



## IBN SINA Pharmaceutical Industry Ltd.

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# Industry Introduction

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IBN SINA Pharmaceutical Industry Ltd. is a leading Pharmaceutical Company in Bangladesh. This is also a non-profit welfare trust (organization) in Bangladesh and a major healthcare provider.

The industrial attachment that we did in “**IBN SINA Pharmaceutical Industry Ltd.**” which is situated at **Shafipur, Kaliakoir, Gazipur.**

There are mainly **three** department in the industry such as-

- Cephalosporin Department
- General OSD(Oral Solid Dosage) and Pharma Department
- Herbal Department

Throughout our attachment we have visited most of the department and observed their working function, production and management from inside.

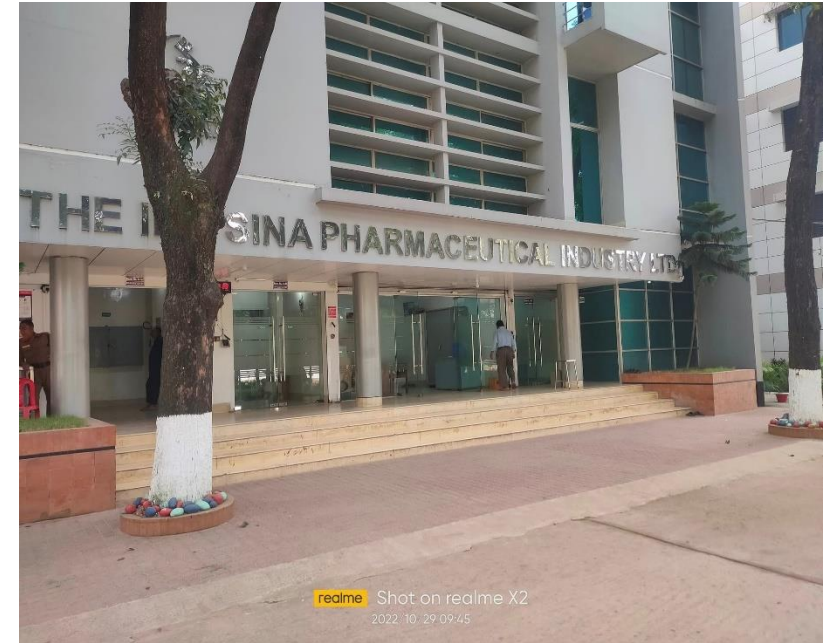
# Industry Introduction



Industry Interior Scenario



Gas Generator Building



General OSD Building

# Industry Introduction

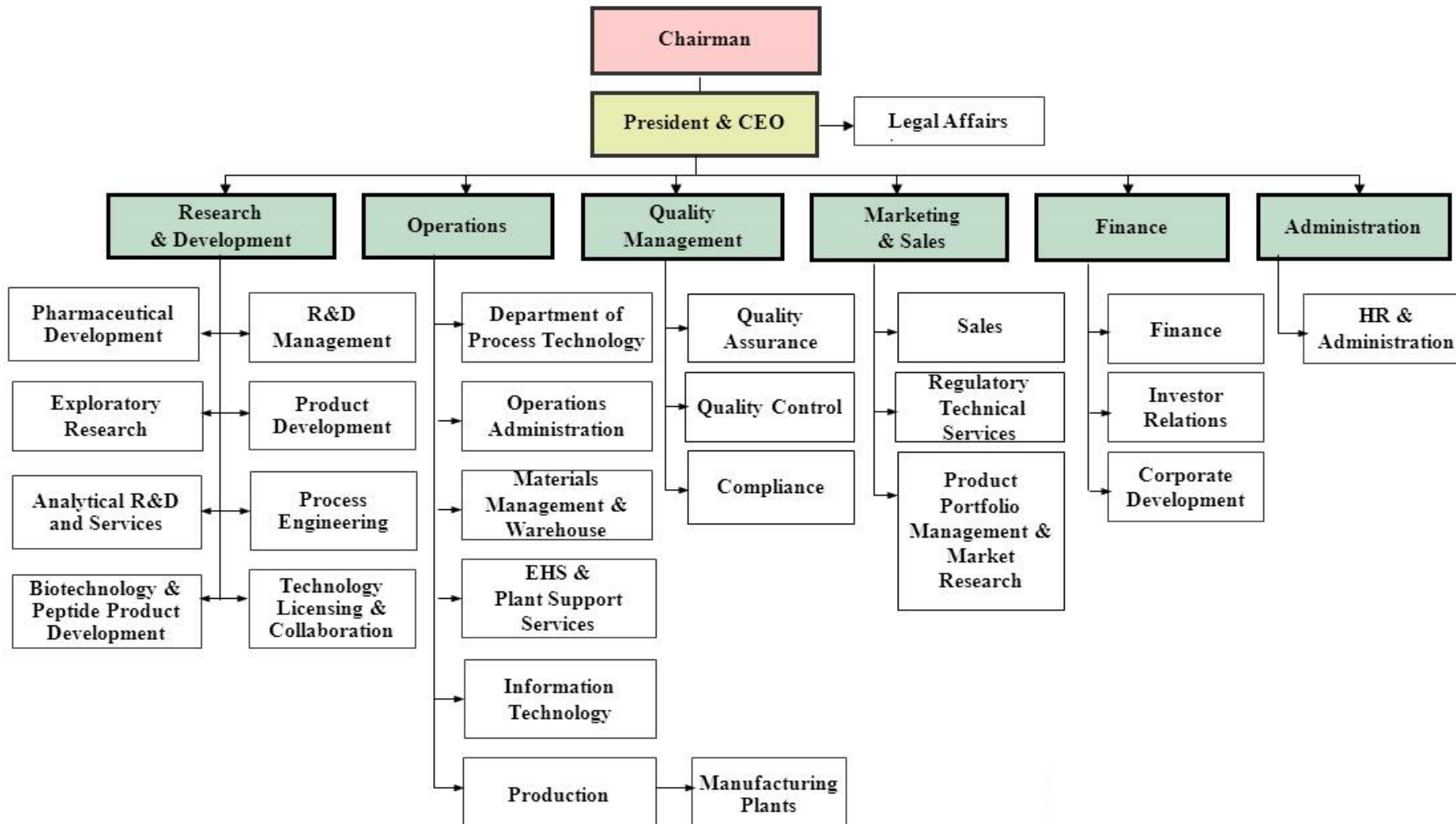
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Different features of the industry that we visited is stated below-

