SPECIFICATIONS OF ULTRASOUND MACHINE WITH COLOR DOPPLER (GYNAECOLOGY & OBSTETRICS)

1. Dual monitor fully digital color Doppler ultrasound system for Gynaecology & Obstetrics, capable of performing imaging advance applications.
2. System should have whole body scanning applications & software for wide range includes: Abdominal, OB/GYN, Cardiology, urology, small parts, vascular, orthopedic, anesthesia and MSK applications. Advance applications like Real time 4D, Tissue Elastography, and Contrast etc.
3. System should have following Scanning Modes: B, Dual B, Quad B, THI, PIH, M mode, Trapezoid Imaging, Color Doppler, Power Doppler Imaging, Directional PDI, Dual-Live, Real-time Panoramic Imaging, live real time 3D/4D imaging, Contrast Imaging, Elastography Imaging etc.
4. System must have compounding facility. Other equivalent Technology can also be offered. Processing technology in technical bid should be highlighted.
5. The system should have color doppler imaging, color doppler 3D / 4D option, power doppler imaging, power doppler 3D / 4D option, continuous wave, pulsed wave, duplex mode, triplex mode and tissue synchronization.
6. The system offered must have High definition Speckle Reduction Imaging, which is a real-time algorithm to increases contrast resolution by reducing speckle noise while maintaining true tissue appearance. This image processing technique should be able to remove speckles and clutter artefacts.
7. System must have speckle reduction facility in 3D/4D mode as well.
8. Anatomic M-Mode should be available with at least 3 M line cursors.
9. System must provide 8 TGC for adjusting the gain.
10. System must have provision of vertical gains called LGC for proper gain adjustments.
11. System should have facility for real time and frozen, pan or point zoom.
12. System should have a full screen zoom mode to occupy complete monitor display.
13. System must support high resolution 21.5” or more medical grade LED monitor, which is Anti-flickering, with Contrast and Brightness adjustments, with forward and backward Tilt, left / right swivel facility.
14. The system should be able to support at least 4 transducers with universal ports allowing electronic switching between transducers. All 4-transducer port should be active.

15. The system control panel height should be adjustable according to user preference.
16. The system should have a full alphanumeric keyboard and Customized Control panel & freely programmable, mode-sensitive at least 13.3" color Touch command Screen which enable direct access to all basic and advanced system controls.
17. System should have cine loop review minimum 30,000 frames.
18. System should have at least 256 gray scale for better imaging
19. The system should have a high dynamic range of 280 dB, higher will be preferred
20. System must provide multiple number of focal points, minimum up to 12, Also Focus span should be adjustable
21. Should have Auto Image optimization function, Physical key should be available on the keyboard for easy access.
22. System should have at least 1TB hard disk drive for digital image storage. There should be facility to upgrade if required.
23. System should have facility of inbuilt Battery backup of at least 30 minutes.
24. System should have at least 2 ports of Hi Speed USB for data transfer
25. The system should have the facility of digital storage and retrieval of B/W and color image data on built-in CD/DVD Drive
26. System should be provided with DICOM connectivity as standard.
27. The system should have real time 2D panoramic view imaging that operates by sweeping a transducer over the area of interest.
28. System should have tissue harmonic imaging facility.
29. The system should have real time Color Panoramic view imaging that operates by sweeping a transducer over the area of interest for seeing the vasculature
30. System must be able to upgrade to Auto NT measurement package in Obstetrics application.
31. System should provide FreeHand 3D Imaging in the convex probe.
32. System should have facility for torch focusing view or Live fetus view in 3D/4D applications
33. System should have Glass body/Silhouette feature in 3D /4D applications.
34. System should have 3D/4D Multi Slice view or tomographic mapping.
35. System should have 3D/4D Depth perception Maps for Volume image.
36. System must be compatible & future upgradable with TV Volume probe.

37. Automatic / Semi- Automatic Volume Calculation for Follicles in Convex Volume as well as TV volume probe (when upgraded to T V Volume probe)
38. Should have ISO/BIS /USFDA/CE
39. Type of processor should be i7 or latest.
40. System should be supplied with following probes:

- Broad band convex array transducer with bandwidth of 1-6 MHz
- Broad band linear probe for Vascular with bandwidth of 4-16 Mhz.
- Broad band TVS probe with bandwidth of 3-15 MHz with 200-degree FOV with temperature detection.
- Machine should be upgradable to 3D/4D imaging.
- Needle guiding attachment should be available with all probes.

41. Frame grabber facility should be present.
42. System should have more than 5 lac digital processing channel.
43. RAM- more than 4 Gb

44. <u>Accessories</u>

System should be offered with a Digital Color Printer. OEM authorization & warranty undertaking from the printer OEM should be uploaded with the bid.

a) working on the Dye Sublimation Heat Transfer technology
b) Having minimum 300 dpi resolution
c) Should have good quality laminated coat
d) Print size of 6X8 should be available

45. B/W Digital Thermal Paper Printer also be supplied with the system.
46. Online UPS for machine with 30 minute backup.
47. Bidder and Manufacturer should not be Blacklisted at the time of Bid.
48. Warranty : Five Years
49. CMC : Five Years after warranty period.