



## Muhammad Hasnain

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### OBJECTIVE:

To be associated with the field of academic teaching and research in a reputed organization where I can gain technical knowledge and contribute towards the betterment of that organization.



### WORK EXPERIENCE:

#### **Service Engineer**

Nalco Water  
Karachi, Pakistan

January 2022-Present

- Monitoring Customer's Boiler System, Closed Loop Cooling Water Systems, Cooling Towers Systems, Reverse osmosis and Effluent Treatment Plant Facility through onsite and laboratory water testing.
- Monitor, operate and calibrates NALCO owned product 3DTrasar Water Analyzer Equipment with Digital Control Systems.
- Water sampling and testing on daily basis to monitor the parameters. Regular testing of water samples with parameters like silica level, oxygen scavenger, phosphate, nitrite, iron, chloride, chlorine, total hardness, total suspended solids, turbidity, alkalinity, conductivity, pH, zinc, molybdate, iron dispersant, scaling inhibitors, etc
- Protection of Cooling water loop during shutdown periods.
- Wet Layup process implementation
- Inspection of Heat Exchangers.
- Bacterial Count Analysis and biocide adjustments
- Provide on-site Technical assistance to Customer
- Optimize the additions of the chemicals on-site whilst maintaining their performance.
- Plant inspections during outages.
- Preparation of monthly/interim/ technical reports

**Teaching Associate/Lecturer**

Chemical Engineering Department

November 2020-December 2021

University of Karachi, Pakistan

- Teaching subjects of Heat Transfer & Fluid Mechanics.
- Conducting Lab of relevant subjects.
- Maintaining documents/ subject files related to PEC guidelines.
- Worked as safety coordinator with department Head.

**Deputy Manager-Effluent Treatment Plant**

Artistic Milliners Pvt. Ltd, Karachi, Pakistan

October 2020-November 2020

- Manage all duties and shifts at plant.
- Update the technical documentation with the latest modifications or improvements.
- Train and assist in charges and operators about plant operation and provide mentorship.
- Analyze the frequent causes of disturbances at plant and maintain water quality up to standards.
- Maintaining communication within and with relevant departments to find the most effective solutions to the problems.
- Managing and controlling the operation and maintenance budget of plant and recommend the purchase of consumables.
- Scheduling and implementing annual, monthly, weekly and daily maintenance work to minimize problems.
- Maintain standard audit documentation of customers like Levi's, GAP, etc.
- Maintain safe and healthy work environment by establishing, following and enforcing standards and procedures; complying with codes and legal regulations.

**Assistant Manager-Effluent Treatment Plant**

Artistic Milliners Pvt. Ltd, Karachi, Pakistan

March 2018-October 2020

- Supervise all operations involved in physical, chemical and biological treatment of wastewater.
- Monitor Reverse Osmosis and Ultra-filtration Unit.
- Maintain an adequate supply of water in the storage for process consumption and firefighting activities.
- Control and maintain water quality parameters such as pH, temperature, total suspended solids, total dissolved solids, sludge volume and color.
- Analyze lab tests of COD, BOD, MLSS/MLVSS, Total Nitrogen, Phosphate, pH, color, TDS and TSS of wastewater samples.
- Participated in erection and commissioning of ETP plant at AM-15 with Turkish company ENTA.



## SKILLS & EXPERTISE:

- Aspen Hysys
- Adobe Photoshop.
- Strong Analytical skills
- Strong Organizing & Planning Skills
- Troubleshooting
- Team Lead
- MS Office
- Six Sigma (Yellow belt)
- Strong Communication Skills
- Research work



## EDUCATION:

<b>Ph.D</b> Post-Graduation	<b>Year</b> (In Progress)	<b>Ph.D in Chemical Engineering</b> NED University of Engineering & Technology Karachi
<b>ME</b> Post-Graduation	<b>Year</b> 2020	<b>Masters in Chemical Engineering</b> NED University of Engineering & Technology Karachi (CGPA: 3.4/4)
<b>BE</b> Graduation	<b>Year</b> 2017	<b>Bachelors in Chemical Engineering</b> NED University of Engineering & Technology Karachi (CGPA: 3.07/4)
<b>HSC</b> Intermediate	<b>Year</b> 2013	<b>Intermediate</b> Adamjee Govt. Science College Pre-Engineering (A-1 Grade; 83%)
<b>SSC</b> Matriculation	<b>Year</b> 2011	<b>Matriculation</b> Karachi Public School Science (A-1 Grade; 89%)



## PROJECTS:

### **Undergraduate Final year Project**

**2016-2017**

- An Emulsion breaking process for recovery of oil from Refinery waste emulsions or sludges.
- Research work on recovery of waste Oil using Ohsol Process.
- Theoretical designing of equipments involved in Ohsol's process.

### **Postgraduate Research Project**

**2019-2020**

- Drinking water quality improvement and Pathogen removal using wetlands.
- Saline water was tested using constructed wetlands for TDS and pathogen removal.
- Successfully all wetlands showed a positive reduction in TDS and pathogen value.

**References and Supporting Credentials will be furnished upon request.**