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**BROCHURE**

**ANALYTICAL LABORATORY**

**Introduction:**

The Analytical laboratory is established in Center of Excellence in Desalination Technology (CEDT). It is well equipped with sophisticated instruments such as, Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES), Ion-Chromatography (IC), Total Organic Carbon (TOC) Analyzer etc.

**Purpose:**

The purpose of Analytical lab is to perform chemical analysis of different types of water samples, such as Sea water, Ground water, Potable water, Bottled water etc.

**Services:**

* We provide services internally to Ongoing Research projects of CEDT.
* We provide services externally to other Research centers and Departments within KAAU and Industrial sector.

**Cost of services:**

* Analytical services are provided by charging fees for analysis depending upon the source of sample.

**Reports:**

* Results of Chemical analysis are provided in the form of printed hard copies or by e-mails as per the necessity and urgency of the client.
* If a health related water quality failure is noticed, then it will be notified to client by phone, fax or email.

**Data Security:**

* The analytical data generated during chemical analysis is kept confidential.
* Data is secure and not accessible to third person/party.

**Instruments available:**

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| **Instrument :** | ION CHROMATOGRAPHY |
| **Manufacturer:** | Metrohm |
| **Model:** | 850 Professional IC |

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| **Instrument:** | ICP- OES  (Inductively Coupled Plasma-Optical Emission Spectrometer) |
| **Manufacturer:** | Agilent Technologies |
| **Model:** | 720 ICP-OES Axial |

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| **Instrument:** | Total Organic Carbon (TOC) Analyzer |
| **Manufacturer:** | Elementar |
| **Model:** | Vario TOC cube |

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| **Instrument:** | UV-Vis Spectrophotometer |
| **Manufacturer:** | HACH |
| **Model:** | DR 5000 |

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| **Instrument:** | Conductivity meter |
| **Manufacturer:** | Thermo scientific |
| **Model:** | ORION 4-STAR & ORION 3-STAR |

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| **Instrument:** | Turbidity meter |
| **Manufacturer:** | HACH |
| **Model:** | 2100AN |

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| **Instrument:** | pH meter |
| **Manufacturer:** | Metrohm |
| **Model:** | 827 |

**Tests performed and Cost of analysis:**

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| **Sr. No.** | **Test Description** | **Test Equipment** | **Cost of Analysis /spl (SR)** |
|  | pH | pH meter | 10 |
|  | Electrical Conductivity | Conductivity meter | 10 |
|  | TDS (Total Dissolved Solids) | Conductivity meter | 10 |
|  | Salinity | Conductivity meter | 10 |
|  | Turbidity | Turbidity meter | 20 |
|  | Absorbance measurement & Scanning in UV-Vis range. | UV-Vis Spectrophotometer (200-900 nm) | 50 |
|  | TOC (Total Organic Carbon) | TOC Analyzer | 100 |
|  | Anions:  Fluoride, Chloride, Bromide, Nitrite, Nitrate, Sulphate, Phosphate.  Cations:  Lithium, Sodium, Potassium, Magnesium, Calcium | Ion Chromatography (IC) | 150 |
|  | Elements:  Aluminum (Al)  Silver (Ag)  Arsenic (As)  Barium (Ba)  Beryllium (Be)  Cadmium (Cd)  Cobalt (Co)  Chromium (Cr)  Copper (Cu)  Iron (Fe)  Manganese (Mn)  Molybdenum (Mo)  Nickel (Ni)  Lead (Pb)  Antimony (Sb)  Strontium (Sr)  Tin (Ti)  Vanadium (V)  Zinc (Zn) | Inductively Coupled Plasma - Optical Emission Spectrometer (ICP-OES) | 150 |
|  | Single Element: | Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) | 100 |