering; 3-pin centering system; Built-in optical plummet; Magnification / shortest focusing distance – 2.3 X / 0.5 m-infinity (1.6 ft – infinity); Telescope – Magnification – 30X or better, Aperture – 40 mm, Field of view – 2.6 m at 100 m, shortest focusing distance – 1.5 m, Dust and water proof – IP55; Power supply – Internal battery – rechargeable Li-ion battery 11.1 V, 4.4 Ah, 6 hour operating time; Controller software – Software should be able to support data collection, feature, coding, cogo functions, should be able to generate plots, should be able to do sub-division of plots, should support, active DXF maps as background files, should be able to link ASCII files with graphic display of measured points & points from the linked file; Downloading Software – Field Data Module (FDM) software Pack should be capable of generating area, volume, automatic drawing generation from feature code, 3 Dimensional View, Generation of formats to Export to third party software, complete FDM software pack supplied with original software CD and manual; ; Complete in all respect along with all accessories.
3	**Total Station : 2"Accuracy** Angular measurement accuracy, 2" or better; Least count for angular measurement 1" or better; Automatic level compensator, type – dual axis with a working range of +/- 3.5 min or

	better; Telescope magnification – 30X or better; Distance measurement should be with and without prism; capable of distance measurement with class 1 laser (Reflector less/Prism mode), class-2 laser (laser pointer/laser plummet); Measuring time 1 – 2 sec or better; Distance accuracy *w*ith prism – 3500 meters or better and without prism – 270 meter or better; Distance accuracy *w*ith prism (+ / - 2 mm + 2 ppm) mm and without prism – (+ / - 3 mm + 2 ppm) mm; Distance measurement range – under normal atmospheric condition i.e. 20 kms visibility; Detachable tribrach for traversing application; Rechargeable batteries; Rechargeable lion internal batteries (1 no + 1 no additional) working time up to 6 hrs each minimum (total capacity 12 hrs, min for 2 batteries); Charger with cable – one set, Instrument should be able to operate on external 6 v battery, necessary original battery cables to be provided; Operating temperature - -20 deg. C to + 50 deg. C or better; Friction clamp with endless slow motion for fine movement of telescope; Inbuilt laser plummet; Track light / guide light preferred in the instrument for fast stake out operation and signalling; Automatic change of signal (prism) height with change from ir to dr mode in instrument; Data downloading – from suitable data storage device to computer, Instrument should have facility to connect USB drive or card memory; Instrument Control unit / keyboard – windows ce.net color controller, touch screen having front light illumination with passive touch screen works with stylus or finger – display unit should be day light readable in bright outdoor atmospheric conditions –control unit should have both touch screen and hard key pad operation, Display – colour graphical display; Communication port – R 232 port with minimum two of the below communication port should be Available in the instrument Serial/ USB/ Ethernet/memory card slot/ Bluetooth; Instrument memory – internal 128 MB or better; External – card memory/USB drive with total memory storage capacity of 2 GB or better; Controller software – Software should be able to support data collection, feature, coding, COGO functions, should be able to generate plots, should be able to do sub-division of plots, should support, active DXF maps as background files, should be able to link ASCII files with graphic display of measured points & points from the linked file; Survey software – Software capable of generating – CAD based automatic drawing, generation from feature codes – area – volume – 3 dimensional view, generation of formats to export to third party software; Complete in all respect along with all accessories.
4	**Single Frequency GPS** Single frequency versatile post-processing GPS system suitable for easy and efficient land survey. **Constellation,** GPS/GLONASS/SBAS, **Measurements** – 12 Channels or more, L1 C/A Code, L1 Full Cycle Carrier, WAAS/EGNOS, GPS technology for robust satellite tracking; **Static and Fast Static GPS surveying –** Horizontal - ± (5 mm + 1 ppm) RMS or better, Vertical - ± (5 mm + 1 ppm) RMS or better; **Kinematic surveying –** Horizontal - ± (10 mm + 1 ppm) RMS or better, Vertical - ± (20 mm + 1 ppm) RMS or better. Operating system: Windows Mobile 6.5, Communications: GSM/GPRS, BT, WLAN, Power (type - lifetime): 6600 mAh Li-Ion / > 8 hrs, Antenna Type: Internal / External. **HARDWARE :** Handy and light weight, Casing – lightweight, fully sealed, toughened industrial plastic, Dust and water proof – IP6X & IPX7; Shock and vibration tested and meets the following environmental standards – Shock – Should survive a 1 m (3.28 ft) drop onto concrete, Vibration -Should have on each axis; **Electrical –** power DC input 5.0 V, Power – 0.6 W receiver and antenna (also external antenna). Complete set will required tools and accessories along with complete processing software for final output (GNSS and Mapping). Equipment should be workable in India as per relevant standards.
5	**Dual Frequency Integrated GPS** Dual frequency full featured GNSS positioning equipment, Base/Rover; Constellation: GPS, GLONASS, SBAS, GALALIO, Measurement – Advanced Survey chip with 72 Channels or more; High precision multiple correlator for GPS pseudo range measurements; Unfiltered, unsmoothed pseudo range measurements data for low noise,