- The production capacity of the industry was not disclosed to us for the confidentiality of the industry.
- The main power source of the industry was DPDC line that provided to them. But there were some Gas and Diesel Generators incase of emergency for their continuous production.
- The main products of the industry was antibiotics, tablets and capsules, injectable products, syrup and herbal medicine. But the number of units they produce daily or weekly was not disclosed to us.
- The raw materials or sources, operational or production efficiency, yearly turnover or investment etc. was not disclosed to us.

# Industry Introduction

Here is the **Organogram** of the industry-





# Technical Aspects

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These are the **main system** we observed and studied throughout our attachment-

- Central HVAC System
- Water Treatment Plant
- Boiler
- Different Types of Valves and Electrical Equipment's
- Production Process of Tablets, Capsules and Injectable Medicine
- Air Compressor and BMS system

# Central HVAC System

We have visited both **Cephalosporin Building** and **General OSD Pharma Building** to observe and study the central HVAC system. The main components of the system were-

- Both air cooled and water cooled chiller where evaporator, condenser, expansion valve, compressor etc. were present
- Cooling tower
- Air Handling Unit(AHU)
- Dehumidifier
- Dust collector
- Wet scrubber etc.



# Water Treatment Plant

We have observed the **Water Treatment Plant** of **Cephalosporin Building** in details. The main components of the plant were-

- Different types of filter such as Multimedia filter, Active carbon filter, Precise filter, RO filter etc.
- 3 types of dosing materials were used on the treatment plant such as NaClO, Sodium hexametaphosphate(SHMP), NaOH
- Electro deionizer(EDI)
- Softener
- UV lamp





**Flow chart** of the water treatment plant is given below-



# Boiler

We have visited the **Boiler Room** of the **Cephalosporin Building** and studied it in details and later we also visited the boiler room of the **General OSD and Pharma Building**. The boiler was diesel operated. Water was fed into the boiler after treatment by softener and oxygen scavenger. Some of the components were-

- Pressure gauges and safety valves for safety concern
- Different mountings and accessories
- Fire tube boiler with 96 tubes
- Steam header and steam trap
- Different types of valves





# Valves

Here is the different types of valves that were shown in the industry and was described about their purpose and functionality-



