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**BROCHURE**

**MICROBIOLOGY LABORATORY**

**Introduction:**

The Microbiology laboratory is established in Center of Excellence in Desalination Technology (CEDT). It is well equipped with sophisticated instruments such as, ATP Hygiene monitoring system, Microscope, Incubator, Autoclave, Centrifuge, Microorganisms culturing and definition, Vortex, Nano Drop Spectrophotometer, PCR Master cycler, Gel Electrophoresis system, , Laminar air flow (LAF) work bench etc.

**Purpose:**

The purpose of Microbiology lab is to perform Microbiological 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 KAU and Industrial sector.

**Cost of services:**

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

**Reports:**

* Results of microbiological analysis are provided in the form of printed hard copies or by e-mails within 4 to 5 days of receiving the samples.
* 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 microbiological analysis is kept confidential.
* Data is secure and not accessible to third person/party.

**Instruments available:**

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| **Instrument :** | Gel Electrophoresis system |
| **Manufacturer:** | Thermo Scientific |
| **Model:** | OWL Easycast B2 |

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| **Instrument:** | ATP Hygiene Monitoring System |
| **Manufacturer:** | Hygiena |
| **Model:** | SystemSure plus |

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| **Instrument:** | Autoclave |
| **Manufacturer:** | Thermo Scientific |
| **Model:** | Tuttnauer Autoclave, 3545EP, 220 V |

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| **Instrument:** | Incubator |
| **Manufacturer:** | Hygiena |
| **Model:** | SystemSure plus |

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| **Instrument:** | Centrifuge |
| **Manufacturer:** | Thermo scientific |
| **Model:** | SORVA11 LEGEND X1 Centrifuge |

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| **Instrument:** | Fume hood- protector work station |
| **Manufacturer:** | LABCONCO |
| **Model:** | Protector work station with Built-In Blower |

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| **Instrument:** | Imaging system |
| **Manufacturer:** | UVP |
| **Model:** | BioDoct-IT™ Imaging System- Transilluminator |

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| **Instrument:** | Microscope |
| **Manufacturer:** | Fisher scientific |
| **Model:** | Micromaster™ II Digital/Video Microscopes |

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| **Instrument:** | NanoDrop- Spectrophotometer |
| **Manufacturer:** | Thermo Scientific |
| **Model:** | NanoDrop 2000-UV-Vis Spectrophotometer |

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| **Instrument:** | PCR- Mastercycler |
| **Manufacturer:** | Eppendrof |
| **Model:** | Mastercycler pro- Vapo.protect |

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| **Instrument:** | Shaking Water Bath |
| **Manufacturer:** | Thermo Scientific |
| **Model:** | Precision Shallow Form Reciprocal Shaking Baths |

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| **Instrument:** | Thermo mixer hot dry block 20 |
| **Manufacturer:** | Fisher Scientific |
| **Model:** | Precision Shallow Form Reciprocal Shaking Baths |

**Tests performed and Cost of analysis:**

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| **Sr. No.** | **Test Description** | **Test Equipment** | **Cost of Analysis /Sample (SR)** |
|  | Gel Electrophoresis | Gel Electrophoresis system | 100 |
|  | Amplification of Bacterial DNA | PCR (Polymer chain reaction) Machine | 150 |
|  | Adenosine Triphosphate (ATP) measurement | ATP Hygiene Monitoring System | 100 |
|  | Agarose Gel imaging | Imaging system | 100 |
|  | Micro-organisms Examination | Microscope | 100 |
|  | DNA measurement | NanoDrop- Spectrophotometer | 100 |
|  | RNA measurement | NanoDrop- Spectrophotometer | 100 |
|  | Sterilization | Autoclave | 100 |
|  | Incubate bacteria growth and cell culture. | Incubator | 100 |
|  | To separate the suspensions and compounds of the sample. | Centrifuge | 50 |
|  | Bacterial Cell Count | Plate count | 200 |
|  | Gram Staining | Gram dye | 50 |