

**CORRIGENDUM-1**

Technical Specifications	Bid should be submitted as per below mentioned Revised Technical Specifications
Last date of submission of E-Tender	13.02.2019 (Wednesday) on or before 03.30 p.m
Opening of Techno-Commercial Bid	13.02.2019 (Wednesday) at 04.00 p.m

**Revised Technical Specification of CHNS**

TENDER NO. RGIPT/Jais/E-Tender-CRF-SS/2018-19/04

**Technical Specification for Elemental Analyser for Coal, Coke and Soil mixing Coal samples**

- The system must be capable of doing Carbon, Hydrogen, Nitrogen and Sulphur analysis in the sample of Coal, Coke, Biomass and liquid Fuels like Naphtha, Bio-Diesel, Crude oil etc.
- Fully automatic\_Computer controlled Elemental Analyser measurement of C, H, N, S
- Compliance: Should conform to ASTM D 5373-93, ASTM D5291-91, ASTM D 1552-16, ASTM D 4239
- Sample Size or weight: 0.1 mg to 500 mg.
- Analysis range: 0.01-100% for all Five elements
  - From 0.01 mg-100mg or more for C absolute or better
  - From 0.01 mg-10mg or more for Hydrogen absolute or better
  - From 0.01 mg-100mg or more for Nitrogen absolute or better
  - From 0.01 mg-10 mg or more for Sulphur absolute or better
- Furnace Temperature: 1050 deg C or higher to ensure complete oxidation of samples. Provision for Flash Combustion with Tin Boats is preferable. Sample should fall in furnace thru gravity.
- Furnace and detector should be guaranteed for at-least 5 years or more.
- Furnace temperature and oxidation time should be operator programmable to suit the sample. C, H, N, S & O should be measured using TCD or IR detector.
- Furnace / Combustion Temperature : 1100°C/1800°C
- GC Oven Temperature : 40-110°C or more
- Detection Limit: atleast 1.0 µgms or less for all elements.
- Sample handling: Auto-sampler should be provided for analysis of all elements – C, H, N, S & O for solid and liquid samples. The auto-sampler should be 50 place or more. It should be operating electrically through computer control or operated pneumatically (air compressor should be included as essential supply with the main instrument if operated pneumatically).
- The autosampler should be offered for all elements C H N S &O
- Balance: Suitable electronic balance of 0.001 mg accuracy (*a balance of minimum 1 µgm sensivity is required for the sample size upto 10mgs*) with weight transfer facility.

- Analysis Time: Not more than 10 minutes for CHNS Analysis
- Solid Sample Packing: Should be supplied with required accessories for sample packing.
- Consumables: Should be supplied with consumables for 5000 sample analysis in C H N S.
- Computer: Processor Speed > 2.5 GHz, 160 GB HDD, 1GB RAM, CD- ROM, FDD, 18" Colour monitor, Serial and parallel ports, Multimedia Kit, laser printer ,Online UPS with required capacity to run the integrated system including computer (**for 30 minues back-up, in case of power failure** ) , 230VAC, 50Hz Single Phase I/P & O/P, Qty 1
- Data management software to collect and store data, perform advanced calculations, recalculate a result, run queries (searches) generate statistics, create reports and archive data.
- Gas, Cylinder & Regulator: For Helium and Oxygen with two stage regulators –for each Unit with safety certificate for refilling.
- Note: Please submit list of at least 3 users using similar model for Coal / Coke application laboratory.
- Ensure that spares are sufficient for next 10 years after installation of equipment.

**B. On-site Installation and training free.**

**Five Years onsite warranty with spares and AMC of the equipment should be mandatory for 3 years is required on all the items. Warranty period will start from the date of installation.**

**Parts should be given with part no. and name.**

The other terms & conditions of the E-Tender remains unchanged.

This issues with the approval of the Competent Authority.

Sd/-  
Stores & Purchase Officer