

# SANA ULLAH

Institute of Chemical Engineering & Technology University of the Punjab, Lahore 54890.  
042-04299231159 (office), +92-3214287401, [sanaullah.icet@pu.edu.pk](mailto:sanaullah.icet@pu.edu.pk)

---

## EDUCATION

### **M.Sc. Chemical Engineering**

M.Sc. (Engineering) Chemical Engineering, **January 2016.**

Institute of Chemical Engineering & Technology, University of the Punjab, Lahore

**CGPA: 4.00**

**Score: 89.60% (Gold medalist)**

**Thesis:** Hydrocracking of Vacuum Gas Oil over Zeolite Catalysts

### **B.Sc. Chemical Engineering** (Specialization in Petroleum & Gas Technology), **April 2010.**

Institute of Chemical Engineering & Technology, University of the Punjab, Lahore

**CGPA: 3.9948**

**Score: 87.87% (Gold medalist)**

**Final Year Project:** Chemical Plant Design for the manufacture of 11500 tons/year HCN by Andrussov Process.

### **Higher Secondary School Certificate 2004**

Government College University, Lahore

**Grade: A**

**Score: 75.73%**

### **Awards and Honors**

- Throughout First Division in Educational career
- Gold Medalist in M.Sc. (Engg.) Chemical Engineering
- Gold Medalist in B.Sc. (Engg.) Chemical Engineering
- Qarshi Foundations Cash Prize PKR 10,000 -/-
- Merit Scholarships in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and Final year of Engineering (University of the Punjab)
- Merit Scholarship (Government College University Lahore)
- Fulbright Scholarship Winner
- RTP Scholarship Winner

## **RESEARCH EXPERIENCE**

### **M.Sc. Thesis:**

As a partial requirement for the Master's degree Thesis submitted entitled “**Hydrocracking of Vacuum Gas Oil over Zeolite catalysts**”. This study is focused on Heavy oils and vacuum residue which are abundantly available in industry and have Potential for the production of high value Lighter Transportation Fuels.

### **B.Sc. Final Year Project:**

A design report was submitted in partial fulfillment of B.Sc. Chemical Engineering degree entitled “**Chemical Plant Design for the manufacture of 11500 tons/year HCN by Andrussow Process**”. This design report includes material and energy balance, design of equipment's, HAZOP study, Instrumentation & Control, cost estimation and steady state simulation of Andrussow Process on ASPEN HYSYS.

## **TEACHING EXPERIENCE**

**Lecturer**, Chemical Engineering Department, University of the Punjab, Lahore.  
**10-10-2012 to date**

### **Natural Gas Engineering**

(2 credit hours per week)

- Full responsibility for designing content
- Delivered lectures and supervised class quizzes of **50 undergraduate students** and course assessment.
- The content designed and delivered Lectures includes mainly on Natural Gas Production, Processing, Transmission and Distribution.
- Delivered lectures on Hysys simulations including Natural Gas sweetening, Dehydration and Recovery of LPG from Natural gas.

### **Petroleum Refinery Engineering**

(2 credit hours per week)

- Full responsibility for designing course content
- Delivered lectures and supervised class quizzes of **50 undergraduate students** and course assessment.
- The content designed and delivered Lectures includes mainly on Introduction to Refining, Conversion and Separation Processes in Refinery.
- Delivered lectures on Hysys simulations including Cut plot distribution and Fractional Distillation of crude oil.

### **Fluid and Particle Mechanics Lab**

(1.5 Credit hours per week)

- Responsible for lab instructions, supervision and assessment.
- Instructed students to perform Experiments and Deliver Presentations on Valves ,Compressor ,Turbines , Pumps, Rota meters & Orifice meters.

### **Fuel Engineering Lab**

(1.5 Credit hours per week)

- Responsible for lab instructions, supervision and assessment.
- Instructed students to design new experiments and perform it.
- Instructed students to perform Experiments and Deliver Presentations on Viscosity index measurement, Pour Point ,Cloud point, Analysis of coal, Calorific value measurement.

## **PROFESSIONAL EXPERIENCE**

**Pakistan Oil Fields (POL)**

Position Held: Process Engineer (July 2012 to October 2012)

As a Process Engineer, My responsibilities were

- Maintaining the smooth operation of Oil separation and its storage, Natural gas sweetening, Dehydration and LPG Plants.
- Keeping the production of final product within specifications.
- Coordination with electrical, mechanical and instrument department for the execution of the schedule jobs of the shift regarding the maintenance and smooth functioning of the equipment.
- To instruct working staff to secure safe plant operation, minimum down times in emergencies and shutdowns of machines / equipment.