	low multipath error, low time domain correlation and high dynamic response; Very low noise carrier phase measurements with <1 mm precision in a 1 Hz bandwidth; Signal-to-Noise ratios reported in dB-Hz; Proven low elevation tracking technology; Satellite signals tracked simultaneously – GPS: L1C/A, L2C, L5, L2E (method for tracking L2P) signals, GLONASS: L1C/A, L1P, L2C/A (GLONASS M only) signals, L2P, SBAS: L1C/A. **Code Differential Positioning Accuracy:** Horizontal -0.25 m + 1 ppm RMS, Vertical – 0 .50 m + 1 ppm RMS; WAAS differential positioning accuracy typically <5 m 3DRMS. **Static and fast static Surveying Accuracy:** Horizontal 3 mm + 0. 1 ppm RMS, Vertical 3. 5 mm + 0. 4 ppm RMS. **Kinematic surveying :** Horizontal 10 mm + 1 ppm RMS, Vertical 20 mm + 1 ppm RMS; **Initialization time typically <25 seconds :** Initialization reliability5 typically >99 9%, Data storage on 11 MB internal memory: 302 hours of raw observables, based on recording every 15 seconds from an average of6 satellites, 1 Hz, 2 Hz, 5 Hz, and 10 Hz positioning, CMR+, CMRx, RTCM 2 1, RTCM 2 3, RTCM 3 0, RTCM 3 1 Input and Output, 16 NMEA outputs, GSOF, RT17 and RT27 outputs Supports BINEX and smoothed carrier. SHOULD BE QUOTED WITH STANDARD ACCESSORIES WITH THE SYSTEM : Tripod FOR Base and Rover as required Tribrach, Tribrach Adaptor, Batteries standard to work sufficient as mentioned – Chargers, Manual, Necessary tools to operate, Processing Software for final output (GNSS and Mapping). Equipment should be workable in India as per relevant standards.

GENERAL TERMS AND CONDITIONS

1. Detailed information about the Equipments/Instruments and their specifications are available in tender document, which can be downloaded from the University website www.gbu.ac.in.
2. Two bids system of tender will be adopted.
   (i) The bid containing technical specifications and EMD
   (ii) Bid containing financial offer

   Technical and financial bids should be submitted in separate covers. The envelopes should be marked as technical bid and financial bid with reference numbers. These two envelops shall be sealed in a common cover and addressed to **The Registrar, Gautam Buddha University, Greater Noida, Gautam Budh Nagar -201310 (U.P.)** superscribing "**Tender against Notification Advt. GBU/S&P/04/2011, Name of supply: Laboratory Equipments for the Surveying Lab. in School of Engineering"** so as to reach us on or before last date of bid submission.

3. The Technical Bid and Financial Bid should be duly filled-up.
4. These bids will be opened in two stages. The bid containing technical specifications and EMD will be opened at first stage and if same is found according to required specifications, the bid containing financial offer shall be opened in second stage.
5. The "**Technical Bid"** shall contain all documents in support of quoted Equipments/Instruments, their specifications, commercial terms & conditions and eligibility criteria along with the page number for cited specifications in the company brochure for the particular item.
6. The **"Financial Bid"** shall contain price schedule only. The rates and units shall not be overwritten in the price schedule. The price shall be both in words and figures.

