# A REPORT ON MECHANICAL, BIOLOGICAL AND CHEMICAL EFFLUENT TREATMENT PLANT &WASTE WATER ANALYSIS

Internship report submitted in partial fulfilment for the award of degree of



## RINL VISAKHAPATNAM STEEL PLANT SUBMITTED BY:

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Under the Esteemed Guidance of

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In the partial fulfilment of project Internship for the award of degree of 4-Years of B-Tech In CHEMICAL ENGINEERING

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#### Abstract

#### Chapter 0 Manufacturing of Steel and Iron

#### Chapter 1 Air Separation Process

- · Introduction
- · Process Overview
- Control of Cryogenic Air Separation Process
- Typical ASU features

### Chapter 2 Compression House

- Suction Air filter
- · Feed air compressor
- Lube oil system
- Nitrogen Compressor
- Oxygen Compressor

#### Chapter 3 Air Precooling System

- · water charging to air pre cooling unit
- · Air charging to pre cooling unit

#### Chapter 4 Air Purification Unit

- Air Contaminants
- Adsorption

#### Chapter 5 Heat Exchangers

Plate-fin heat exchanger

#### Chapter 6 Booster Air Compressor

#### Chapter 7 Cryogenic Distillation

- MP Column
- LP Column
- Crude Argon Column

#### Chapter 8 Expansion Turbine

#### Chapter 9 Products Handling and Applications

- Storage Tanks
- Cryopumps
- · Applications of the Products

Chapter 10 Quality Analysis Conclusion



#### RINL, VISAKHAPATNAM STEEL PLANT VISAKHAPATNAM-530031, ANDHRA PRADESH CO&CCP DEPARTMENT

#### CERTIFICATION

This is Certify that the summer project report entitled "A Report on CRYOGENIC AIR SEPERATION THROUGH FRACTIONAL DISTILLATION".

It is a Bonafide record of work done by

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In partial fulfilment of the academic requirement for the award of Btech in Chemical Engineering During the Academic Year of 2022-2023