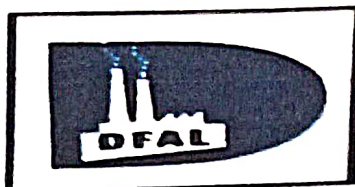


AN

INTERNSHIP PROJECT REPORT

Manufacturing and Extraction of Raw Materials into Ferrous and Alloys

Deccan Ferro Alloys Pvt. Ltd.



Submitted in partial fulfillment of the requirement for the award of

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING

GURU GHASIDAS VISHWAVIDYALAYA



Internship Duration: 11/05/2025 – 08/06/2025

Mentor: Mr. Nagesh Rao

Manager: Mr. Srinivas

SUBMITTED TO

Dr. Samarjit Singh

(Assistant Professor, Department of Mechanical Engineering)

SUBMITTED BY

Boddu Mahesh 22039117

## **Acknowledgement**

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We would like to express our deep gratitude to Deccan Ferro Alloys Pvt. Ltd. for giving us the opportunity to undergo this internship.

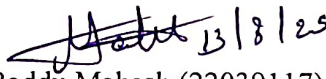
Our sincere thanks go to Mr. Nagesh Rao, our mentor, for his continuous guidance, constructive suggestions, and encouragement during our training.

We are thankful to Mr. Srinivas, Manager, for his constant support and for allowing us access to different sections of the plant.

We also extend our thanks to the plant engineers, technicians, and workers for sharing their practical knowledge with us.

Finally, we thank our faculty members and our families for their motivation throughout this journey.

Date :13/8/2025

  
Boddu Mahesh (22039117)

## **Abstract**

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The ferroalloy industry plays a pivotal role in strengthening the global steel supply chain by supplying essential alloying elements that enhance steel's mechanical and chemical properties.

This internship at Deccan Ferro Alloys Pvt. Ltd., Visakhapatnam, provided comprehensive exposure to the industrial-scale transformation of raw materials into ferroalloys. The scope of training covered raw material procurement and preparation, smelting in electric arc furnaces, alloying and refining operations, casting, cooling, sizing, and rigorous quality control procedures. Emphasis was placed on understanding the underlying chemical reactions, mechanical operations, and environmental management measures associated with each stage of production.

This report presents detailed observations of the manufacturing processes, challenges encountered during operations, recommendations for process improvement, and the technical as well as professional skills gained over the course of the internship.

## Table of Contents

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Students Declaration

Certificate

Acknowledgement

Abstract

Introduction

Company Profile

Project Overview

Literature Review

Extraction and preparation of Raw Materials

Manufacturing Process

Quality Control

Challenges Faced

Solutions and Improvements

Learning Outcomes

Conclusion

References

## Certificate

|                                                                                                                                                                                                                                                                                                                     |                                                                                                                    |                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                    | <b>DECCAN FERRO ALLOYS (P) LTD.</b><br>(An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 - A. Rated Company) |   |
| Office & Works : Chintalapalem (PO), Pendurthi (SO), Visakhapatnam - 531173 (A.P.)<br>Email: deccanferroalloys99@gmail.com, deccanferro.raju@yahoo.com                                                                                                                                                              |                                                                                                                    |                                                                                      |
| CIN : U27108AP2000PTC033664                                                                                                                                                                                                                                                                                         |                                                                                                                    | GST No. : 37AACC06534D1Z5                                                            |
| <b>अधिगम व विकास केंद्र</b><br><b>Learning &amp; Development Centre</b>                                                                                                                                                                                                                                             |                                                                                                                    |                                                                                      |
| <b>प्रमाणपत्र Certificate</b>                                                                                                                                                                                                                                                                                       |                                                                                                                    |                                                                                      |
| यह प्रमाणित किया जाता है कि निम्नलिखित छात्र ने डेक्कन फेरो एलॉय (पी) लिमिटेड विद्यालय/कक्षा में इंटरशिप/प्रोजेक्ट वर्क किया है, जैसा कि नीचे बताया गया है।<br>This is an certify that the following student has undergone Internship/Project Work in DECCAN FERRO ALLOYS (P) LTD. Visakhapatnam as detailed below. |                                                                                                                    |                                                                                      |
| छात्र का नाम<br>Name of the student                                                                                                                                                                                                                                                                                 | <b>BODDU MAHESH</b>                                                                                                |                                                                                      |
| प्रमाण<br>Course                                                                                                                                                                                                                                                                                                    | <b>BI/B TECH</b>                                                                                                   |                                                                                      |
| शाखा<br>Branch                                                                                                                                                                                                                                                                                                      | <b>MECHANICAL ENGINEERING.</b>                                                                                     |                                                                                      |
| विश्वविद्यालय/कॉलेज का नाम<br>Name of the University/College                                                                                                                                                                                                                                                        | <b>Guru Ghasidas Vishwavidyalaya, JA CENTRAL UNIVERSITY, Bilaspur, Chhattisgarh.</b>                               |                                                                                      |
| प्रियोजना का शीर्षक<br>Project Title                                                                                                                                                                                                                                                                                | <b>MANUFACTURING &amp; EXTRACTION OF RAW METALS INTO FERROUS AND ALLOYS</b>                                        |                                                                                      |
| मंत्रालय<br>Department                                                                                                                                                                                                                                                                                              | <b>MANUFACTURING DEPARTMENT (WORKSHOP).</b>                                                                        |                                                                                      |
| इंटरशिप/प्रियोजना की अवधि<br>Period of internship/Project                                                                                                                                                                                                                                                           | <b>(4 WEEKS : 11/05/2025 - 08/06/2025)</b>                                                                         |                                                                                      |
| उपरोक्त अवधि के दौरान उसकी आवश्यक सहायता प्रदान की गई। During the aforesaid period his/her contact was found to be SATISFACTORY                                                                                                                                                                                     |                                                                                                                    |                                                                                      |
|                                                                                                                                                                                                                                  |                                                                                                                    |  |