- To handle troubleshooting and emergency during power failure or failure of any utility of the plant.
- To manage work force which consist of supervisors, skilled and unskilled operators regarding safety awareness, job allocation and training in order to have effective control on the operation and the smooth running of the plant.
- To make adjustment of manpower in case of leave of any staff member.
- To suggest / supervise modification work at the plant under the guidance of seniors.
- To handle scheduled shutdown and startup of whole plant.

**AIN Engineering Services** Position Held: Process Engineer (Feb 2012 to July 2012)

- Working on P&IDS, Schematic Change, and Quotation Reviews from vendors.
- Working on simulations of Gas Dehydration, Gas sweetening, Propane Refrigeration processes.

**Fauji Fertilizer Company Ltd (FFC)**

Position Held: Process Engineer  
(Dec 2010 to Dec 2011)

As a Trainee Process Engineer My responsibilities were:

- Implication of Integrated Management System (IMS) and safety standards
- Technical Monitoring of Plant (TMP).
- TMP data compilation, its pre-arrangements & correspondence with other units.
- Assist production department in plant troubleshooting and process parameters optimization.
- Implementation of plant safety policy.
- Preparation of technical reports.

➔ I have executed following major jobs at Fauji Fertilizer Company Limited:

- Catalyst replacement of High Temperature Shift Convertor (HTSC) in Turnaround 2011 at FFC Mirpur Mathelo Plant.
- Catalyst replacement of Desulphurizer in Turnaround 2011 at FFC Mirpur Mathelo Plant.
- Calibration of Natural Gas meter installed at Mari Gas Field, resulting in overall 1% profit.
- Preparation of Ammonia Plant calculation manual.
- De-bottlenecking (DBN) energy modification calculations.
- Measured Tube Metal Temperatures (TMTs) of Primary Reformer.

**Fauji Fertilizer Company Ltd (FFC)**                      Position Held: Internee                      (6 weeks)

After safety training, i was oriented to Production Unit of Ammonia, Urea & Utilities Plant.

### **PROFESSIONAL DEVELOPMENT COURSES**

- Participated in Young leaders conference held at Sheraton hotel Karachi 2002.
- Three days Orientation on Plant Safety and Hazards Prevention at FFC
- Attended Skill Improvement Programs of ‘Piping & Instrumentation Diagrams’ and ‘Cooling Water Treatment’ at FFC
- Participated in four days course on ‘Effective Presentation Skills’ conducted at FFC Plant site Goth Machhi.
- Participated in two days workshop on ‘Process Hazard Analysis (PHA)’ Study highlighting aspects of Processes w.r.t. hazardous operations.
- Attended five days course on “Process Design & Simulation” conducted by Chemical Engg. Deptt. UET Lahore in May-2011.
- Design, simulation and rating of different Heat Exchangers in HTFS software W.r.t changes in process parameters and Exchanger geometry
- 1 month training in Production Unit of Ammonia Plant.
- Attended 5<sup>th</sup> Symposium on Engineering Sciences held on April 2, 2014 at the Institute of Chemical Engineering and Technology, University of the Punjab, Pakistan.
- Attended Teacher training Orientation program held in November 2013 at the Institute of Administrative Sciences, University of the Punjab, Pakistan.
- Participated in five days course on “Active citizens Training of Facilitators” Conducted by British council at Punjab University Lahore.

### **International Conference**

Participated and Presented paper entitled “Rheological Behavior of Selected Pakistani Crudes” in 2015 2nd International Conference on Petroleum and Petrochemical Engineering (ICPPE 2015) Dubai, UAE, January 10-11, 2015.

### **SKILLS**

#### **Technical Skills:**

- ASPEN HYSYS

- MS Office

**Linguistic Skills:**

- English
- Urdu

**PROFESSIONAL ASSOCIATIONS**

- Registered Engineer of Pakistan Engineering Council (PEC NO Chem / 8307)
- Member of Alumni Association of Punjab University, Lahore.
- Member of Active citizens Team of British council.

**RESEARCH INTERESTS**

- My research interest lies in the area of Catalysis, Oil and Gas Processing, and Energy.

**REFERENCES**

**Name:** Dr. Rafiullah Khan (*PhD from University of Karlsruhe*)

**Designation:** Professor

**Address:** Department of Chemical Engineering, University of the Punjab, Lahore, Pakistan.

**Contact No:** +92-321-4771167

**Email Address:** rkhan.icet@pu.edu.pk

**Name:** Dr. Syed Nadir Hussain (*PhD from University of Manchester*)

**Designation:** Assistant Professor

**Address:** Department of Chemical Engineering, University of Engineering & Technology, Lahore, Pakistan.

**Contact No:** +92-300-4239260

**Email Address:** [Hussain\\_nadir@hotmail.com](mailto:Hussain_nadir@hotmail.com)