

### **Annexure-A**

## High End Whole Body 4D Ultrasound with Color Doppler System

1. Should be very high-end system capable of performing Whole body Ob/Gyn, Abdominal, Vascular, Cardiac, Small Parts, Musculoskeletal, TCD imaging applications.
2. System should have minimum 17" High Resolution non-interlaced flat monitor with tilt & swivel facility. The flat monitor should be movable and height adjustable.
3. The system should have the following modes: 2D, 3D with Multiplanar Reformatting, 4D, M Mode, PW, CW, Colour Flow Imaging, and Directional Colour Power Angio Imaging. Anatomical M-Mode, High Q Automatic Doppler Analysis, Intelligent Doppler Scan Facility, Tomographic Ultrasound Imaging capability of (TUI), pulse Inversion Harmonics, Tissue Doppler Imaging, breast-liver-other elastography facility, compatible with contrast color Doppler-facility.
4. The system shall support full screen display of all 3D views including individual A, B and C MPR views and simultaneous display of thumbnail views on the same system display monitor.
5. System should have at least 3 active ports.
6. System should have more 2000 Transmission channels.
7. System should have Color Doppler Imaging with Quad-beam receiving.
8. System should have Trapezoidal imaging of around 20%.
9. Cine for 256 frames and loop review.
10. System offering 2D imaging with volume probes will be preferred.
11. System should have integrated 3D/4D Imaging package.
12. System should have facility to cut 3D/4D image in different direction.
13. System should have Volume CT/Sono MRI or equivalent to enable a particular scan to be viewed in minimum 20 slices with cut facility from 1 mm.
14. System should have Dual Live Mode or equivalent.
15. System should have panoramic view with linear probe.
16. System should have Auto measurement facility.
17. System should have facility for future stress eco up gradation.
18. System should have Colour compare mode, Colour/Colour Power Mode and the normal grayscale mode, side-by-side or equivalent.
19. The system should have minimum 256 Greyscales or more.
20. Should have high frame rate per second and scanning depth upto 30cm.
21. All transducers should have Broad Bandwidth Beam former technology for extreme High Resolution 2D -Imaging. Frequency range of Transducers should be 1 to 15 MHz or more. This should be available without the -need for frequency switching.
22. System should have Tissue Harmonic Imaging.
23. System should have Adaptive Image Processing for noise and artifact reduction that Improves tissue conspicuity and margin definition.
24. High Dynamic Range of 150 dB or more.
25. System should have auto optimization features for ease of use and automatic Quantification of Doppler parameters in Real-time & freeze modes.
26. Pan Zoom facilities on live and freeze images.

### Quantification of Doppler parameters in Real-time & freeze modes.

26. Pan Zoom facilities on live and freeze images.

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26 Pan 3 on families on live an  
Dept of Obstetrics & Gynecology  
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Professor  
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RIMS, Imphal  
Assistant Professor  
Dept. of Chemistry & Physics

27. Facility for independent steering of B mode and Colour beam on liner probe.
28. Should have multiplanar 3D imaging in linear and 4D imaging with volume linear probe for Musculoskeletal Studies.
29. System should have an easy to use control panel, which can be raised up and down and also be rotated sidewise more than 180 degrees for use in ICU, OT etc. Should have an alphanumeric keyboard with illuminated keys and status display.
30. The system should have facility for gain adjustments using slide pot controls in both directions including the lateral direction for excellent image quality or equivalent.
31. System should have Image Management facility with facility for direct storage of images and loops in the Hard Disk Drive and also thumbnail review to view & edit images, loops and also reports.
32. Storage- should have image storage facility in the hard disk drive. Should have inbuilt 1TB hard disk for image storage.
33. Archive-should have inbuilt DVD/CDR-W and 3½ " Floppy disc with the facility to transfer images.
34. Advanced DICOM facility and capable of Networking and communicating Images through DICOM. System should be DICOM 3.0 compliant.
35. Equipment should have direct connectivity to Colour Inkjet/Laser printer for printing images & report, without any interface of computer.
36. The system should have extensive Calculation software package for Musculoskeletal Imaging, General Imaging, Obs/Gyn & Vascular Imaging.
37. System should be quoted with one 2D Convex probe of 3MHz to 6MHz frequency, one 2D Linear probe of 12 MHz or more frequency and one phased array Probe of around 2.5MHz, one volume convex probe 3MHz to 6MHz, one intra-cavitary probe for TVS and TRUS along with USG guided biopsy apparatus, one volume TVS probe.
38. Five years warranty required.
39. System should be US-FDA/CE optional and BIS preferable/mandatory.

**Equipment with above features to be offered with the following:-**

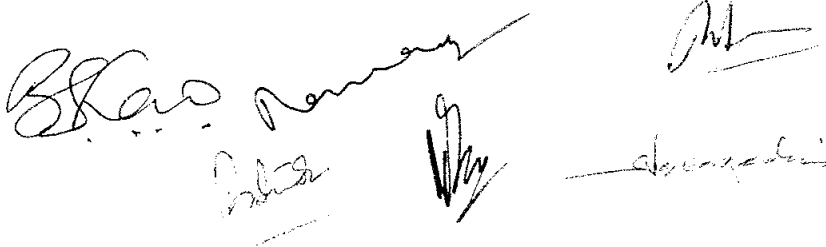
1. B/W Thermal Printer of latest model.
2. Colour Inkjet/Laser Printer for direct printing of Images from the system.
3. Online UPS with 30 min backup for entire system.
4. Digital SLR camera with 20 mega pixels.

(A) Please attach the original manufacture's product catalog and specification sheets, photocopy or computer printed will not be accepted.

(B) All information in the tender document must be supported with product data sheet. All information asked for must be provided in the same order as in the specification. Incomplete and ambiguous information will not be accepted.

GLP or any other mandatory Compliance should be satisfied.

Training programme to be provided for faculty.

The bottom of the page features several handwritten signatures and stamps. On the left, there is a large, stylized signature. In the center, there is a circular stamp with some illegible text inside. To the right of the stamp, there is another signature. Further right, there is a signature that appears to be 'Shankar'. On the far right, there is a signature that appears to be 'M. S. Srinivasan'.