Ball valve



Gate valve



Globe valve



Safety valve



Diaphragm valve



Butterfly valve

# Electrical Equipment's

Here is the different types of electrical equipment's that were explained to us-



Motor Starter Circuit



Relay



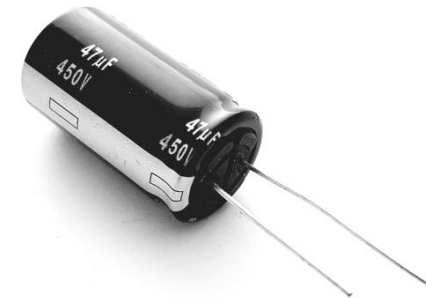
Fuse



Circuit Breaker



Magnetic Contactor



Capacitor



# Production Process

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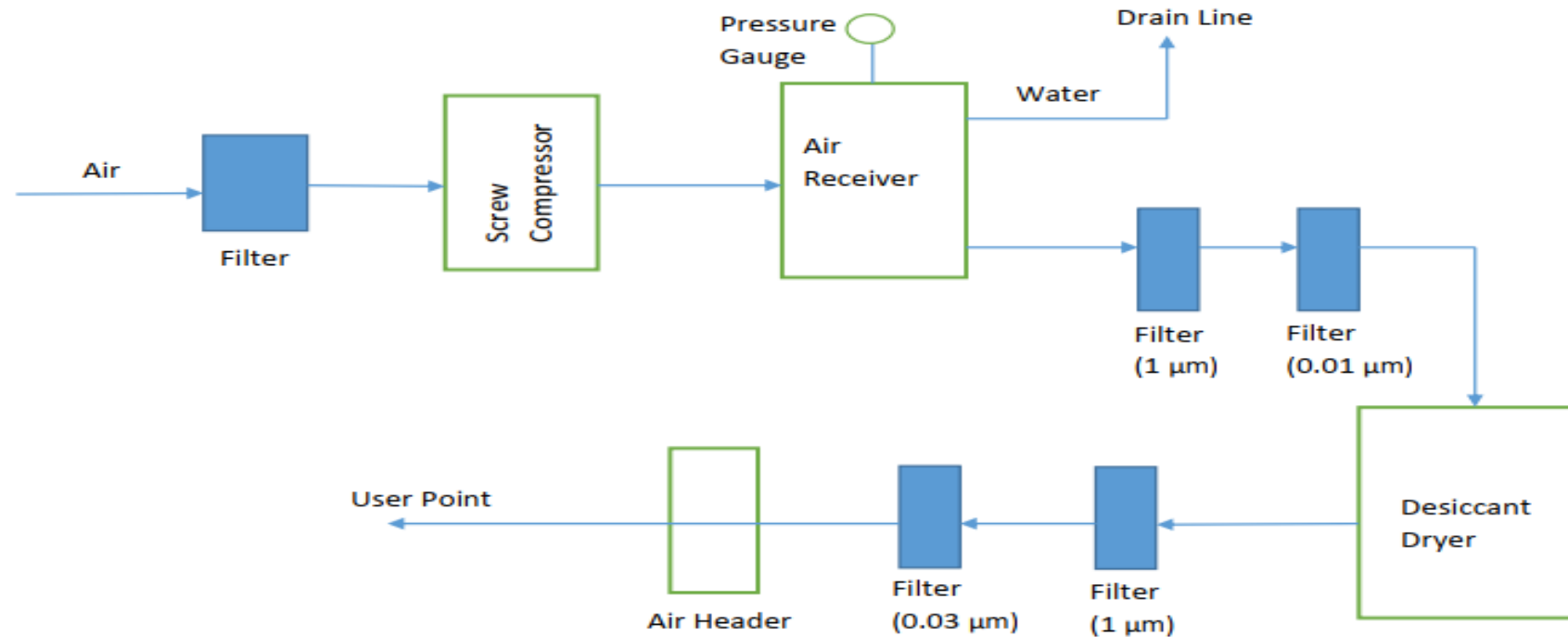
During our attachment we have visited the production process of both the **Cephalosporin Building** and **General OSD Pharma Building** physically with proper precaution maintaining. The flow chart of **Capsule** and **Tablet** production is shown here-

Capsule:      Dispensing Booth - Sampling Booth - Sugar Dryer - Vibro Shifter - V Blender - Rolling Contractor - Capsule Filling Machine - Blister Packaging - Assembly Line

Tablet:      Dispensing Booth - Sampling Booth - Sugar Dryer - Vibro Shifter - V Blender – Rolling Contractor - Tab Compression Machine - Tab Coating Machine - Blister Packaging - Assembly Line

Production environment of the industry was maintained in total 4 classes

# Air Compressor and BMS System



**Figure: Schematic Diagram of Air Compressor System**

We were explained and shown physically those system-

- DDC - Direct Digital Control
- VFD - Variable Frequency Drive
- BMS - Building Management System

# Overall Experience

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Finally we observed some peripheral processes related to production and manufacturing-

- Steam generation in boiler room
- ETP- Effluent Treatment Plant
- Generators - 6 diesel operated & 1 gas operated

During our attachment we were assigned some tasks to study at home and submit homework on daily basis which we did to our supervisor on time. Here is the link provided of our assigned tasks soft copy-

[Industrial Attachment on IBN Sina Pharmaceutical Industry Ltd.](#)

# Overall Experience

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Here is our some experience we want to share-

- They were sincere and helpful
- They were technically proficient and well organized
- Transportation was difficult for us
- Permission to easily observe machine

If we make some recommendations to the industry these would be-

- Some of the blister packaging was manual which they can think to shift automatically process
- There were no penicillin department where they should need to give attention
- They need to take more precaution specially for antibiotics production

Thank You