Sealed Quotations/Bids (One Technical and One Financial separately) are invited from manufacturers or their authorized dealers for the following Item which should be sealed by the tenderers in separate covers duly super scribed and both these sealed covers are to be put in a bigger cover, which should also be sealed and duly super scribed, on the terms and conditions mentioned below.

Quotations should reach this office on or before 04.12.2017 by 3:00 P.M.

**Specification for Standalone Color Doppler USG Machine**

1. General:
   a. System Architecture should be capable of supporting higher image processing channels with state of the art semi compound pulse wave generator technology for accurate contrast and spatial resolution with precise delay timing control for high resolution beam etc.
   b. System should be capable of taking broad band probes.
   c. Capability to incorporate Electronic Convex, Linear, Phased Array technology probes must with frame rate more than **745 frames/sec**.
   d. System should have minimum of 12 Bit A/D Converter (4096 gray scale)
   e. System should have special Beam signal processing technology (Dynamic apodization).
   f. System should have zoom and read zoom.
   g. System should have maximum depth of 30 cm.
   h. System should have spatial compounding of 5-15 deg with increment of 5deg.
   i. System should have Speckle Reduction in Convex, Linear, Phased array & Vaginal probe with user selectable Speckle Reduction values.

2. System Operating Modes:

The System should be capable of operating in following modes.
   a. Free Angular M Mode with 3 Cursors both in real time & on frozen image in all the probes, with with M Mode cursor rotation of Complete 360 Degree, system should have provision of getting M-mode image from the stored B-mode image.
   b. System should be with facilities of Color Flow, Directional Power flow & High spatial & temporal resolution Color Flow (e-Flow).
   c. **User should able to choose 5 different frequency in each probe (B-mode) E, this change in frequency should displayed in the monitor.**
   d. System should support min 180 deg TV probe with radius of the probe should not be more than 9mm.
   e. System should have PW Doppler, HPRF, CW, Doppler.
   f. In Color flow imaging, user should be able to change the frequency from Resolution, Standard & Penetration.
   g. Hi Definition Flow –Color Flow imaging function that can display blood flow information in a high spatial and temporal resolution.
   h. Directional Hi definition flow fuction.
   i. Cine Memory-B **mode max 16,000 frames** & D Modes Max 1000 Seconds.
   j. Should be able to switch on color flow with Speckle Reduction on.
   k. System should allow us to take 10 pair distance measurement at a time on a frozen image.
   l. System should have special functions like new technology for better Resolution.

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5. Display Monitor:
   a. System should have minimum 3 live probe connectors.
   b. 15 inch viewing monitor; latest IPS Monitor Technology LCD Monitor with Tilt and Swivel adjustment together with the operational panel should be possible.
   c. System support operational panel adjustment Left to right & vice versa for operator ease of use.

4. Imaging Probes (optional), price to be quoted:
   a. Convex probe (2-6 MHz) harmonic probe
   b. Linear Probe (5-16MHz) harmonic probe

5. Measurement, Calculations and Reports:

   The system should be capable of measuring the following parameters
   a. Vascular analysis
   b. Report Functions-Cardiac, Obstetrics, Gynaecology, Vascular, IMT (Intima Media Thickness), Urological and abdominal.

6. Control Panel, Software and other features,
   a. All Controls and trackball to be ergonomically positioned for easy access and reduced operator fatigue.
   b. Full sized backlist alphanumeric keyboard with interactive back lighting of control panel switches.
   c. Digital Beam former with multiple (At least three) transit foci and dynamic receive focus.
   d. Should have at least 5000 digital channels.
   e. At least 256 grey scale levels in displayed images.
   f. System dynamic range of 150 DB or more.
   g. User Programmable presets for different types of examination.
   h. Automatic optimization function that optimizes the system parameter for B and Doppler modes.
   i. Acoustic output display in mechanical and thermal indices.
   j. Frame by frame and continuous cine loop review of 150 or more images acquired just prior to freezing an image.
   k. Magnification with scrolling/Panning in real time and frozen mode.
   l. Multiple Pre & Post processing functions and B maps.
   m. Should be able to store static images and cine clips in system hard disk.
   n. At least 5000 image storage and recall facility.
   o. It should be possible to Annotate and perform measurement functions on stored images.
   p. Dual Image, Dual composite image for linear and display of B+M Mode image in various size combinations.
   q. Application specific programmable annotations and Body Mark with image plane orientation.
   r. Space for keeping ultrasound Gel Bottle.

7. Essential Accessories.

   The Machine should be supplied with a suitable UPS

Terms & Conditions:
1. Make, Model, Rate and Tax detail MUST BE clearly mentioned in the quotation
2. Only typed quotations /tenders bearing GSTIN No. on original letter head will be entertained and please provide GST-HSN Code on each item separately.
3. Manufacturers/Authorised dealer’s certificate must be attached with Quotations/Tenders.
4. The firm must be registered supplier in Central Purchase Organization (e.g. DGS & D)/National Small Scale Industries/Central Purchase Office A.M.U, Aligarh.
5. List of users for the quoted item with contact no. should provided, Photocopy of purchase order along with terms and conditions of contract received from any Govt./Public Sector Institution in last 3 years for supply of offered equipment must be enclosed with the price bid.
6. Installation and commissioning will be the responsibility of the supplier and after sales service should be provided.
7. Cutting /Over writing on quotations /tenders will not be accepted.
8. The instruments should be rust proof, made from surgical grade stainless steel and should be FDA or CE, UL OR BIS approved product.
9. The equipment/Instruments might be called for demo, and approval. It is sole discretion of the department to approve or disapprove the quality.
10. Comprehensive on site warranty 05 years.