7. **Eligibility Criteria**: All the participating suppliers/firms or principal manufacturer- should meet the following qualifying criteria. The firm should be a registered supplier for such supplies. Following documents are required to be submitted with Technical Bid, to qualify eligibility criteria:
   (a) Sales Tax/VAT registration certificate.
   (b) PAN and TIN number should be mentioned.
   (c) The firm should have experience of supplying & installation for similar Equipments/Instruments to institute of National repute such as IIT, AIIMS, CSIR labs etc. The company should also furnish a list of clients of last 3 years.
   (d) Certified copy of balance sheet with trading, profit & loss account for the last three financial years should be submitted.
   (e) Name of branch offices & service centres after sales arrangements.
   (f) Earnest Money Deposit (EMD) **as 2% of the offered cost** is required to be submitted in the form of DD/Banker's Cheque only drawn in favour of "Finance Officer, Gautam Buddha University" payable at "Greater Noida" along with the Technical Bid. If supply is not made within the prescribed period EMD would be forfeited.
   (g) Authorized signatory should sign on all pages. Bids without authorized signature will be rejected.
   (h) ***Minimum turnover required to procure the equipments/instruments :*** *No turnover is required for Annexure – 'A', Rupees One Crore for Annexure – 'B' and Rupees Two Crore for Annexure – 'C'.*
   (i) The bidder must be either sole Manufacturer of the Equipments/Instruments or the authorized agent/representative of the OEM. In the case of agent/representative, certified copy of the agency/authorization issued by the OEM should be enclosed with the tender.

8. Offer should be sent in a sealed envelope, submitted either in person or by post on which name and address of the supplier/firm shall be written. Tenders received through E-mails or FAX will not be considered.
9. The technical bids will be opened on scheduled date and time in the presence of the vendors present possessing authorization letter from the respective companies/firms. Suppliers intending to attend the tender opening should intimate in advance.
10. The rate quoted should be F.O.R. Gautam Buddha University (Gautam Budh Nagar, Greater Noida, UP) in rupees inclusive of all charges e.g. packing, forwarding local taxes, railway freight, transit insurance, for outside firms and free delivery at University stores in the case of local firms. The total price should include all accessories required for final installation of the Equipments/Instruments.
11. The Equipments/Instruments should have USEPA/International/National validation certificates, wherever applicable.
12. The cost of the tender is Rs.1000/- (Rupees One Thousand) inclusive of taxes (Non-refundable) and it shall be paid separately in the form of DD/Banker's Cheque only drawn in favour of "Finance Officer, Gautam Buddha University" payable at "Greater Noida" and should be attached with technical bid envelope.
13. The EMD of the successful bidder will be refunded after two months of the completion of the supply and installation of the Equipments/Instruments to the satisfaction of the Gautam Buddha University. The EMD of the unsuccessful bidders will be returned to the concerned immediately after finalization of the tenders. No interest will be paid on EMD in any case.
14. The required delivery period must be mentioned against each item. Tenders should preferably be given only for those equipments/items/articles, which are available ex-stock. Rates of imported goods should be quoted excluding custom duty, as this University is exempted from payment of custom duty (by letter of Department of Scientific and Industrial Research, Ministry of Science & Technology, GOI).
15. Detailed specifications with the mention of make and model/Version of each item should be clearly given supported by the illustrated pamphlets wherever possible. Quotations without specified make and Model/Version and other particulars may be rejected. The payment will be made after the goods have been received, opened, checked, installed and found to be working satisfactorily as per the specifications and requirements. The accessories included in the Equipments/Instruments should also be clearly mentioned.
16. Losses or damage in transit will be borne by the Supplier. The supplier may, if he so desires, get the goods insured and include such charges in the tendered rate.
17. Offered prices should be valid at least for two months from the last date of receipt of tenders.
18. All legal proceedings, if necessity arises to the University may be any of the parties (University or Contractor/Supplier) shall have to be lodged in the courts situated at Gautam Buddha Nagar and not elsewhere.
19. (a) The Equipments/Instruments delivery time should be preferably within 4-6 weeks after the date of issuance of the purchase order. If the delivery time is quoted more than 4-6 weeks, GBU reserves all rights to permit the bidder to compete.

    (b) The Penalty Clause is as under:-

    Should the bidder fail to deliver the goods within stipulated period**,** the Competent Authority may, at his discretion, allow an extension in time subject to recovery from the bidder as agreed liquidated damages, and not by way of penalty, a sum equal to the percentage of the value of tender amount which the bidder has failed to supply for period of delay as stated below:-

i.Delay up to one week	1%
ii.Delay exceeding one week but not	2%

exceeding two weeks	
iii. Delay exceeding two weeks but not exceeding one month	5%
iv. Delay exceeding one month	5% for each month and part there of subject to maximum 10%

(c) In case of failure to supply the goods within stipulated delivery period and in accordance with the specifications given in the quotations, the University shall be free to cancel the order.

