

A Study on the Manufacturing of Oxygen gas

Report on Internship Training submitted to Periyar university, Salem in partial fulfilment
of requirement for the award of the degree of

BACHELOR OF CHEMISTRY

Submitted by

NAME : JANANEE . A

REG.NO : C21UG152CHE901

Under the Supervision of

Mr.RAVI .K

Peenya Industrial gases Pvt Ltd, Hosur.



DEPARTMENT OF CHEMISTRY

ST. JOSEPH'S COLLEGE OF ARTS AND SCIENCE FOR WOMEN, HOSUR

(Affiliated to Periyar University , Salem)



PERIYAR UNIVERSITY
INTERNSHIP TRAINING REPORT


1.	Name of the candidate	JANANEE .A
2.	University Examination Registration Number	C21UG152CHE901
3.	Name of the college	St.Joseph's college of Arts and Science for Women, Sipcot , Hosur- 635126 .
4.	Name of the department /degree	Chemistry / B.Sc Chemistry
5.	Name of the industry / institute in which for internship training undergone	Peenya Industrial Gases Pvt Ltd. Hosur.
6.	Guide/supervisor under whom the training undertaken	Mr. RAVI .K
7.	Title of the training	Manufacturing of Industrial Oxygen Gas
8.	Brief output training(not more than 2 pages)	Annexure Enclosed
9.	Conclusion	Enclosed
10.	Outcome of the training	To Ensure that a Product Manufactured met the Specification.

Submitted for B.Sc .Internship Examination held on 14.11.2022 at the Department of Chemistry
St.Joseph's College Of Arts And Science For Women , Hosur - 635126.

A. Jananee
Signature of the student

S.V. Johny
signature of the Guide

S.V. Johny
Head of the department


PRINCIPAL
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Examiner:



PEENYA INDUSTRIAL GASES PVT. LTD.

AN IMS CERTIFIED COMPANY

Plot No. 76A, SIPCOT Industrial Complex, HOSUR - 635 126. Tamil Nadu.

E-mail : hosur@peenya.com

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REF : PIGPL/HIR/2023/PC-107

DATE : 10.07.2023

CERTIFICATE

This is to Certify that Mrs. A. Jananee (Reg No. C21UG152CHE901),
B.Sc Chemistry Student of St. Joseph's College of Arts and Science
for Women, Hosur has successfully undergone Internship of our Factory
from 24.06.2023 to 25.06.2023 & 01.07.2023 to 02.07.2023

During her Internship, she has evinced keen interest and her conduct and
character were satisfactory.

We wish her all the success in her future endeavours.

For Peenya Industrial Gases Pvt Ltd

Authorized Signatory



WE MANUFACTURE AND
SUPPLY :

- HELIUM
- HYDROGEN
- NITROUS OXIDE
- REFRIGERANT GAS
- MIXTURE GASES
- CALIBRATION GAS
- LASER GAS
- SPECIAL GAS ETC
- HP AND UHP VARIETIES

WE UNDERTAKE :

- LAB FITTINGS MANIFOLD WORK
- TESTING OF GASES &
CYLINDERS etc.

Jigini

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MANUFACTURING OF INDUSTRIAL OXYGEN GAS

INTRODUCTION:-

- I attended my internship program in Peenya industrial gases pvt Ltd, Hosur. There I have learned the working and production of their products that are processed in large industrial scale.

ABSTRACT :-

- Peenya industrial gases private limited began in 1990 is one of the major manufacturer of industrial gases in south India with its excellent infrastructure and customer friendly approach with a strong belief customer.
- The staff working there were kind and didn't sitate to teach us when asked about their products and other information regarding the production and company.
- I was given internship program for four days and they give the demonstration on the working of instruments.
- Although there, I was exposed to a good number of equipments which were not seen before.
- It was easy for me to know them one by one.
- At last , the training made me understand the synthesis aspects and concepts properly.

METHODOLOGY:-

The methodology refers to the comprehensive action of research in my internship.

The primary health checkup was done before entering into their plant. Then they show their products. They taught about how their manufacturing process can be done .After manufacturing, the products are filled in the cylinders and supplied. They used different type of pressure gauge to fill the different types of gas.

- I was taught to do the manufacturing of oxygen by cryogenic distillation technology.
- They also taught how to maintain the cryogenic vessel.
- They taught about their sampling techniques in small quantities.
- Gas sensor have been widely reported for industrial gas detection and monitoring.
- They have several types of equipment's to maintain its required combination of supplements.

DISCUSSION :-

I have learned about the manufacturing of oxygen and filling of gases like argon , nitrogen , hydrogen, helium , chlorane, etc.,.They also provide a mixture of industrial gases like

- Argon and carbon dioxide for shielding gas for carbon steel MIG.
- Argon and oxygen for shielding gas for stainless steel MIG.

The process of manufacturing of oxygen involves :

- When the atmospheric air is let into air separation unit, it is compressed in the air compressor. Then the air is moved into the cleanup system where impurities like CO_2 , hydrocarbons , and moisture.
- Then the air is passed through heat exchangers where it is cooled to cryogenic temperature. Now the air is moved into high pressure distillation column where oxygen is separated from nitrogen and other gases.
- Oxygen is formed at the top of the column is collected and moved to the low pressure distillation column where oxygen is distilled till it meets commercial stocks.

CONCLUSION :-

My overall experience in the internship program in Peenya industrial gases pvt ltd ,helped me to gain new things, knowledge about the gas manufacturing and filling. The staffs were so helpful and taught about their overall working in the industrial gave an idea about how the gas related companies function and produce their products . It was a new learning and would be helpful for my further career development.