

SCHEDULE OF REQUIREMENTS & FULL TECHNICAL SPECIFICATIONS WITH COMPLIANCE
(Should be submitted duly printed on the letterhead of the bidder separately for each item and option)

**TECHNICAL SPECIFICATIONS – "Inductively Coupled Plasma Spectrophotometer-
Optical emission Spectroscopic (ICP-OES)"**

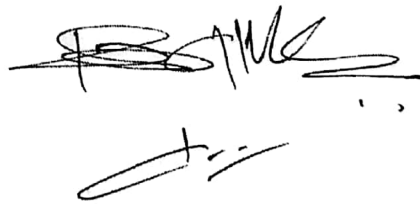
Main equipment:

1. One number of ICP-OES, a complete/Fully Simultaneous System in all aspects (Background correction, Analysis and Internal standards) with Polychromator with all the essential components is required to analyse wide range of elements (P, K, Na, Ca, Mg, S, Fe, Mn, Zn, Cu, B, Molybdenum, Cd, Ni, Hg, Cr, Pb, Al, Se, Ba, Co, Si, V and other elements) with concentration varying from percent, ppm to ppb using duo mode- Radial and Axial mechanism, in soil, water, plants, rocks, minerals, sediments, sewage and sludge, organic manures, fertilizers and different food materials, with higher flexibility and associated sensitivity.
2. Quote along with Hydride generator assembly and HF- Kit to facilitate the analysis of HF digested samples without corrosion of the system.
3. With Wider Spectral range, and should be able to analyze samples between 160/165-850/900 nm spectral range with resolution of 0.07 nm or better. *to be corrected as 0.007*
4. Should have capability and higher efficiency to use minimum level of Argon gas for plasma generation and purging etc., to reduce the cost of analysis.
5. Should have state of the art /Latest generation Detectors which should be able to detect sample signals and able to do background correction simultaneously for better precision.
6. The system should have latest generation RF generator of appropriate high frequency (27 MHz or higher) with highest power efficiency.
7. There should be appropriate provision of automatic cooling of the system preferably using state of the art technology or cooling through high standard water circulation system.
8. The plasma ignition and regulation should be automatically controlled with software using computer as desired by the analyser and there should be a provision of safety inter locks to protect the equipment from any un-foreseen damages.
9. The other components of the systems such as torch, gas flow tubing, spray chambers nebulizers peristaltic pump etc. should be compatible and of high quality.
- ~~10. Also quote for appropriate compatible auto sampler for fast and precise analysis.~~
11. Also quote for 2 No's of Argon cylinders of standard make including two stages regulator with necessary test certificates from Govt. of India / authorized departments indicating their high quality and fitness, from authorized explosive departments.
12. The ICP System should be fully software operated
13. Also quote for high quality exhaust system assembly and its fixation, as an essential item.
14. The original CD's/DVD's of instrument software, catalogues, application manuals, service manuals, warranty cards should be provided along with the instrument.
15. Quote along with necessary warranty, user list, ISO certificates etc..
16. Also quote for 20 KVA UPS along with required batteries.

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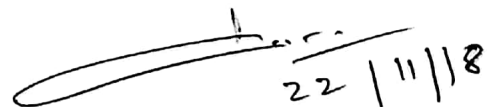
17. Also quote for PC with the given specifications : 22 inch LED monitor, 8 GB RAM, i7 processor, 2TB hard disk drive, DVD writer 2 GB Graphics etc, with original compatible operating system. Also quote for latest model of all in one laser jet black and white printer with both side automatic printing facility.
18. Also essentially quote for suitable high quality large size elegant table having adequate surface/space for placing ICP, placing samples and placing of attached computer and placing printer system in the lab.
19. The Firms must quote the state of the art model/version of the equipment (ICP-OES) and not the obsolete models, for which there should be adequate service and repair support including accessories for 2 years to come. The Firms must furnish a certificate that ICP system quoted by them is Fully Simultaneous at all levels (Background Correction, Analysis, Internal standards etc.)
20. The firms having good service and repair infrastructure and adequate number of trained engineers in India only need to quote.
21. The supplier company needs to arrange onsite training to the technical officers/scientists for effective and safe use of the equipment.
22. All other essential accessories and spares required for successful installation, demonstration and running of the equipment must be supplied.



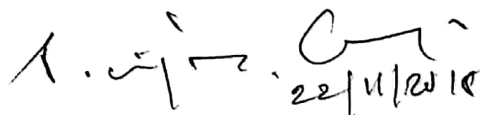
The Committee has noticed that a small error has occurred in the specifications mentioned at point number 3, where the resolution was mentioned as 0.07 nm instead of 0.007 nm. The error has been marked in the text. This correction may be carried out.



22/11/18



22/11/18



22/11/2018