20. Supply of the placed order in part will not be accepted.
21. The University's term for payment: 90% against delivery of items in good condition, installation and putting those in satisfactory working conditions; balanced 10% payment shall be released after 60 days of satisfactory working of the items. For balance 10% payment, the firm has to raise bill/letter for balance payment. No advance payment shall be released.
22. The AMC cost, wherever applicable, after warranty period shall be made in equal installments at the end of each quarter subject to satisfactory service rendered.
23. The price quoted should be in Indian Rupees.
24. No revision of price bid will be allowed once the price bids are opened.
25. No increase in price will be allowed after our purchase order(s) are placed.
26. Warranty certificate against all the Equipments/Instruments developed defects covering warranty period, which commences from the date of installation shall be given at the time of supply of the Equipments/Instruments.
27. Inspection certificates of the equipments/instruments inspected by the qualified engineer of the manufacturer and packed in accordance with the terms and conditions of this order must be enclosed.
28. During the warranty period whenever the firm is called upon to attend to the rectification of the defects/faults in the consignments, the firm shall attend to the repair work within a period of a week. They should render timely back up service whenever called upon. A certificate to the effect should be attached to the tender.
29. A certificate to the effect that Equipments/Instruments supplied is fully operational and no additional accessory or space is required to fully functioning the Equipments/Instruments should be issued along with the delivery challans/invoice. GBU reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
30. Complete user, technical and service manuals/installation drawings/documentation and spare parts catalogue are to be provided along with the supply of the item.
31. Failure to comply with all the terms and conditions mentioned herein would result in the tender being summarily rejected.
32. Vendors are informed that once the firms are shortlisted based on the eligibility criteria and technical specifications, only then the financial bids of the firms meeting eligibility criteria, technical specifications / requirements would be opened.
33. Conditional tenders will not be accepted.
34. Any cutting and overwriting in the financial bid will not be accepted.
35. GBU reserves the right to change the order quantity or split the orders among multiple vendors without assigning any reason (s) whatsoever.
36. GBU reserves the right to reject any or all the tenders without assigning any reasons whatsoever.

Registrar
Gautam Buddha University

ACCEPTANCE

We accept the above terms and conditions and shall comply with them strictly.

SIGNATURE OF THE AUTHORISED SIGNATORY : ……

NAME OF THE SUPPLIER : ……

ADDRESS : ……

: ……

: ……

Annexure : 'A'

FINANCIAL BID

Name of Laboratory : Engineering Workshop

Name of the School : School of Engineering

Sl. No.	Name of Equipments	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Survey Chains				
	Metric chain 20 m length	**03**			
	Metric chain 30 m length	**03**			
	Gunter's chain, 100' length	**03**			
	Revenue chain	**03**			
2	Distance Measuring Tapes				
	Freeman's metallic tape, 30	**05**			
	Freeman's metallic tape, 50 m	**05**			
	Steel tape, 20 m	**02**			
	Steel tape, 30 m	**02**			
	Invar Tape 20 m length	**02**			
3	Wooden Pegs	**80**			
4	Chaining Arrows	**150**			
5	Ranging rods	**60**			
6	Plumb bobs made of brass	**15**			
7	Cross Staff	**12**			
8	Optical Square round type	**10**			
9	Prism Square	**10**			
10	Offset Rod	**10**			
11	Survey umbrella	**05**			
12	Plane Table	**05**			
13	Alidade (Telescopic)	**07**			
14	Clinometer	**02**			
15	Trough Compass	**07**			

Sl. No.	Name of Equipments	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
16	Spirit Level	**07**			
17	Plumbing Fork	**07**			
18	Prismatic Compass	**10**			
19	Surveyor's Compass	**05**			
20	Hand Levels	**02**			
21	Dumpy Level 9 "	**10**			
22	Tilting Level	**02**			
23	Autolevel	**02**			
24	Staves	**12**			
25	Digital Compass	**01**			

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____

Annexure : 'B'

FINANCIAL BID

Name of Laboratory : Engineering Workshop

Name of the School : School of Engineering

Sl. No.	Name of Equipments	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Digital Planimeter	**02**			
2	Vernier Theodolite	**10**			
3	Electronic Theodolite	**02**			
4	Digital Level	**05**			
5	Hand Held GPS	**05**			
6	Laser Distance Meter	**02**			

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____

Annexure : 'C'

FINANCIAL BID

Name of Laboratory : Engineering Workshop

Name of the School : School of Engineering

Sl. No.	Name of Equipments	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Robotic Total Station, 2" Accuracy	**01**			
2	Total Station : Motorised, 2" Accuracy, Semi Automatic	**01**			
3	Total Station : 2" Accuracy	**04**			
4	Single Frequency GPS (Base / Rovers)	**06**			
5	Dual Frequency DGPS (set of base and rover)	**01**			

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____